

3010 - G100 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%.

Here's What is Covered in this Module

Learning & Development
Module Overview



MCP LOCAL CONFIGURATION UTILITIES (mcpcfg)

- Used to configure system level settings on the G100
- This interface is the Shell based equivalent of MCP Settings GUI
- Use a terminal emulator connected to the G100 Shell, either via the serial maintenance port #4 or using an SSH (port 22) connection.
- Start a terminal session and log into the G100 with an Administrator-level or root user account. At the G100 #>> prompt, enter the following commands:
 - `sudo mcpcfg`

```
=====
Gateway (G500) Settings Menu
=====

0.  Back
1.  Configure Authentication
2.  Configure Network Settings
3.  Configure Network Interfaces
4.  Configure Secure Access
5.  Configure Firewall
6.  Configure Host Names
7.  Configure Time & Time Sync
8.  Reset System Logs
9.  Reset Database Tables
10. Reset File Persistence Data
11. Local HMI
12. Configure Sync Manager
13. Redundancy
14. ARRM
15. Suppress Forced Qualities To Masters
16. Emulate D20 RTU IEC101 DPA Unbalanced Mode Functiona
17. Configure IEC101+104 DPA Startup Quality Event Suppr
18. Configure Serial Ports
19. Configure D.20 Port Settings
20. EdgeOS Host
21. Clear Chassis Intrusion State
22. Restore Clone Snapshot
23. Restore Factory Default
24. Reboot Device

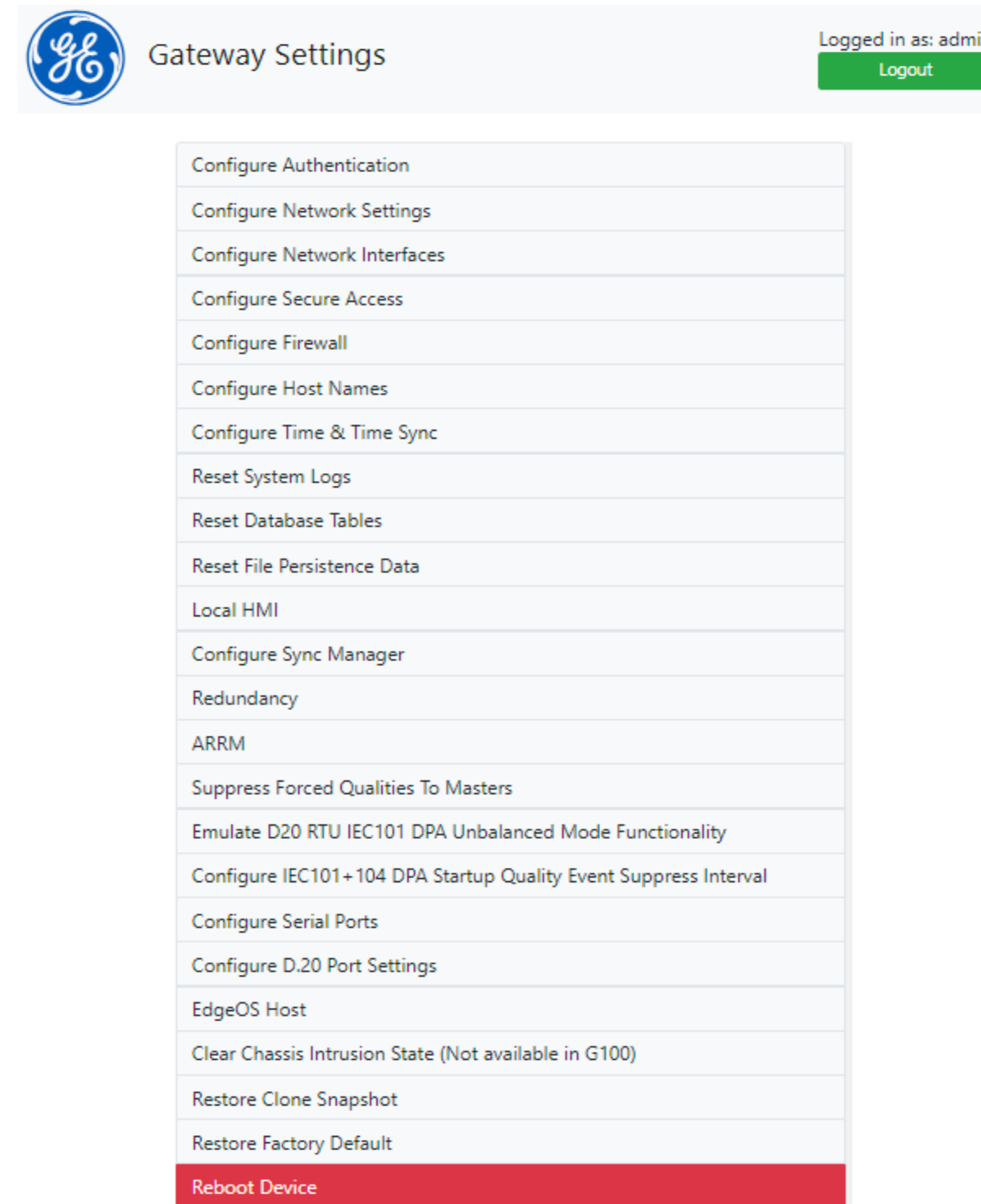
Enter Your Choice : ( Between 0 and 24 ): █
```

“sudo” is a key cyber-security feature that strengthens the non-repudiation and protects from the attacks from 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

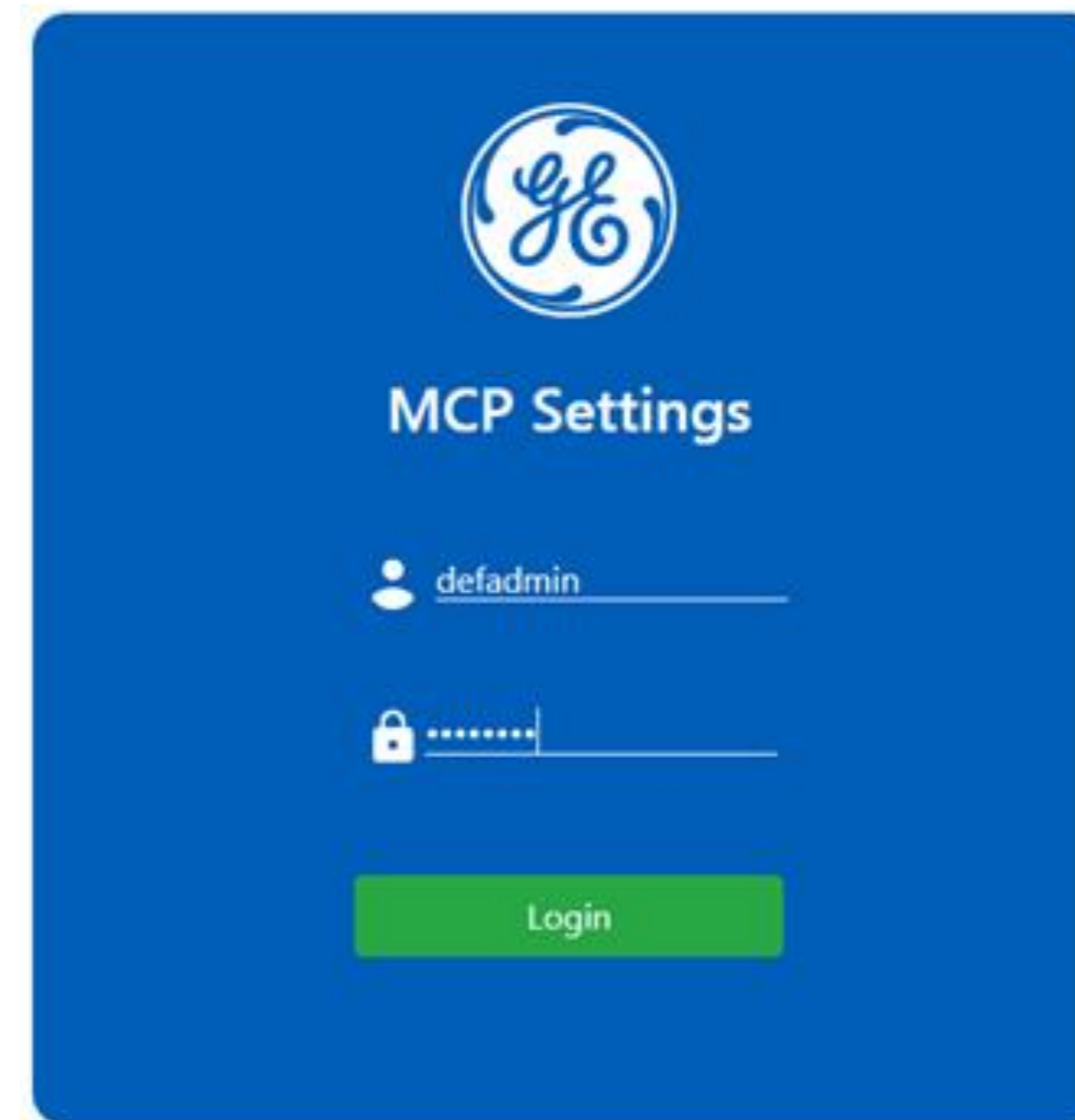
- This interface is the Web based equivalent of MCP Local Configuration Utilities (mcpcfg)
- You can access MCP Settings Web Interface through Local (KVM) or Remote G100 connection.
- Remote access must be completed using a supported web browser (Internet Explorer, Microsoft Edge, Mozilla Firefox, Google 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

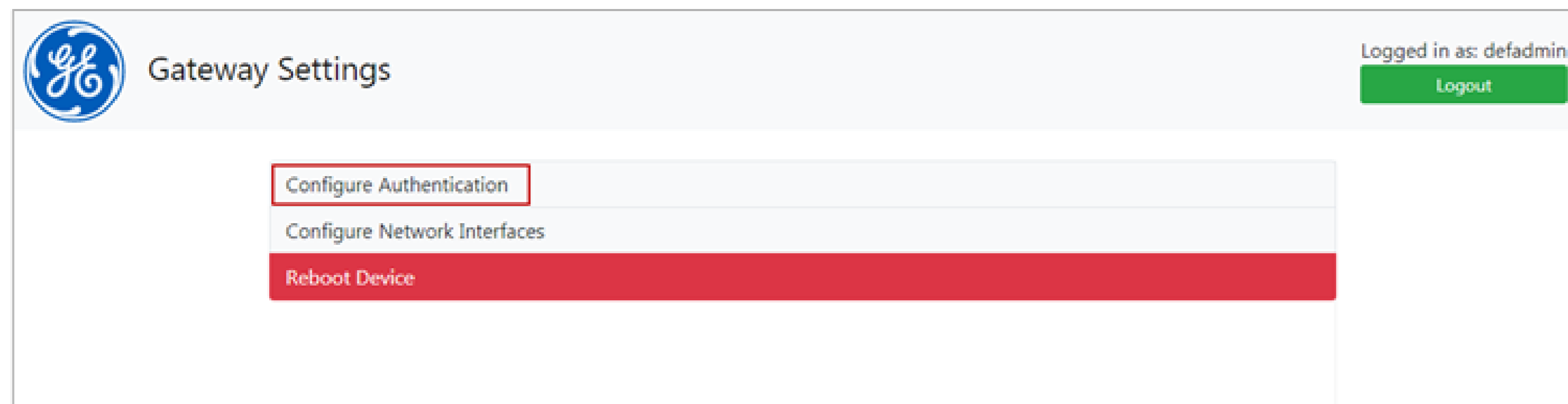


Username rules as listed below:

- 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 [\$%@!&]



CONFIGURE TIME ZONE / TIME / TIME SYNC

The Configure Time & Time Sync menu allows you to set the G100'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:
 - IRIG-B
 - NTP

Configure Authentication
Configure Network Settings
Configure Network Interfaces
Configure Secure Access
Configure Firewall
Configure Host Names
Configure Time & Time Sync
Reset System Logs
Reset Database Tables
Reset File Persistence Data
Local HMI
Configure Sync Manager
Redundancy
ARRM
Suppress Forced Qualities To Masters
Emulate D20 RTU IEC101 DPA Unbalanced Mode Functionality

Home > Configure Time & Time Sync
Back
Show Time and Current Settings
Set System Clock
Set System Time Zone
Select Time Source
Configure Time Output

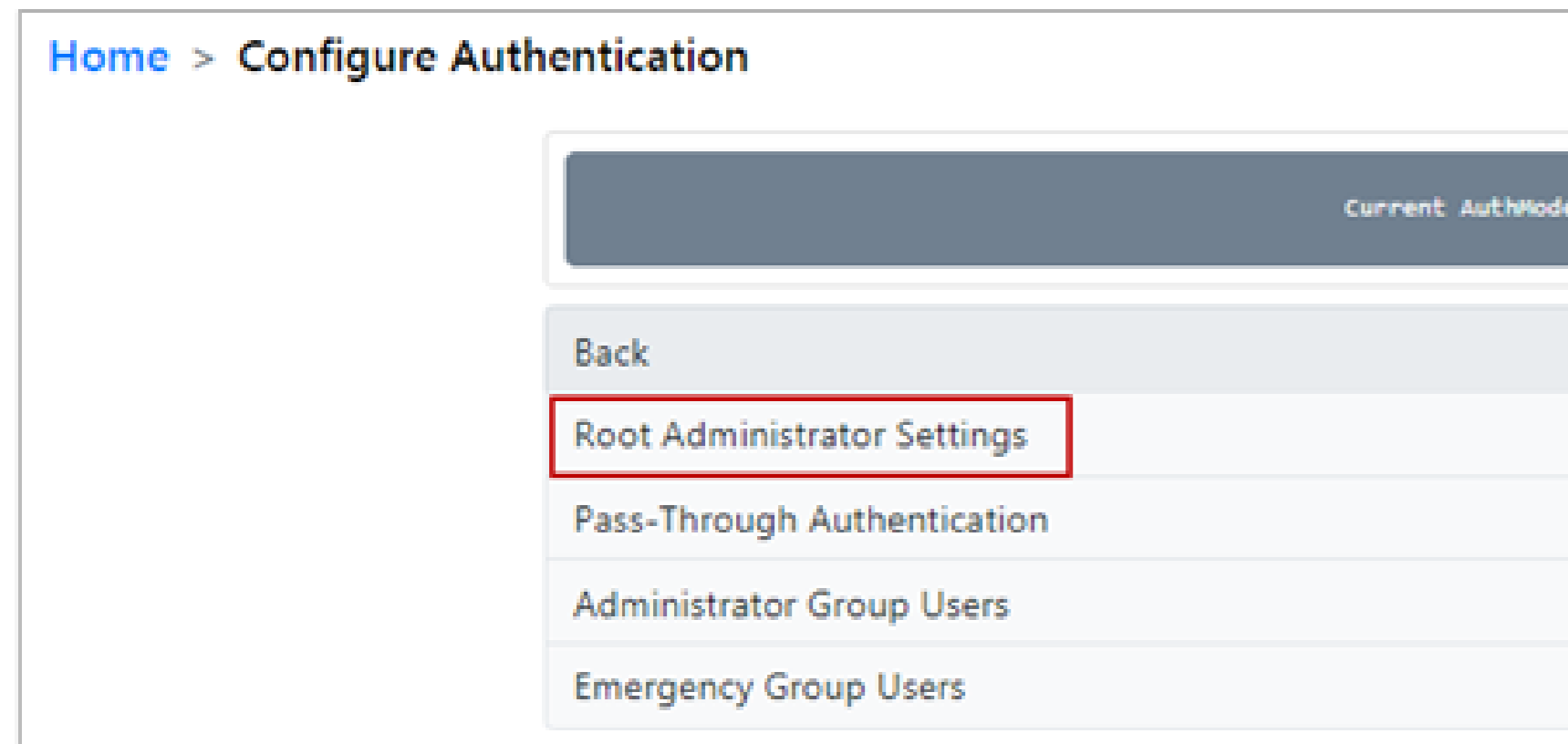
The MCP system time is automatically set to the firmware build time whenever the G100 reboots, and the system time is less than the firmware build time.

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

CHANGE THE ROOT PASSWORD

The G100 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:
 1. Should contain at least 1 character from [a-z]
 2. Should contain at least 1 character from [A-Z]
 3. Should contain at least 1 digit from [0-9]
 4. Should contain at least 1 special character from set [\$%@!&]

CONFIGURE NETWORK INTERFACES

The G100 provides 4 independent Ethernet ports. Select **Configure Network Interfaces** to configure:

IP Configuration

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

SFP Configuration

Each SFP adapter must be configured to match the inserted type before use

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

Configure Authentication
Configure Network Settings
Configure Network Interfaces
Configure Secure Access
Configure Firewall
Configure Host Names
Configure Time & Time Sync
Reset System Logs
Reset Database Tables
Reset File Persistence Data

Back
Net0 (not available in G100)
Net1-Net2
Net3-Net4
Net5-Net6 (not available in G100)
PRP Parameters (not available in G100)
Default Gateway
Custom Routing
Networking Summary

Back
Current Configuration
Static IP Address
Dynamic Address
Network Zone
EdgeManager Connectivity Configuration
VLAN
Remove Configuration
SFP Configuration

The G100 Ethernet ports use separate MAC addresses.

- The G100 Ethernet ports cannot be configured as Redundant Single MAC.
- G100 does not support PRP (Parallel Redundancy Protocol IEC62439-3).

The G100 must be rebooted to activate any changed network settings.

CONFIGURE SERIAL PORTS

The G100 has 4 built-in serial ports. The serial ports support the following communication modes:


RS232

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.

Serial Port	Mode	Termination
1	RS232	Disabled
2	RS232	Disabled
3	RS232	Disabled
4	RS232	Disabled

 A reboot is required to apply any Serial Port changes

Apply Close

- Configure Network Settings
- Configure Network Interfaces
- Configure Secure Access
- Configure Firewall
- Configure Host Names
- Configure Time & Time Sync
- Reset System Logs
- Reset Database Tables
- Reset File Persistence Data
- Local HMI
- Configure Sync Manager
- Redundancy
- ARRM
- Suppress Forced Qualities To Masters
- Emulate D20 RTU IEC101 DPA Unbalanced Mode Functionality
- Configure IEC101+ 104 DPA Startup Quality Event Suppress Interval
- Configure Serial Ports**
- Configure D.20 Port Settings
- EdgeOS Host
- Clear Chassis Intrusion State
- Restore Clone Snapshot
- Restore Factory Default
- Reboot Device

For every serial port an End of Link Termination Resistor of 120 Ohms can be enabled or disabled in RS485 2-wire mode.

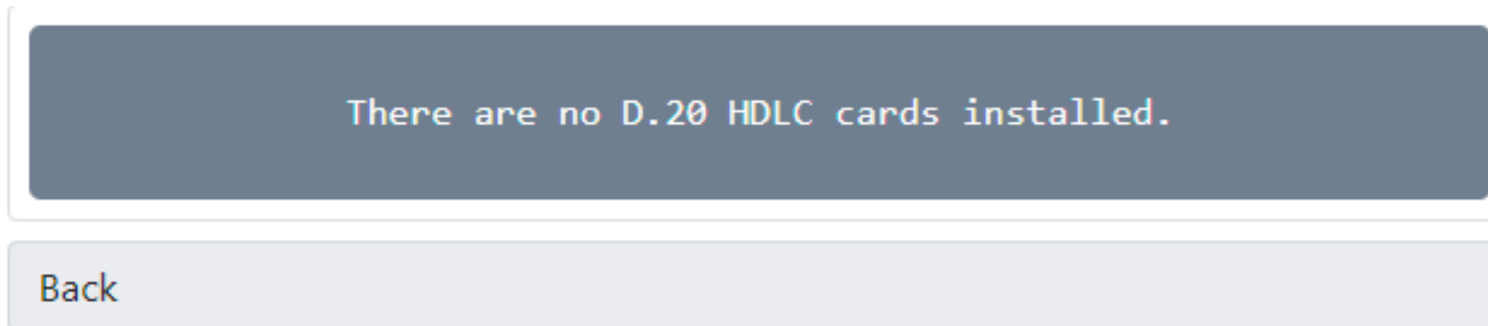
When enabled, the Termination is active only when the device is powered on and applications are running. This has no operational impact because the G100 is meant to act as a master to other devices

CONFIGURE D.20 PORT SETTINGS

The G100 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

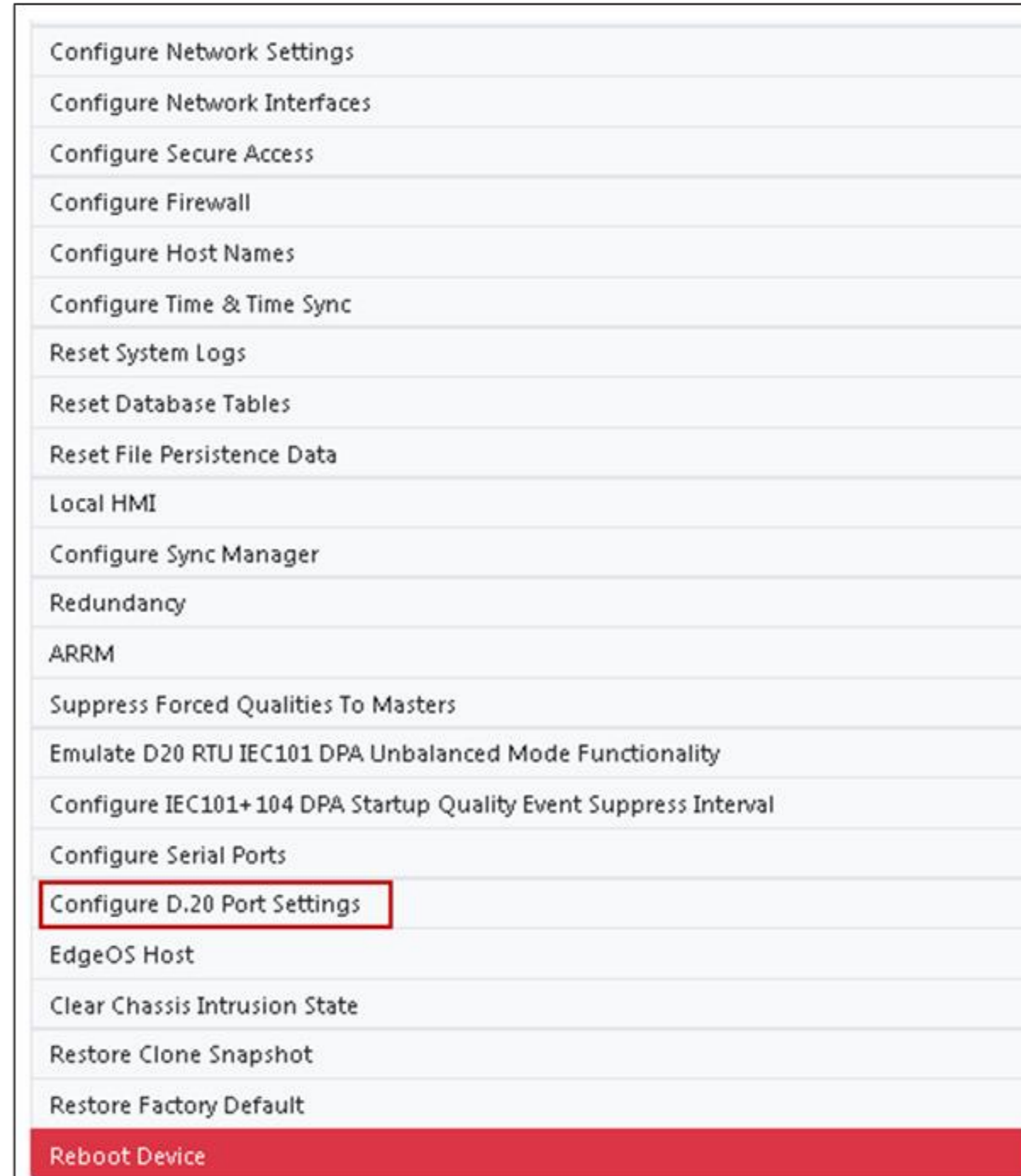
- The below message appears if no D.20 HDLC cards installed



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

PCIE Slot	Channel	D.20 Port B Connection	End of Link Termination
3	1	Disabled	Enabled
3	2	Disabled	Enabled

Apply Close



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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