

# Profiler

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## Summary

The profiler tool shows CPU usage for each process running in RouterOS. It helps to identify which process is using most of the CPU resources. Watch our [video about this feature](#).

```
[admin@MikroTik] > /tool/profile
```

On multi-core systems, the tool allows specifying per core CPU usage.

"CPU" parameter allows specifying integer number which represents a core or two of predefined values **all** and **total**:

- total - this value sets to show the sum of all core usages;
- all - value sets to show CPU usages separately for every available core

In the following example we will take a look at both predefined values:

```
[admin@MikroTik] > /tool/profile cpu=all
NAME          CPU      USAGE
ethernet      1         0%
kvm           0         0%
kvm           1         4.5%
management    0         0%
management    1         0.5%
idle          0        100%
idle          1         93%
profiling     0         0%
profiling     1         2%

[admin@MikroTik] > /tool profile cpu=total
NAME          CPU      USAGE
ethernet      all         0%
console       all         0%
kvm           all         2.7%
management    all         0%
idle          all        97.2%
profiling     all         0%
bridging      all         0%
```

## Classifiers

RouterOS processes are classified by type and the CPU usage for each type is displayed separately for ease of debugging.

Property	Description
backup	Backup service
bfd	BFD service
bgp	BGP service
bridging	Bridging service
btest	Bandwidth test.
certificate	Certificate service

console	Console
container	combined container usage
dhcp	DHCP-Server and DHCP-Client services
disk	storage-related services
dns	DNS-related services
dude	The Dude package services
e-mail	e-mail tool
encrypting	encrypting processes
eoip	EoIP
ethernet	Ethernet-related properties like link speed, auto-negotiation, duplex mode, monitor a transceiver diagnostic information, etc.
fetcher	Fetch tool
firewall	Firewall-related processes
firewall-mgmt	Firewall Management: Filtering, NAT, Mangle
flash	storage-related services
ftp	FTP Service
gps	GPS Service
graphing	Graphing tool
gre	GRE
health	system monitoring, workd health
hotspot	Hotspot service
idle	Free CPU resources
igmp-proxy	IGMP Proxy service
internet-detect	Detect Internet tool
ip-pool	IP Pool service
ipsec	IPsec service
kvm	KVM virtual machine functionality
l7-matcher	L7 matcher
lcd	LCD Interfaces system
ldp	Label Distribution Protocol (LDP)
logging	Logging system
management	different subsystems: scheduler, networking, file management, etc.
mpls	MPLS-related features
networking	common set of services included in the networking
ntp	NTP service
ospf	OSPF service
pim	Protocol Independent Multicast

profiling	Profiler service
queue-mgmt	Queues: Simple queues, Queue tree, Queue types
queuing	Intermediate Queuing
radius	RADIUS service
radv	IPv6 radv daemon log messages service
remote-access	accessing the device directly without logging into RouterOS
rip	Routing Information Protocol
routing	Routing-related services
serial	serial console and terminal tool
sniffing	packet Sniffer tool
snmp	SNMP
socks	Socket Secure
spi	storage-related services
ssh	SSH Server
ssl	SSL
supout.rif	supout.rif file generation
telnet	Telnet service
tftp	TFTP service
traffic-accounting	Traffic-Flow log system
traffic-flow	Traffic-Flow system
unclassified	processes or services that are not defined by this classifier
upnp	UPnP protocol
usb	USB features
user-manager	User Manager service
vrrp	VRRP
web-proxy	Web Proxy
winbox	Winbox
wireguard	Wireguard
wireless	common set of services using Wireless systems
www	Webfig HTTP service
zerotier	ZeroTier