GE VERNOVA

Learning & Development
Learning Module

3050 - G500 SETTINGS

Learning Module Objective

At the completion of this module you will be able to identify and recite all concepts presented.

If you are viewing this as part of a structured training program *PLEASE* complete the associated assessment test. You are required to score above 80%.

MCP LOCAL CONFIGURATION UTILITIES (mcpcfg)

- Used to configure system level settings on the G500
- This interface is the Shell based equivalent of MCP Settings GUI
- Use a terminal emulator connected to the G500 Shell, either via the front USB serial port or using an SSH (port 22) connection.
- Start a terminal session and log into the G500 with an Administrator-level or root user account. At the G500 #>> prompt, enter the following commands:

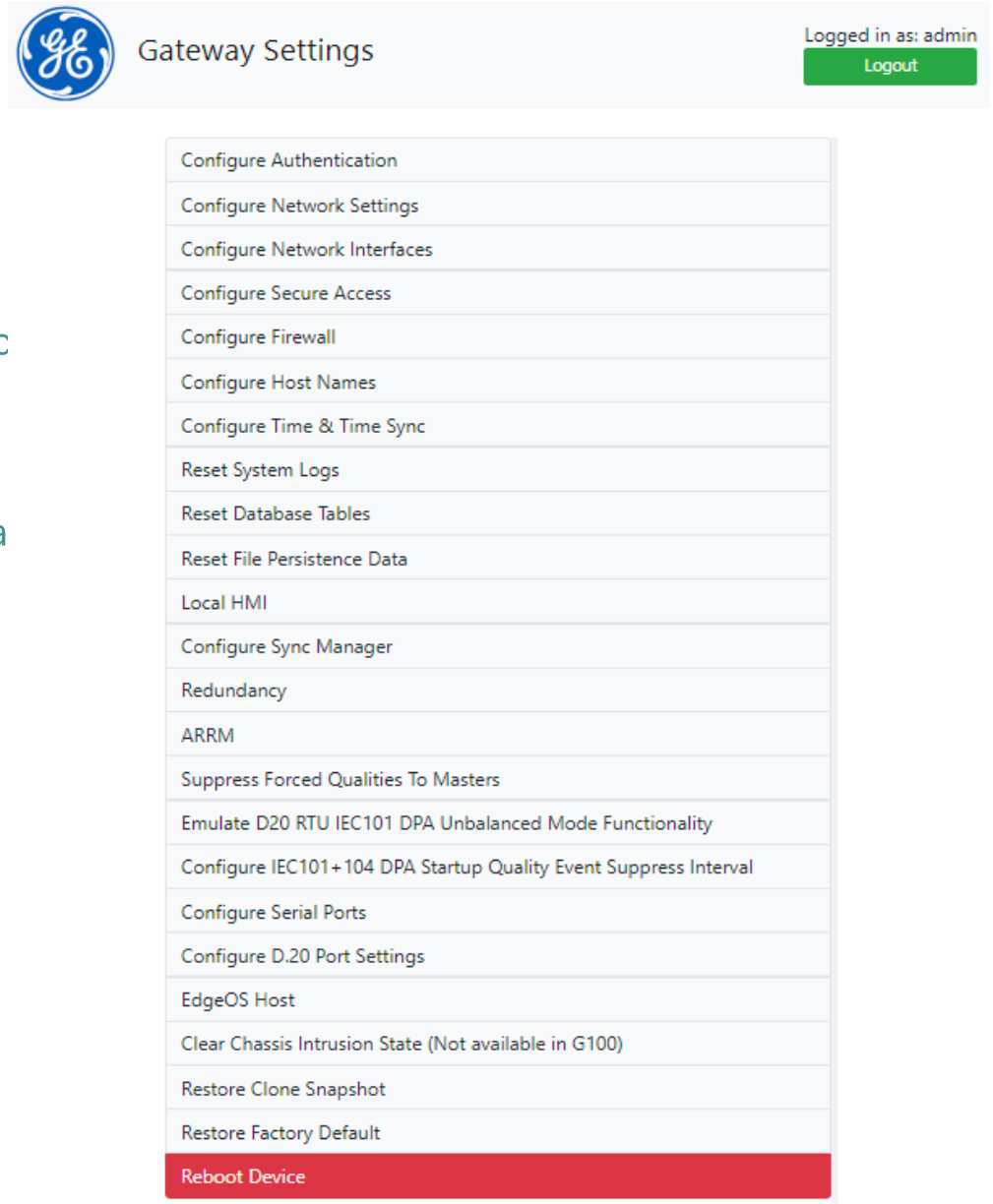
  sudo mcpcfg

"sudo" is a key cyber-security feature that strengthens the non-repudiation and protects from the attacks of malware that will try to execute privileged operations while user is logged in under their account.

Typing "sudo" in front of functions in the MCP command line will prompt for the user's password before executing the command. Failing to use "sudo" will prevent the command from executing

MCP SETTINGS GUI

- This interface is the Web based equivalent MCP Local Configuration Utilities (mcpcfg)
- You can access MCP Settings Web Interfac through Local (KVM) or Remote G500 connection.
- Remote access must be completed using a supported web browser (Internet Explorer, Microsoft Edge, Mozilla Firefox, Google Chrome).



Only one instance is allowed to run at any given time across both “mcpcfg” and “MCP Settings GUI”. When a second concurrent instance is attempted to run and is confirmed – the first instance will be closed automatically.

FIRST TIME LOGIN

1. Use defadmin account to login
2. Create an Administrator account to access the menu
3. Configure Network Interfaces as needed
4. Reboot the device

Username rules as listed below:

- Username must be between 2 and 31 characters
- Username must start with a lowercase alphabetical character
- Username must only contain [a-z] [0-9] [-,_] characters

Password security rules as listed below:

- Password must be between 8 and 199 characters in length
- Password must contain:
  - 1 character from [a-z]
  - 1 character from [A-Z]
  - 1 digit from [0-9]
  - 1 special character from the set [$%@!&]

CONFIUGRE TIME ZONE / TIME / TIME SYNC

The Configure Time & Time Sync menu allows you to set the G500's internal date and time as well as modify options associated with time synchronization.

1. Set System Time Zone

   Use this function to configure the desired time zone

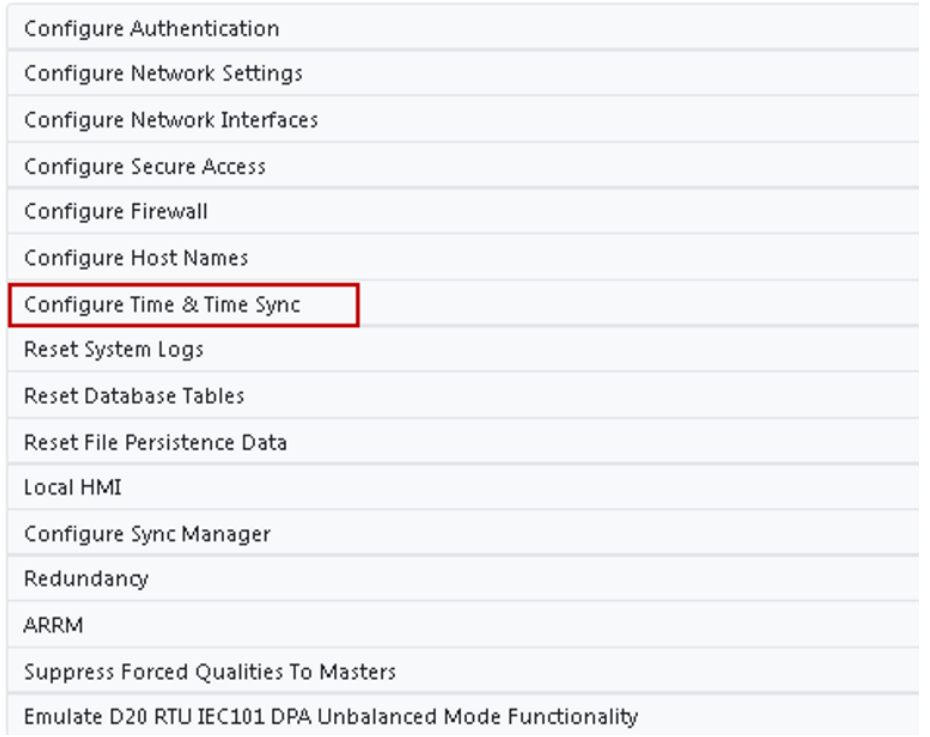
2. Set System Clock

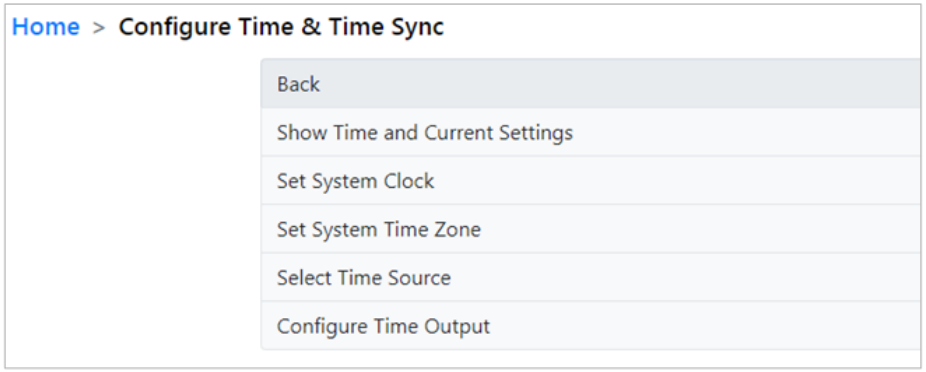
   Use this function to configure the current calendar date and time of day

3. Select Time Source

   Use this function to select and configure the time synchronization source:

   - PTP
   - IRIG-B
   - NTP





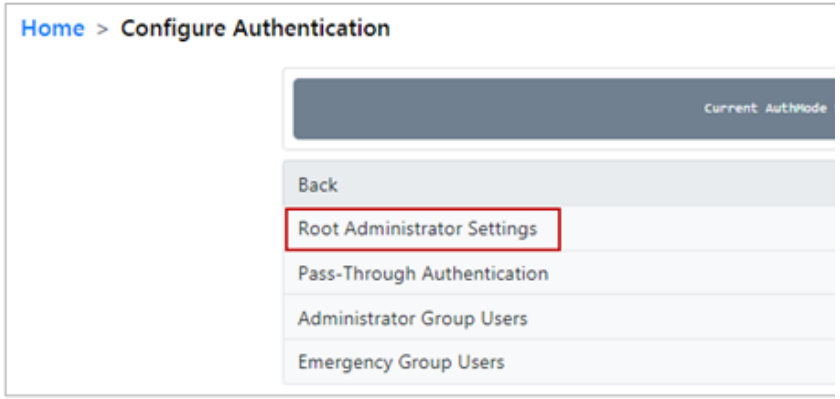
The MCP system time is automatically set to the firmware build time whenever the G500 reboots, and the system time is less than the firmware build time.

Whenever system time goes back in time after time sync, the clock on Task Bar in local HMI will stop updating until the updated time reverts to the time before time sync.

CHANGE THE ROOT PASSWORD

The G500 supports a default root user that is used to connect to the device from serial maintenance port.

- The default password for the root user is geroot
- The root account password must be changed by end users
- Select Root Administrator Settings to change the root account password



Root account password security rules as listed below:

Password cannot contain the user's account name or parts of the user's full name that exceed two consecutive characters.

Password must be at least 8 characters in length.

Password must contain characters from all the following four categories:

Should contain at least 1 character from [a-z]

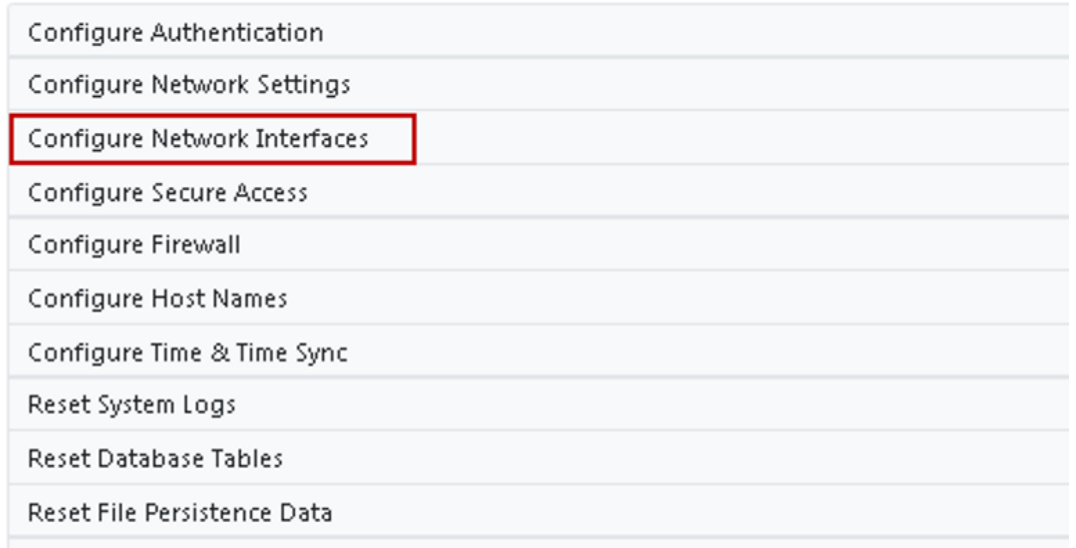
Should contain at least 1 character from [A-Z]

Should contain at least 1 digit from [0-9]

Should contain at least 1 special character from set [$%@!&]

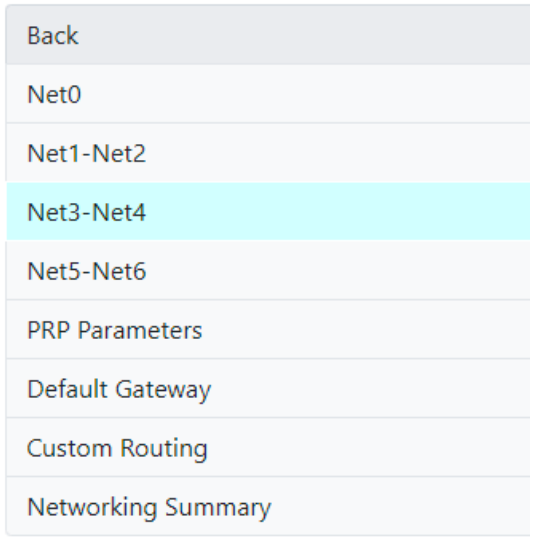
CONFIGURE NETWORK INTERFACES

The G500 provides one front maintenance Ethernet port Net0 and 6 independent rear Ethernet ports Net1 – Net6 accessible via SFP modules. Select **Configure Network Interfaces** to configure:



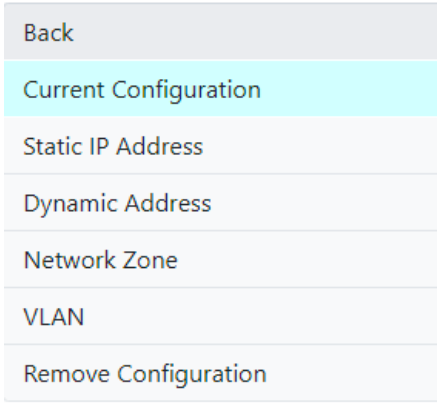
IP Configuration

- Static IP Address: Adapter, Active, or Alias IP Addresses
- Dynamic IP Address: DHCP



Gateway Configuration

The Default Gateways can be configured for the Adapter and Active Interfaces.



VLANs Configuration

VLAN IP can be created with IDs from 2-4094

The SFP types are detected automatically in G500, after startup / reboot. No configuration is needed.

The G500 must be rebooted to activate any changed network settings.

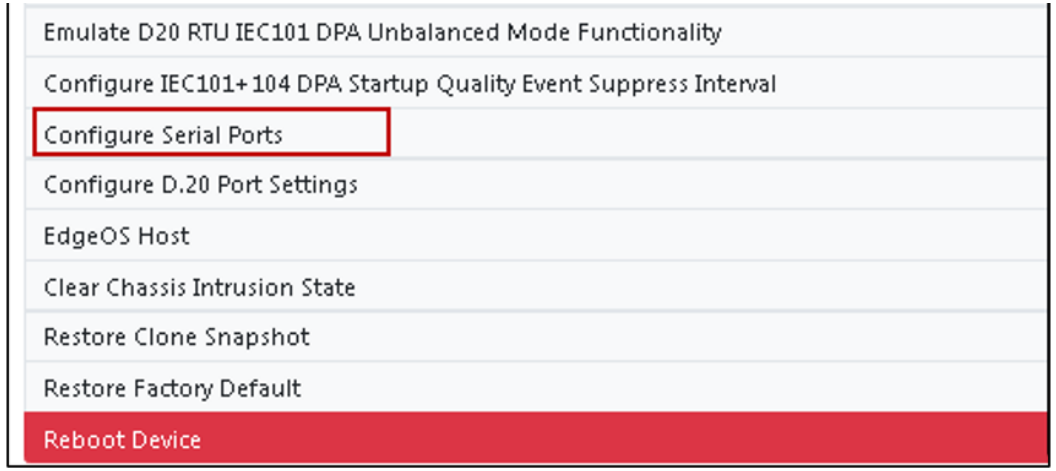
CONFIGURE SERIAL PORTS

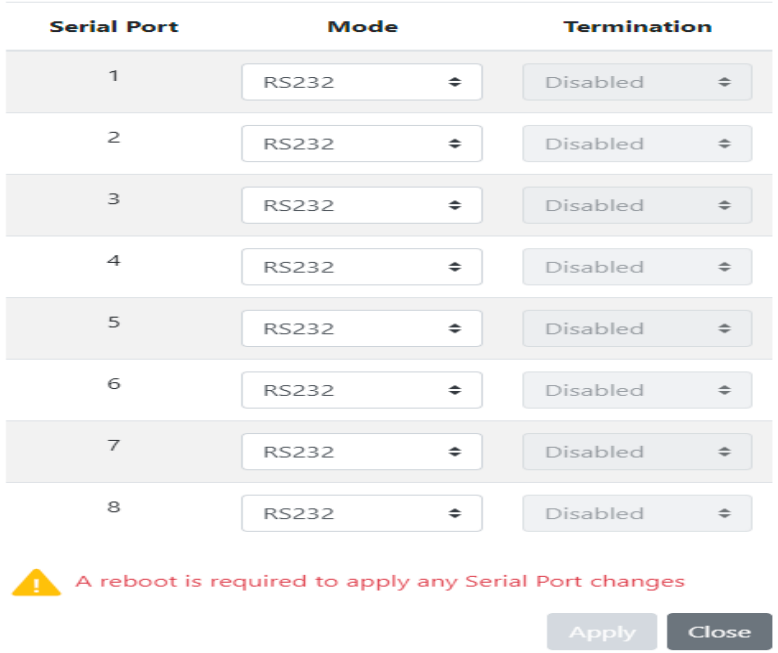
1. The G500 has 8 Built-in serial ports and an additional 4, 8 or 12 can be configured through the PCIe Expansion slots. The serial ports support the following communication modes:

- RS232
- RS422
- RS485 4-Wire
- RS485 2-Wire

To configure serial ports, select **Configure Serial Ports** then select the desired port, mode and its termination if applicable

A reboot is required to apply any serial port changes.





For every port an Rx Termination Resistor of 120 Ohms can be enabled through the software interface. This termination persists even when power is lost.

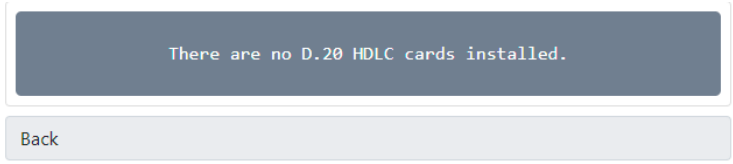
When enabled, the Termination is active only when the device is powered on and applications are running. This has no operational impact because the G500 is meant to act as a master to other devices

CONFIGURE D.20 PORT SETTINGS

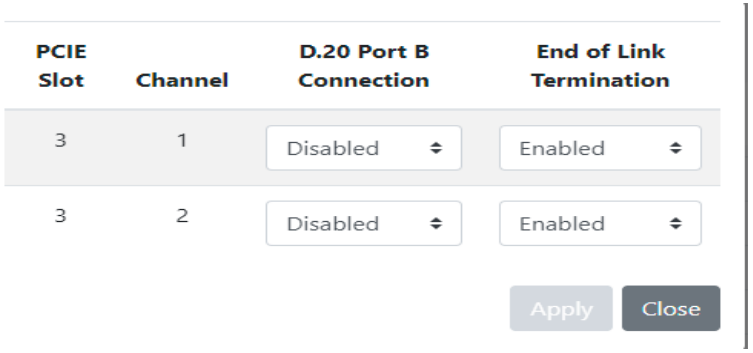
1. The G500 requires the installation and configuration of the optional D.20 HDLC PCIe card to communicate with D20 peripheral modules.

To configure D.20 HDLC PCIe card, select Configure D.20 Port Settings

- The below message appears if no D.20 HDLC cards installed



- If the D.20 HDLC card is installed, proceed to set the parameters as needed.



The D.20 HDLC PCIe card has two D.20 ports. Each port contains D.20 Channel 1, D.20 Channel 2, DC Supply 1, and DC Supply 2. For D.20 port A, the above signals are always available. For D.20 port B, D.20 Channel 1 and D.20 Channel 2 are configurable, but DC Supply 1 and DC Supply 2 are always available.

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Thank You

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Here’s What is Covered in this Module

Module Overview