

## **Appendix- A**

### **TIME DISTRIBUTION RACK - 4**

**Network Settings of TDR-4 using PC Windows as  
TELNET Client**

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## 1. Setup of Masibus TDR-4 NTP Card

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### 1.1. Default network settings for TDR-4 NTP card

**Ethernet Port 1:**  
IP address : 192.168.100.153  
Subnet Mask : 255.255.255.000  
Gateway : 192.168.100.001

**Ethernet Port 2:**  
IP address : 192.168.100.154  
Subnet Mask : 255.255.255.000  
Gateway : 192.168.100.001

**Ethernet Port 3:**  
IP address : 192.168.100.155  
Subnet Mask : 255.255.255.000  
Gateway : 192.168.100.001

**Ethernet Port 4:**  
IP address : 192.168.100.156  
Subnet Mask : 255.255.255.000  
Gateway : 192.168.100.001

**Telnet Login-name** : masibus  
**Telnet Password** : masibus  
**SNMP** : Disable  
**SNMP Manager IP1** : 192.168.100.73  
**SNMP Manager IP2** : 192.168.100.73  
**SNMP Read Community** : masibus  
**SNMP Write Community** : masibus  
**Stratum of Local Clock** : 01

### 1.2. Procedure for First Time Setup

- First connect the TDR-4 NTP-1 output direct with local computer using an Ethernet cable. (Not in Network)
- Make the computer IP 192.168.100.XXX (XXX is any value between 1 to 255)
- Ping the TDR-4 IP & response must come from TDR-4. Close ping window. Now follow the below procedure.

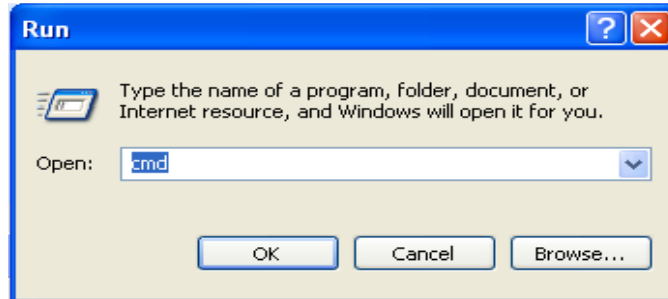
**NOTE:** While changing Ethernet settings ping window should be closed.

## 2. TDR-4 Ethernet port network settings using windows as TELNET client

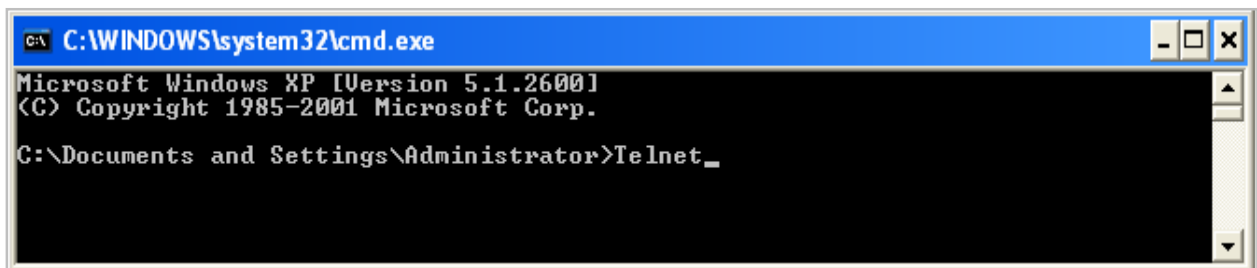
---

### 2.1. Procedure to Login in Telnet Server

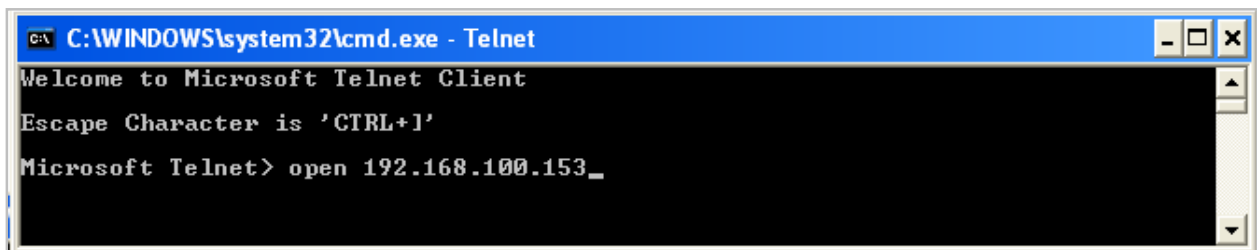
- Open Command Prompt



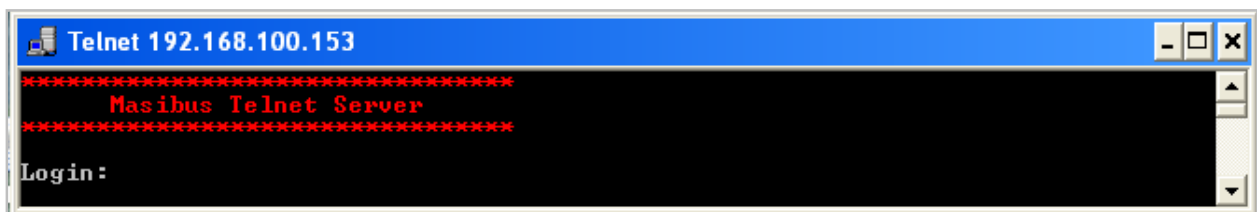
- Write Telnet and press Enter.



- Write "open 192.168.100.153" and press Enter.

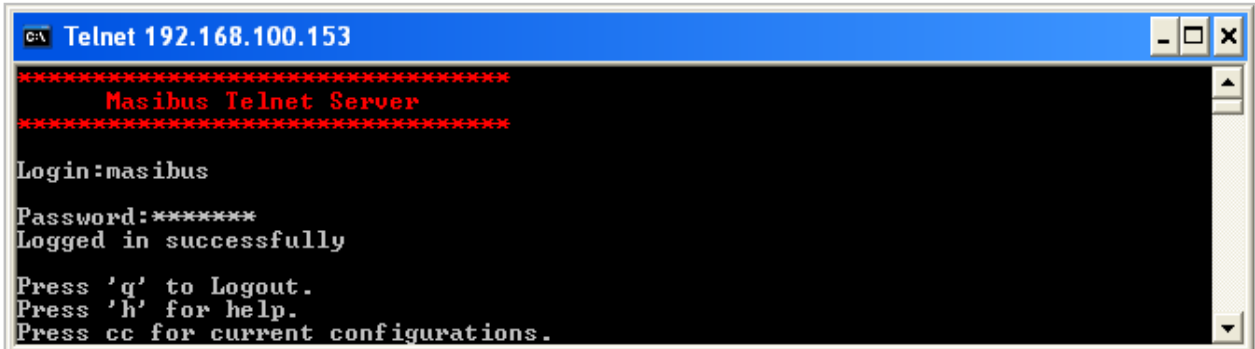


- Following screen will be displayed.



➤ **Enter Login and Password:**

- Write Login-name and press enter. Now TDR-4 ethernet port will ask for password so write your Password and press enter. Login-name and password both are case sensitive. Default Login-name and password are shown in section 1.1.
- The **Immortal** Login name is 'masibus', which cannot be changed. The **Immortal** Password is 'mc1', which cannot be changed.



```
C:\> Telnet 192.168.100.153

*****
Masibus Telnet Server
*****

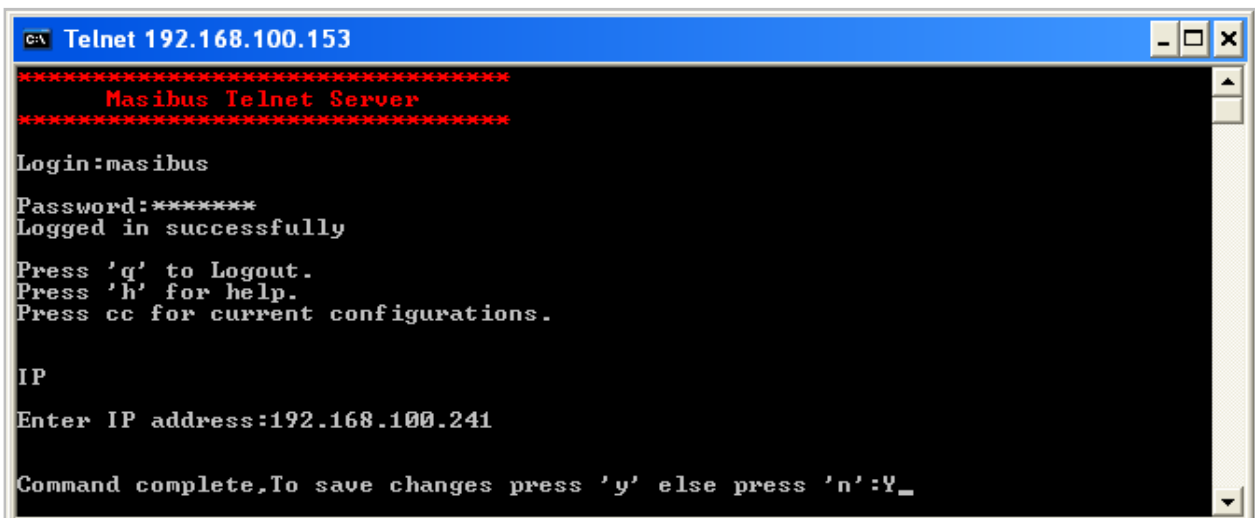
Login:masibus
Password:*****
Logged in successfully

Press 'q' to Logout.
Press 'h' for help.
Press cc for current configurations.
```

## 2.2. Telnet Commands

### 2.2.1 IP

- This command is used to change IP address of Ethernet port of TDR-4.
- IP address should be entered in xxx.xxx.xxx.xxx form.
- Enter new IP address and press enter. To save the new IP address Press 'Y' else press 'N'. If you press Y new IP address will be saved and if you press N the previous IP address will be retained.
- Default IP address of Ethernet port of TDR-4 is shown in section 1.1.



```
C:\> Telnet 192.168.100.153

*****
Masibus Telnet Server
*****

Login:masibus
Password:*****
Logged in successfully

Press 'q' to Logout.
Press 'h' for help.
Press cc for current configurations.

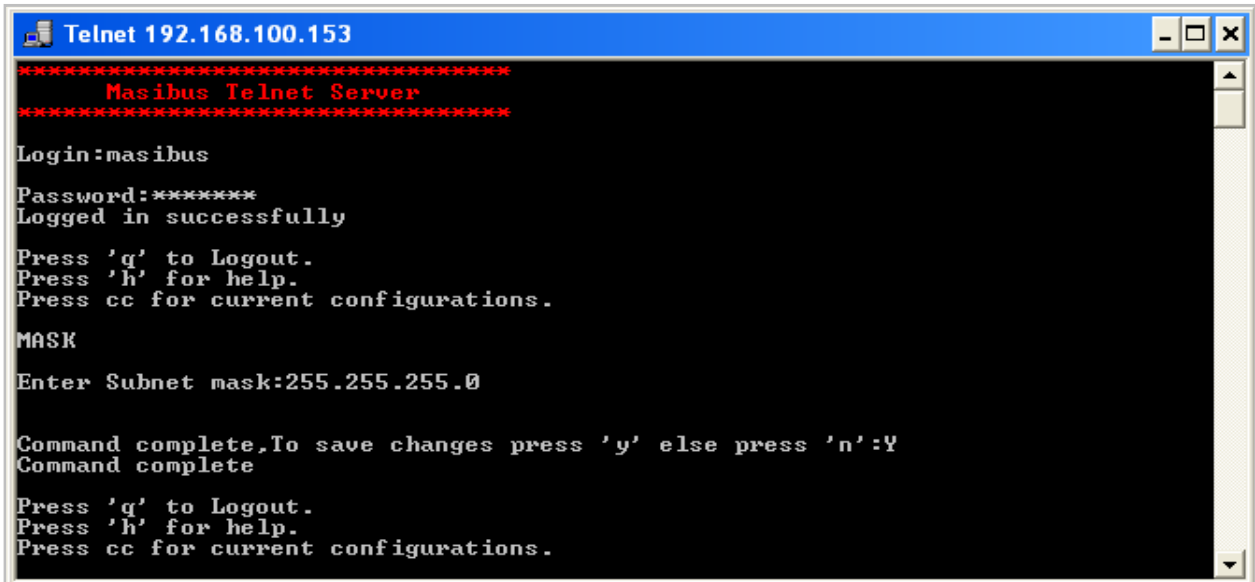
IP
Enter IP address:192.168.100.241

Command complete.To save changes press 'y' else press 'n':Y_
```

### 2.2.2 MASK

- This command is used to change Subnet Mask of Ethernet port of TDR-4.
- Subnet Mask should be entered in xxx.xxx.xxx.xxx form.

- Enter new Subnet Mask and press enter. To save the new Subnet Mask Press 'Y' else press 'N'. If you press Y new Subnet Mask will be saved and if you press N the previous Subnet Mask will be retained.
- Default Subnet mask of Ethernet port of TDR-4 is shown in section 1.1.

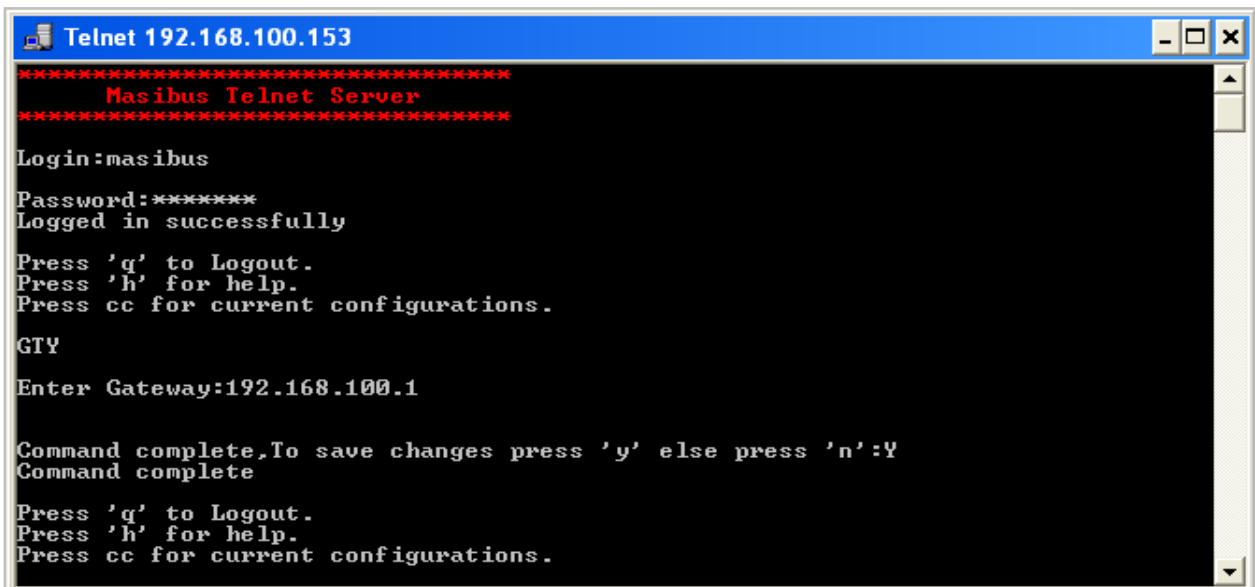


```
Telnet 192.168.100.153
*****
Masibus Telnet Server
*****
Login:masibus
Password:*****
Logged in successfully
Press 'q' to Logout.
Press 'h' for help.
Press cc for current configurations.
MASK
Enter Subnet mask:255.255.255.0

Command complete,To save changes press 'y' else press 'n':Y
Command complete
Press 'q' to Logout.
Press 'h' for help.
Press cc for current configurations.
```

### 2.2.3 GTY

- This command is used to change Gateway of Ethernet port of TDR-4.
- Gateway should be entered in xxx.xxx.xxx.xxx form.
- Enter new Gateway and press enter. To save the new Gateway Press 'Y' else press 'N'. If you press Y new Gateway will be saved and if you press N the previous Gateway will be retained.
- Default Gateway of Ethernet port of TDR-4 is shown in section 1.1.



```
Telnet 192.168.100.153
*****
Masibus Telnet Server
*****
Login:masibus
Password:*****
Logged in successfully
Press 'q' to Logout.
Press 'h' for help.
Press cc for current configurations.
GTY
Enter Gateway:192.168.100.1

Command complete,To save changes press 'y' else press 'n':Y
Command complete
Press 'q' to Logout.
Press 'h' for help.
Press cc for current configurations.
```

**2.2.4 SNMP**

- This Command is used to Enable/Disable SNMP protocol in particular Ethernet port of TDR-4.
- To save the settings Press 'Y' else press 'N' message will come on telnet window. If you press Y SNMP will be enabled and if you press N SNMP will be disabled.
- If SNMP is enabled, then SPI1 & SPI2, SRC, SWC commands are available to change the SNMP parameters.
- Default SNMP is shown in section 1.1.

```

Telnet 192.168.100.153
*****
Masibus Telnet Server
*****

Login:masibus
Password:*****
Logged in successfully

Press 'q' to Logout.
Press 'h' for help.
Press cc for current configurations.

SNMP
Press 'Y' to Enable SNMP Protocol else Press 'N':y
Command complete

Press 'q' to Logout.
Press 'h' for help.
Press cc for current configurations.
    
```

**2.2.4.1 SIP1 & SIP2**

- These commands are used to change Manager IP address of SNMP Manager.
- IP address should be entered in xxx.xxx.xxx.xxx form.
- Enter new IP address and press enter. To save the new IP address Press 'Y' else press 'N'. If you press Y new IP address will be saved and if you press N the previous IP address will be retained.
- Default IP of SNMP manager is shown in section 1.1.

```

Telnet 192.168.100.153
*****
Masibus Telnet Server
*****

Login:masibus
Password:*****
Logged in successfully

Press 'q' to Logout.
Press 'h' for help.
Press cc for current configurations.

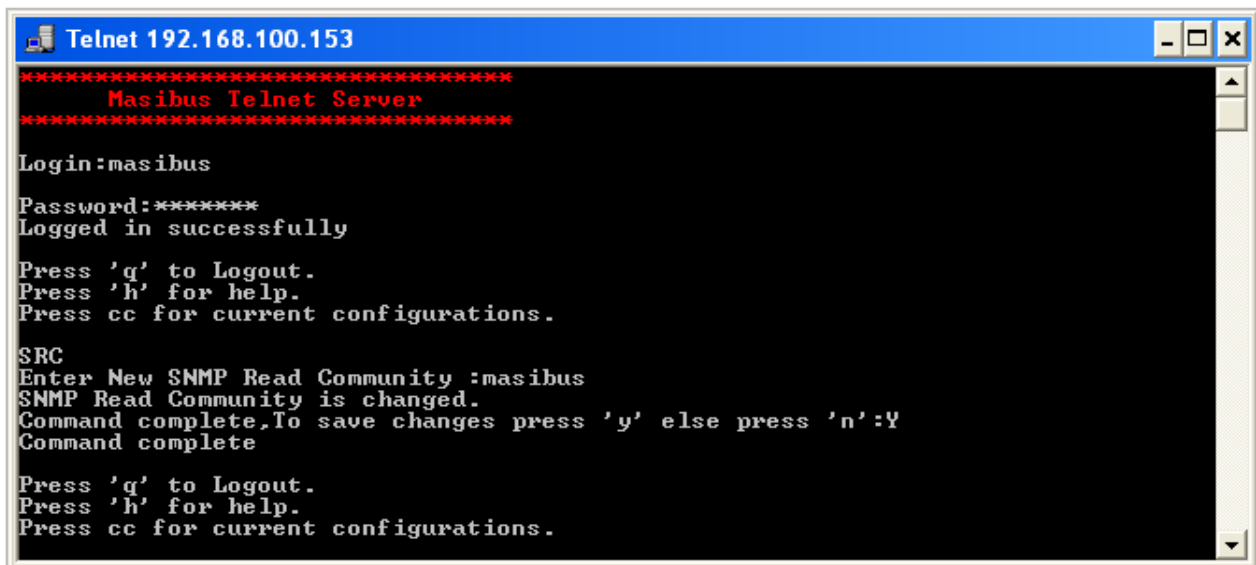
SIP1
Enter SNMP MANAGER IP1:192.168.100.73

Command complete.To save changes press 'y' else press 'n':Y
Command complete

Press 'q' to Logout.
Press 'h' for help.
Press cc for current configurations.
    
```

### 2.2.4.2 SRC

- The user is allowed to change SNMP Read Community. The command for changing the SNMP Read Community is: '**SRC**'.
- Then enter new SNMP Read Community and press enter. To save the new SNMP Read Community Press '**Y**' else press '**N**'. If you press **Y** new SNMP Read Community will be saved and if you press **N** the previous SNMP Read Community will be retained.
- The default SNMP Read Community is shown in section 1.1.



```
Telnet 192.168.100.153
*****
Masibus Telnet Server
*****

Login:masibus
Password:*****
Logged in successfully

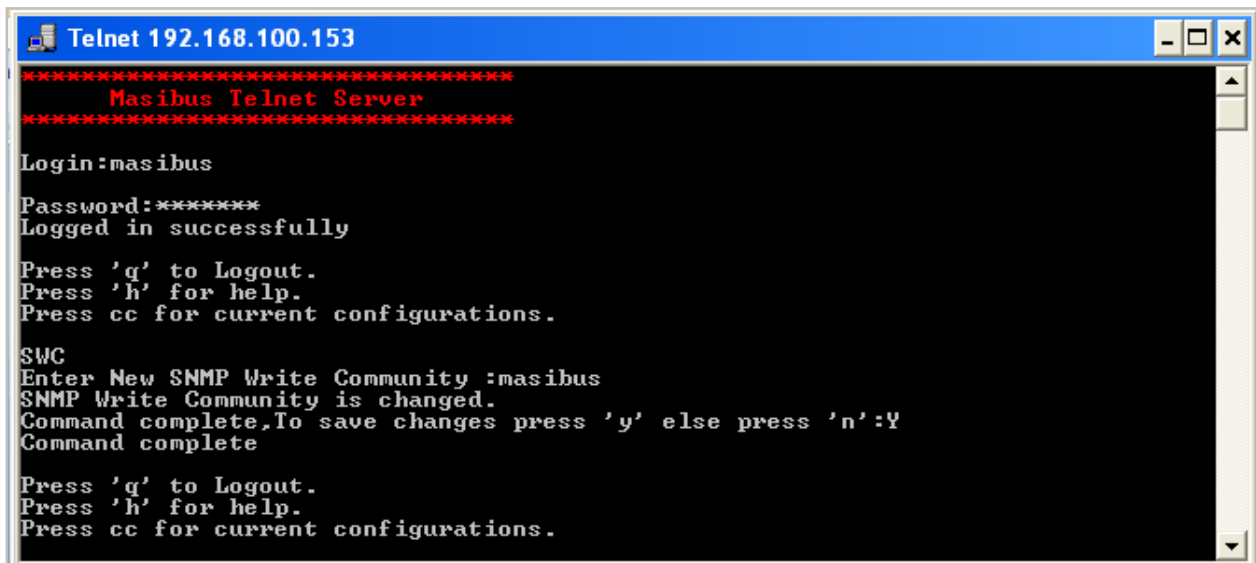
Press 'q' to Logout.
Press 'h' for help.
Press cc for current configurations.

SRC
Enter New SNMP Read Community :masibus
SNMP Read Community is changed.
Command complete.To save changes press 'y' else press 'n':Y
Command complete

Press 'q' to Logout.
Press 'h' for help.
Press cc for current configurations.
```

### 2.2.4.3 SWC

- The user is allowed to change SNMP Write Community. The command for changing the SNMP Write Community is: '**SWC**'.
- Then enter new SNMP Write Community and press enter. To save the new SNMP Write Community Press '**Y**' else press '**N**'. If you press **Y** new SNMP Write Community will be saved and if you press **N** the previous SNMP Write Community will be retained.
- The default SNMP Write Community is shown in section 1.1.



```
Telnet 192.168.100.153
*****
Masibus Telnet Server
*****

Login:masibus
Password:*****
Logged in successfully

Press 'q' to Logout.
Press 'h' for help.
Press cc for current configurations.

SWC
Enter New SNMP Write Community :masibus
SNMP Write Community is changed.
Command complete.To save changes press 'y' else press 'n':Y
Command complete

Press 'q' to Logout.
Press 'h' for help.
Press cc for current configurations.
```



**2.2.4.4 H**

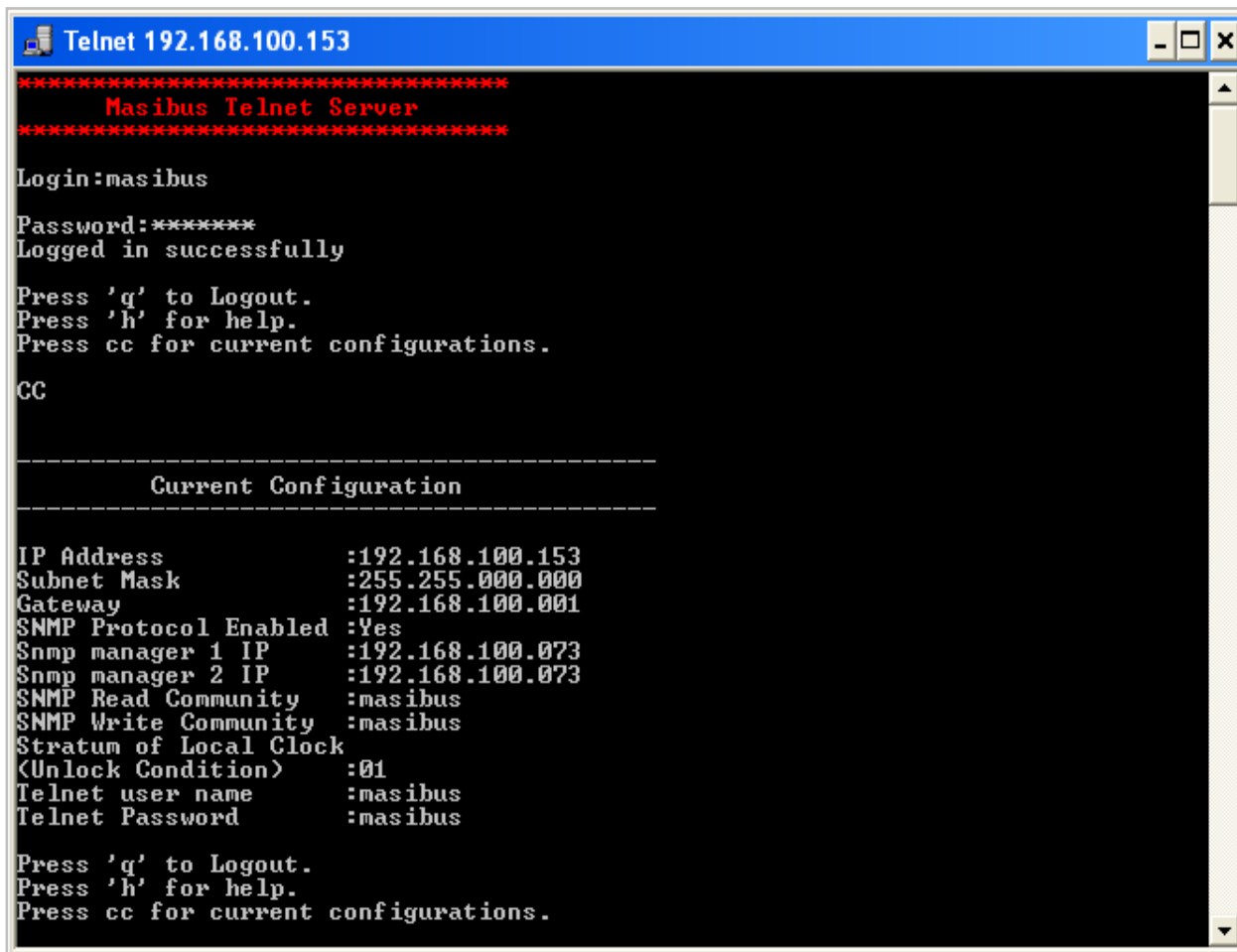
- This **HELP** command is used to see different commands and their functions.(HELP Command window is shown below when SNMP is Enabled)

```

Telnet 192.168.100.153
*****
Masibus Telnet Server
*****
Login:masibus
Password:*****
Logged in successfully
Press 'q' to Logout.
Press 'h' for help.
Press cc for current configurations.
H
-----
COMMAND          FUNCTION
-----
IP                Configure IP address
MASK             Configure SUBNET MASK
GTW              Configure GATEWAY
STRT             Configure Stratum of Local Clock(Unlock Condition)
SNMP             Enable/Disable SNMP Protocol for this port
SIP1             Configure SNMP Manager IP1
SIP2             Configure SNMP Manager IP2
SRC              Configure SNMP Read Community
SWC              Configure SNMP Write Community
U                Configure Telnet Login-name
P                Configure Telnet Password
Press 'q' to Logout.
Press 'h' for help.
Press cc for current configurations.
    
```

**2.2.4.5 CC**

- This **CURRENT CONFIGURATION** command is used to see present Ethernet settings. (Current Configuration window is shown when SNMP is Enabled)



```
Telnet 192.168.100.153
*****
Masibus Telnet Server
*****

Login:masibus
Password:*****
Logged in successfully

Press 'q' to Logout.
Press 'h' for help.
Press cc for current configurations.

CC

-----
Current Configuration
-----

IP Address           :192.168.100.153
Subnet Mask          :255.255.000.000
Gateway              :192.168.100.001
SNMP Protocol Enabled :Yes
Snmp manager 1 IP    :192.168.100.073
Snmp manager 2 IP    :192.168.100.073
SNMP Read Community  :masibus
SNMP Write Community :masibus
Stratum of Local Clock
(Unlock Condition)   :01
Telnet user name     :masibus
Telnet Password      :masibus

Press 'q' to Logout.
Press 'h' for help.
Press cc for current configurations.
```

### 2.2.5 STRT

- This command is used to change Stratum of Ethernet port of TDR-4 in unlock condition which will be described from the frame format given as input to the TDR-4.
- Stratum should be entered in xx form.
- Enter new Stratum and press enter. To save the new Stratum Press 'Y' else press 'N'. If you press Y new Stratum will be saved and if you press N the previous Stratum will be retained.
- Default Stratum of Ethernet port of TDR-4 in unlock condition is shown in section 1.1.
- Stratum level can be changed between 1 to 15 any other value is not accepted, for example to enter stratum level 5 user needs to enter 05.

```

Telnet 192.168.100.153
*****
Masibus Telnet Server
*****

Login:masibus
Password:*****
Logged in successfully

Press 'q' to Logout.
Press 'h' for help.
Press cc for current configurations.

$TRI
Enter the Stratum of Local Clock(01-16):12
Stratum of Local Clock is changed.
Command complete.To save changes press 'y' else press 'n':Y
Command complete

Press 'q' to Logout.
Press 'h' for help.
Press cc for current configurations.
    
```

**2.2.6 U**

- The user is allowed to change telnet Login name. The command for changing the Login name is: 'U'.
- Then enter new Login name and press enter. To save the new Login name Press 'Y' else press 'N'. If you press Y new Login name will be saved and if you press N the previous Login name will be retained.
- The default Login name is shown in section 1.1.
- Remember that the Login name should not exceed 10 characters. If you try to keep a Login name that has more than 10 characters, the system will show an error "Invalid Entry" and the previous Login name will be retained.

```

Telnet 192.168.100.153
*****
Masibus Telnet Server
*****

Login:masibus
Password:*****
Logged in successfully

Press 'q' to Logout.
Press 'h' for help.
Press cc for current configurations.

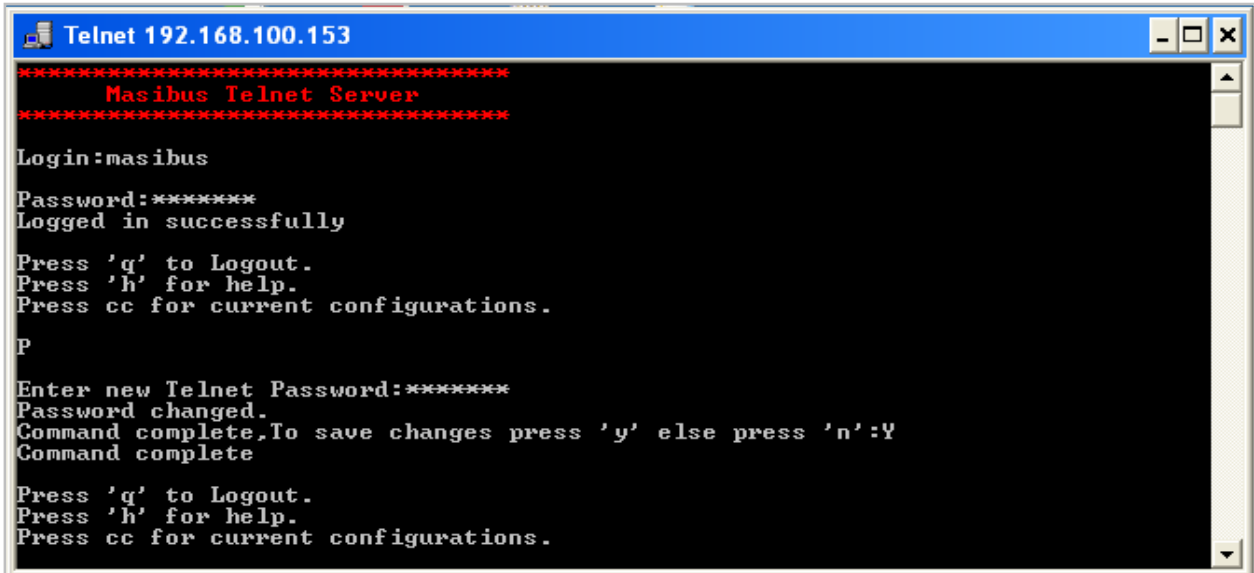
U
Enter new Telnet Username:masibus
Username changed.
Command complete.To save changes press 'y' else press 'n':Y
Command complete

Press 'q' to Logout.
Press 'h' for help.
Press cc for current configurations.
    
```

**2.2.7 P**

- The user is allowed to change telnet password. The command for changing the password is: P (password).

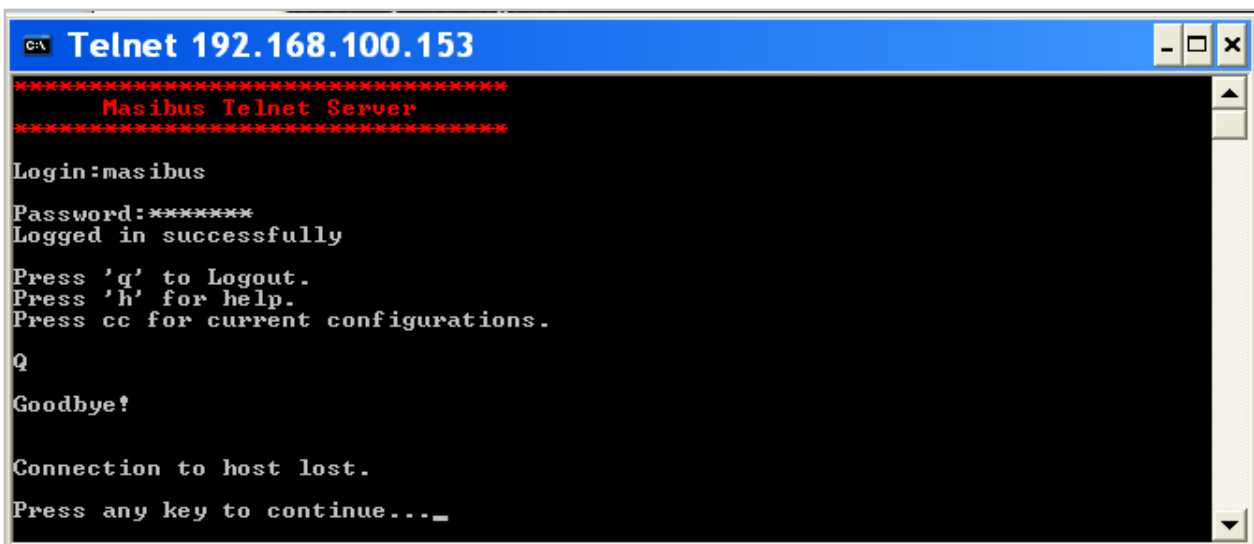
- Then enter new password and press enter. To save the new password press 'Y' else press 'N'. If you press Y new password will be saved and if you press N the previous password will be retained.
- The default password is shown in section 1.1.
- Remember that the password should not exceed 10 characters. If you try to keep a password that has more than 10 characters, the system will show an error "Invalid Entry" and the previous password will be retained.



```
Telnet 192.168.100.153
*****
Masibus Telnet Server
*****
Login:masibus
Password:*****
Logged in successfully
Press 'q' to Logout.
Press 'h' for help.
Press cc for current configurations.
P
Enter new Telnet Password:*****
Password changed.
Command complete.To save changes press 'y' else press 'n':Y
Command complete
Press 'q' to Logout.
Press 'h' for help.
Press cc for current configurations.
```

### 2.2.8 Q

- This command is used to close Telnet session.



```
Telnet 192.168.100.153
*****
Masibus Telnet Server
*****
Login:masibus
Password:*****
Logged in successfully
Press 'q' to Logout.
Press 'h' for help.
Press cc for current configurations.
Q
Goodbye!
Connection to host lost.
Press any key to continue..._
```

### 2.2.9 H

- This **HELP** command is used to see different commands and their functions.

```

Telnet 192.168.100.153
*****
Masibus Telnet Server
*****

Login:masibus
Password:*****
Logged in successfully

Press 'q' to Logout.
Press 'h' for help.
Press cc for current configurations.

H

-----
COMMAND          FUNCTION
-----
IP                Configure IP address
MASK              Configure SUBNET MASK
GTY              Configure GATEWAY
STRT              Configure Stratum of Local Clock(Unlock Condition)
SNMP              Enable/Disable SNMP Protocol for this port
U                 Configure Telnet Login-name
P                 Configure Telnet Password

Press 'q' to Logout.
Press 'h' for help.
Press cc for current configurations.
    
```

**2.2.10 CC**

- This **CURRENT CONFIGURATION** command is used to see present Ethernet settings.

```

Telnet 192.168.100.153
*****
Masibus Telnet Server
*****

Login:masibus
Password:*****
Logged in successfully

Press 'q' to Logout.
Press 'h' for help.
Press cc for current configurations.

CC

-----
Current Configuration
-----

IP Address          :192.168.100.153
Subnet Mask         :255.255.000.000
Gateway             :192.168.100.001
SNMP Protocol Enabled :No
Stratum of Local Clock
(Unlock Condition) :01
Telnet user name    :masibus
Telnet Password     :masibus

Press 'q' to Logout.
Press 'h' for help.
Press cc for current configurations.
    
```

**NOTE:** If SNMP is enabled, then HELP and CC windows will be different as shown in **2.2.4.4** and **2.2.4.5** sections.

### **2.3. Default network settings:**

- After default settings all NTP outputs of TDR-4 will have same Default network settings as shown in section 1.1.
- To set the network settings to default state,

Follow the below procedure.

- Switch off the TDR-4. Take out the NTP card from rack. Now “ON” the switch named GP1 of SW1 on card.
- Fix NTP card in rack.
- Connect NTP-1 output with PC through Straight Ethernet cable.
- Right click on My Network Places -> Properties -> right click on Local Area Network-> Repair.
- Now ping 192.168.100.153. Response must be come from NTP-1.
- Repeat same procedure for NTP-2, NTP-3 and NTP-4.
- Now again switch off TDR-4, take out NTP card from rack. “OFF” the switch named GP1 of SW1 on card.
- Fix NTP card in rack. Connect NTP-1 with PC.
- Now Right click on My Network Places -> Properties -> right click on Local Area Network-> Repair.
- Open telnet session and change network settings according to your application.
- Repeat same procedure for NTP-2, NTP-3 and NTP-4.

**NOTE:** While changing Ethernet settings ping window should be closed.

### **2.4. Important Points:**

- TDR-4 Telnet Server has timeout period of 5 minutes. If you do not press any character till minutes, the session will be automatically closed with a message of Timeout, Session Closed.
- NTP service will be stopped while Telnet session is opened. When you Logout from the session or change IP address or after timeout the NTP service will be automatically started.
- Login name and Password is case insensitive.