Configuration by the Serial Console

Serial Port Server (C20 - C25)

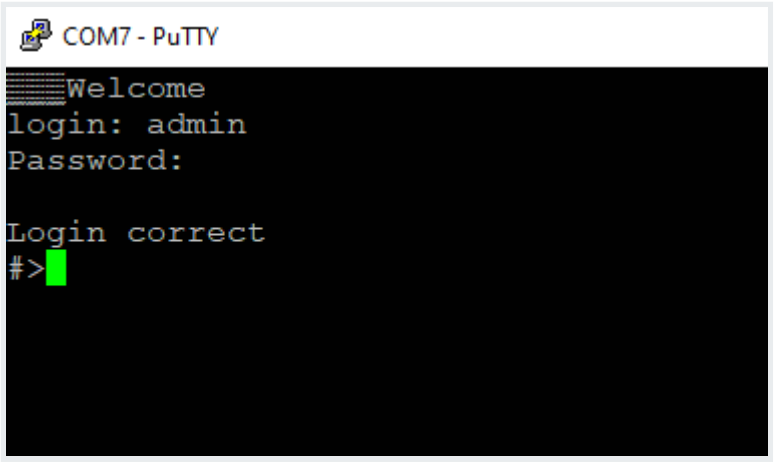
Another way to configure the device is via a serial console. In case of the C20 - C22 Ethernet Converters an additional USB/UART converter is needed.

Procedure to enter serial console mode on C20 - C22

- Turn off the power of the device.
- Connect the PC to the C1 micro-USB port of Ethernet converter using the dedicated USB/UART converter.
- Open the serial console (default baud rate is 115200 bps).
- Press and hold the S1 button (or connect Din pin to GND pin if the button is not mounted).
- Turn on the power and wait a few seconds until the orange LED lights up.
- Release the button (or disconnect Din pin from GND pin).

Procedure to enter serial console mode on C23 - C25

- Install STM32 Virtual COM Port Driver.
- Turn off the power of the device.
- Connect the PC to the C1 micro-USB port using the USB cable (or use the dedicated USB/UART converter).
- Open the serial console (default baud rate is 115200 bps).
- Press and hold the S1 button.
- Turn on the power and wait a few seconds until the yellow CN LED lights up.
- Release the button (or disconnect Din pin from GND pin).



List of all commands

Command	Description
help	Print the help.
conn	Print active TCP connections.
eth_mac	Print or change MAC address.
exit	Close current CLI session.
http_port	Print or change default http port.
ipconfig	Print or change the network configuration.
net_hostname	Print or change the hostname.
udp_broadcast	Print or turns the UDP broadcast on or off.
net_stat	Print lwIP statistics.
ping	Check internet connection with the desired host.
defaults	Reset application variables to defaults.
restart	Restart the system.
reboot	Same as restart.
sys_heap_usage	Print current heap usage.
telnet_port	Print or change default telnet port.
uart	Print or change uart configuration.
uart_service	Print or change uart_service configuration.
user	Print or change user configuration.

Ports configuration commands

In terms of ports configuration it is possible to change parameters like: service, baud rate, data bits, parity, stop bits and so on. UART commands are provided below.

- **uart**
  - **uart help**
    Print the help message.

  - **uart list**
    List available uarts in the system.

    Example:
    uart list
    0: baud: 9600 bits: 8 stop_bits: 1 parity: none (service console)
    1: baud: 115200 bits: 8 stop_bits: 2 parity: odd (covered by cons.)
    2: baud: 9600 bits: 8 stop_bits: 1 parity: none
    3: baud: 1200 bits: 8 stop_bits: 2 parity: even termination: ON (R-COM)
    3: baud: 38400 bits: 8 stop_bits: 2 parity: none termination: OFF

  - **uart PORT_NUMBER baud BAUD**
    Set PORT_NUMBER baudrate to BAUD. BAUD value can be one of the following:
    2400, 4800, 9600, 14400, 19200, 38400, 57600, 115200.

    Example:
    uart 1 baud 9600

    WARNING: UART covered by console. Changes will take place after the reset.

  - **uart PORT_NUMBER bits BITS**
    Set bit length to BITS. BITS value can be one only 8.

    Example:
    uart 2 bits 8

  - **uart PORT_NUMBER stop_bits STOP_BITS**
    Set stop_bits length to STOP_BITS. STOP_BITS value can be only 1 or 2.

    Example:
    uart 2 stop_bits 1

  - **uart PORT_NUMBER parity PARITY**
    Set uart parity to PARITY. PARITY value can be one of the following: none, odd, even.

    Example:
    uart 3 parity even

- **uart PORT_NUMBER termination STATE**
  Set uart termination to new STATE. STATE can be only ON or OFF.

  Example:
  uart 3 termination ON

- **uart_service**
  - **uart_service help**
    Print the help message.

  - **uart_service list**
    List of uarts services status.

    Example:
    uart_service list
    1 state: ON service: Remote COM port: 1504 enc: YES
    2 state: OFF service: TCP Socket port: 1510
    3 state: OFF service: UDP Socket port: 1510

  - **uart_service UART_NUMBER state STATE**
    Set UART_NUMBER state to STATE. STATE value can be only ON or OFF.

    Example:
    uart_service 1 state ON

  - **uart_service UART_NUMBER service SERVICE**
    Set UART_NUMBER service to SERVICE. SERVICE value can be one of the following: Remote COM, TCP Socket, UDP Socket.

    Example:
    uart_service 1 service TCP Socket

  - **uart_service UART_NUMBER port PORT_NUMBER**
    Set UART_NUMBER port to PORT_NUMBER. PORT_NUMBER value can be any in the range: 1-65535.

    Example:
    uart_service 1 port 1501

  - **uart_service UART_NUMBER enc ENC_STATE**
    Set UART_NUMBER encryption to ENC_STATE. ENC_STATE can be only YES or NO.

    Example:
    uart_service 1 enc YES

If ENC_STATE is YES then it will ask for a new password for encryption.

Network settings

The following commands might be helpful to change network settings according to target LAN parameters.

- **ipconfig**
  - **ipconfig addr ADDRESS**
    Set IP address to ADDRESS.

    Example:
    ipconfig addr 192.168.0.10

  - **ipconfig mask NETMASK**
    Set subnet mask to NETMASK (in dot-decimal format).

    Example:
    ipconfig mask 255.255.255.0

  - **ipconfig mask BIT_COUNT**
    Set subnet mask to BIT_COUNT bits.

    Example:
    ipconfig mask 24

  - **ipconfig gateway GATEWAY_IP**
    Set network gateway to GATEWAY_IP.

    Example:
    ipconfig gateway 192.168.0.1

  - **ipconfig dhcp enable/disable**
    Enable or disable DHCP client.

    Example:
    ipconfig dhcp enable

  - **ipconfig dns1 ADDRESS**
    Set primary DNS to ADDRESS, disable getting DNS from DHCP if enabled.

    Example:
    ipconfig dns1 192.168.100.1

- **ipconfig dns2 ADDRESS**
  Set secondary DNS to ADDRESS, disable getting DNS from DHCP if enabled.

  Example:
  ipconfig dns2 1.1.1.1

- **eth_mac**
  - **eth_mac help**
    Print the help message.

  - **eth_mac default**
    Set device’s MAC address to factory-default one.

  - **eth_mac set MAC_ADDR**
    Set device’s MAC address to MAC_ADDR. Accepts both dash and colon-separated formats.

    Example:
    eth_mac set 01-02-03-04-05-06

    Example:
    eth_mac set 01:02:03:04:05:06

- **http_port**
  - **http_port help**
    Print the help message.

  - **http_port PORT_NUMBER**
    Set http port to PORT_NUMBER. A PORT_NUMBER value must be in range: 1-65535.

    Example:
    http_port 80

  - **http_port status**
    Print current http port.

    Example:
    http_port status
    A current http port is 80

- **telnet_port**
  - **telnet_port help**
    Print the help message.

  - **telnet_port PORT_NUMBER**
    Set Telnet port to PORT_NUMBER. A PORT_NUMBER value must be in range: 1-

65535.

Example:
telnet_port 23

- **telnet_port status**
  Print current Telnet port.

  Example:
  telnet_port status
  A current telnet port is 23

Changing username or password

To change username or password, use user command. Available commands:

- **user help**
  Print the help message.

- **user mod_name USER_NAME NEW_NAME**
  Change the user name to NEW_NAME. It fails if the name is used by another user.

  Example:
  user mod_name admin john

- **user passwd USER_NAME**
  Change USER_NAME's password.

  Example:
  user passwd admin
  ****** <- here is entered password, but '*' appears instead

  Note: Everyone can change the password for themselves.

Service mode

Procedure to enter service mode for C20 - C22 converters

- Turn off the power of the device.
- Connect Ethernet converter to the dedicated USB/UART converter via the microUSB port.
- Connect the USB/UART converter to the PC.
- Open the serial console (default baud rate is 115200 bps).
- Press and hold the S1 button.

- Turn on the power.
- Wait until the ST indicator (red LED) lights up.
- Release the S1 button.
- If the process is successful, service commands can be typed into the terminal.

Procedure to enter service mode for C23 - C25 converters

- Install STM32 Virtual COM Port Driver (if it was not done before).
- Turn off the power of the device.
- Connect Ethernet converter directly to the PC (the dedicated USB/UART converter is not obligatory).
- Open the serial console (default baud rate is 115200 bps).
- Press and hold the S1 button.
- Turn on the power.
- Wait until the ST indicator (red LED) lights up.
- Release the S1 button.
- If the process is successful, service commands can be typed into the terminal.

List of commands in the service mode

Command	Description
help	Print the help.
credits	Print current credits value for this device.
dev_ident	Print the device identification value.
restart	Restart the system.
serial_num	Print the serial number of this device.
version	Display the bootloader version.
xmodem	Download image to the internal flash using xmodem.
defaults	Reset application variables to defaults.
ipconfig	Print or change the network configuration.
flash_read	Read bytes from flash memory.
md	Read bytes from memory address.

> In the service mode, the “ipconfig” command can only show a last static IP address.

Factory reset

To restore default settings, type “defaults”. After that, user will be asked to type “default network” to reset the network settings as well. Then user will be informed if the process is successful.
Default login details:

- login: **admin**
- password: **admin123**
- IP: **192.168.100.100**

Additional notes

In order to avoid issues like connecting to host, type “help” to get more information.

To get more details about every particular command, append “help” after each commands (example: "ipconfig help").

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