

# Description of kshell commands

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# 1 Login

## 1.1 Log in using the plaintext password

*login {user} {password}*

- user text username (16)
- password text password (16)

## 1.2 Log in using the MD5 hash

*login {user} {MD5}*

- user text username (16)
- MD5 text md5(user, password, salt)

*A salt for MD5 is generated by Netio when the kshell connection is established (100 HELLO 7F189A0B), in control.tgi hash=hash or when session is initialized (session=init salt)*

# 2 Connection termination and logout

*quit*

*110 BYE*

*If used via serial link (NETIO 230C/CS), it performs logout only, new hash (100 HELLO ...) is generated immediately*

# 3 Get uptime

*uptime*

*250 0 years 124 days 5 hours 26 min 12 sec*

# 4 Firmware version

*version*

*250 V 4.00*

*Firmware version is in the format V Major.MinorBuild. If Major or Minor is changed during the update, restore factory defaults is triggered automatically*

# 5 Device name

Get current value:

*alias*

*250 "NETIO-230B"*

Set new value:

*alias {name}*

*250 OK*

- name text username (18)

## 6 System settings

### 6.1 System time

Get current value:

```
system time
250 yyyy/mm/dd,hh:mm:ss
```

Set new value:

```
system time yyyy/mm/dd,hh:mm:ss
250 OK
```

### 6.2 Daylight saving time

Get current value:

```
system dst
250 enabled yyyy/mm/dd,hh:mm:ss yyyy/mm/dd,hh:mm:ss
```

Set new value:

```
system dst {mode} {dst start} {dst end}
```

- mode disabled/enabled enables daylight saving time
- dst start yyyy/mm/dd,hh:mm:ss the beginning of dst
- dst end yyyy/mm/dd,hh:mm:ss the end of dst

### 6.3 Port of the http server

Get current value:

```
system webport
250 80
```

Set new value:

```
system webport {port num}
```

### 6.4 Port of the kshell server

Get current value:

```
system kshport
250 1234
```

Set new value:

```
system kshport {port num}
```

### 6.5 Reaction to a DHCP response:

Get current value:

```
system dhcp
250 hostname enabled snmp disabled
```

Set new value:

```
system dhcp host {host mode}
```

```
system dhcp sntp {sntp mode}
```

```
250 OK
```

- host mode disabled/enabled if enabled, sends a device name as a hostname
- sntp mode disabled/enabled if enabled, the NTP server is set from the DHCP

## **6.6 Restore Netio to factory defaults:**

```
system reset
```

```
# RESET TO DEFAULTS
```

## **6.7 Timezone settings:**

Get current value:

```
system timezone
```

```
250 60
```

Set new value:

```
system timezone {time offset}
```

```
250 OK
```

- time offset offset(m) timezone in minutes

## **6.8 NTP server:**

Get current value:

```
system sntp
```

```
250 enabled ntp.server.adr synchronized
```

*The string "synchronized" is displayed only if the last synchronization was successful and the system time is synchronized*

Set new value:

```
system sntp {mode} {ntp server}
```

```
250 OK
```

- mode disabled/enabled if enabled, the system time will be synchronized
- ntp server IP/domain name IP address/domain name of the NTP server (30)

## **6.9 DNS server:**

Get current value:

```
system dns
```

```
250 a.b.c.d
```

Set new value:

```
system dns {IP}
```

**250 OK**

- IP IP (a.b.c.d) IP address of the DNS server

### **6.10 Power-on delay of the following output**

Get current value:

**system swdelay**

**250 2**

Set new value:

**system swdelay {time}**

- time 0 - 255 delay x0.1 seconds

### **6.11 Allow the discover tool to change network configuration:**

Get current value:

**system discover**

**250 enable**

Set new value:

**system discover {mode}**

**250 OK**

- mode enable/disable discover configuration mode

### **6.12 Network interface:**

Get current value:

**system eth**

**250 manual 192.168.100.10 255.255.255.0 192.168.100.1**

Set new value:

**system eth {mode} {ip} {mask} {gateway}**

**250 OK**

- mode dhcp/manual network interface mode
- ip a.b.c.d Netio IP address, assigned in DHCP mode
- mask a.b.c.d network mask
- gateway a.b.c.d default gateway

*If DHCP mode is active, sending additional values is not required, any additional sent values are ignored*

### **6.13 Network interface and ports:**

Get current value:

**system network**

**250 80 1234 disable manual 192.168.100.10 255.255.255.0 192.168.100.1 192.168.100.40**

Set new value:

```
system network {webport} {kshport} {dhcntp} {mode} {ip} {mask} {gateway} {dns}
```

```
250 OK
```

- webport 0 – 65535 port of the http server
- kshport 0 – 65535 port of the kshell server
- dhcnpenable/disable the NTP server is set from the DHCP
- mode dhcp/manual network interface mode
- ip a.b.c.d Netio IP address, assigned in DHCP mode
- mask a.b.c.d network mask
- gateway a.b.c.d default gateway

*If DHCP mode is active, sending additional values is not required, any additional sent values are ignored*

### **6.14 Switch to update mode**

```
system update
```

```
250 OK
```

### **6.15 Get MAC address of the device**

```
system mac
```

```
250 24:a4:2c:10:00:01
```

### **6.16 Restart the device**

```
system reboot
```

## **7 Port control and configuration**

### **7.1 Output control**

Get current value:

```
port list
```

```
250 10i0
```

Set new value:

```
port list 10iu
```

- 0 turns the port off
  - 1 turns the port on
  - i temporarily interrupts port power
  - u leaves port state unchanged
- Ports are set by the index in the command 1 – 4*

### **7.2 Get port configuration**

```
port elist
```

```
250 {name} {state} {wd} {wd ip} {mode} {wd int} {wd to} {timer mode} {on time} {off time} {ws}
```

- name "port\_1" port name

- state 1/0/i port state activated/deactivated/interrupted
- wd Y/N Watchdog on the port is enabled/disabled
- wd ip a.b.c.d an IP address for Watchdog
- mode manual/timer port control mode
- wd int 0 – 255 Watchdog interval
- wd to 0 – 255 Watchdog timeout
- timer mode o/d/w Timer mode once/daily/weekly
- on time yyyy/mm/dd, hh:mm:ss time when the output will be turned on
- off time yyyy/mm/dd, hh:mm:ss time when the output will be turned off
- ws 0011010 days included in weekly mode (these days are represented by value 1)

### 7.3 Change port configuration

Get current value:

```
port setup 1
250 "output_1" manual 5 0
```

Set new value:

```
port setup {port num} {name} {mode} {int delay} {pon state}
```

- port num 1 – 4 port number
- name "name" port name (16)
- mode manual/timer port control mode
- int delay 0 – 255 delay after port interruption x 0,1s
- pon state 0/1 enables/disables mode, where port will be turned on when Netio starts

### 7.4 Timer configuration

Get current value:

```
port timer 1 d
250 once yyyy/mm/dd, hh:mm:ss yyyy/mm/dd, hh:mm:ss 0101010
port timer 1 t
250 once hh:mm:ss hh:mm:ss 0101010
port timer 1 u
250 once 00000000 00000000 0101010
```

*"port timer 1 u" returns values in unix time format*

Set new value:

```
port timer {port num} {format} {mode} {on time} {off time} {week schedule}
```

- port num 1 – 4 port number
- format t/d/u time format
- mode o/d/w Timer mode once/daily/weekly
- on time time format time when the output will be turned on
- off time time format time when the output will be turned off
- week sched. 1100110 1 for the day when port will be turned on, 0 for turned off, Monday is the first day

*Enter week schedule only if weekly mode is active*

## 7.5 Watchdog configuration

Get current value:

*port wd 1*

*250 enable 192.168.1.1 9 60 3 3 disable disable*

Set new value:

*port wd {port num} {enabled} {ip} {timeout} {pon delay} {refresh} {retry} {retry poff} {email}*

- port num 1 – 4 port number
- enabled enable/disable enables Watchdog
- ip a.b.c.d an IP address for Watchdog ping
- timeout 0 – 255 ping timeout (s)
- pon delay 0 – 65535 delay after port is turned on
- refresh 0 – 255 ping interval
- retry 0 – 255 maximal number of port restarts
- retry poff enable/disable permanent port shutdown after the maximal number of port restarts is reached
- email enable/disable sends an email every time the port is restarted

## 7.6 Port mode configuration

Get current value:

*port mode 1*

*250 manual*

*Set new value:*

*port mode {port num} {mode}*

- port num 1 – 4 port number
- mode manual/timer port control mode

## 7.7 Port control

Get current value:

*port 1*

*250 0*

Set new value:

*port {port num} {ctrl}*

- port num 1 – 4 port number
- ctrl 1/0/i/m/t sets port on/off/interrupt/manual/timer



## 8 Email configuration

### 8.1 An address of a SMTP server

Get current value:

*email server*

*250 smtp.example.com*

Set new value:

*email server {server addr}*

- server addr ip/domain name an IP address or domain name of a SMTP server (64)

### 8.2 Message configuration

Get current value:

*email message*

*250 "netio230@example.com" "info@example.com" "ALERT !!!"*

Set new value:

*email message {sender} {receiver} {subject}*

- sender netio230@example.com sender address (64)
- receiveradmin@examle.com receiver address (64)
- subject text email subject (48)

### 8.3 SMTP authentication

Get current value:

*email auth*

*250 enable AUTO netio@example.com*

Set new value:

*email auth {enabled} {method} {username} {password}*

- enabled enable/disable enables SMTP authentication
- method AUTO/PLAIN/LOGIN/CRAM-MD5 authentication method
- username text username (64)
- password text password (32)

*START TLS authentication is not supported on Netio*

## 9 User management and privileges

### 9.1 Get privileges of currently logged user

*user get*

*250 0 admin OCVMSNAUF*

*250 {id} {name} {privileges}*

- id 0 – 5 user number, used as id for update and delete
- name text username (16)
- privileges OCVMSNAUF list of user privileges

the meaning of the user privileges characters is as follows:

- O view outlet status views output status (on/off), have every user
- C change outlet status changes output status (on/off)
- V view outlet settings view port settings
- M change outlet settings change port settings (timer, watchdog)
- S view settings views NETIO settings (system time, email, network)
- N change basic settings changes basic settings (system time, email)
- A change advanced set. changes advanced settings (network, tunnel)
- U manage users user management
- F update/reset privileges to firmware update/restore factory defaults

### 9.2 User list

*user list*

*250 {id} {name} {privileges} {GUI}*

- name text username (16)
- privileges OCVMSNAUF user privileges
- GUI 0 – 65535 information for GUI

### 9.3 Add new user

*user add {name} {privileges} {GUI} {password}*

*250 OK 1*

- name text username (16)
- privileges OCVMSNAUF user privileges
- GUI 0 – 65535 information for GUI, if used via kshell, enter 0
- password text password (16)

*the command returns 250 OK and an index of new user*

### 9.4 Delete user

*user delete {id}*

- id 0 – 5 user index in table (returns user add or user list)

## 9.5 Password settings

*user passwd {id} {old} {new}*

- id 0 – 5 user index in table (returns user add or user list)
- old text current password
- new text new password

## 9.6 Change of user settings

*user update {id} {name} {privileges} {GUI} {password}*

*250 OK*

- id 0 – 5 user index
- name text username (16)
- privileges OCVMSNAUF user privileges
- GUI 0 – 65535 information for GUI, if used via kshell, enter 0

## 10 Serial tunnel configuration (CS version only)

Get current value:

*tunnel*

*250 disable 1235 19200 NONE 0 disable 192.168.100.1 255.255.255.255*

Set new value:

*tunnel {enabled} {port} {speed} {parity} {err char} {filter} {filter IP} {filter MASK}*

- enabled enable/disable enables serial tunnel and open TCP port
- port 0 – 65535 TCP port for communication with the tunnel
- speed 4800 – 115200 speed of the serial port
- parity NONE/ODD/EVEN/MARK/SPACE parity of the serial port
- err char 0 – 4 index of the character which replaces the character with faulty parity
- filter enable-disable connection filter to the port filter by IP address
- filter IP a.b.c.d IP address for the connection filter
- filter MASK a.b.c.d mask of the connection filter