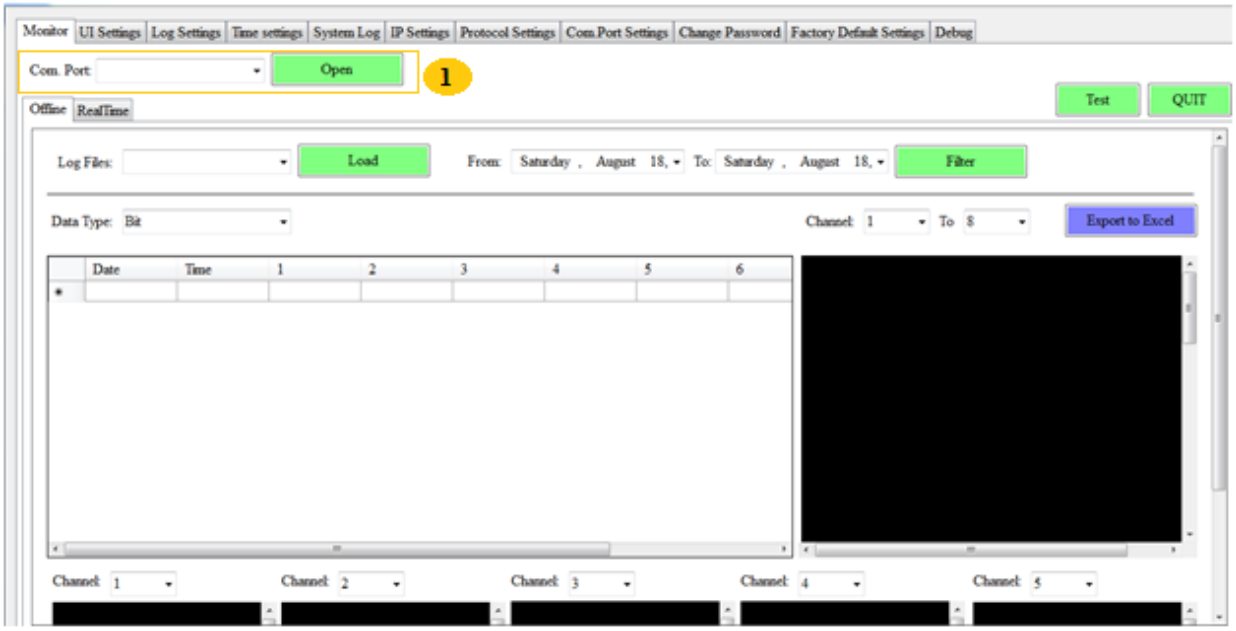
Data Logger

User Manual

1. Selecting the COM Port

This should be the first step before in using the Data Logger UI.

1. Plugin the hardware and check for the COM Port number in **Computer->System Properties->Device Manager->Ports**
2. Select the COM Port number in the UI App as shown below and Click Open.

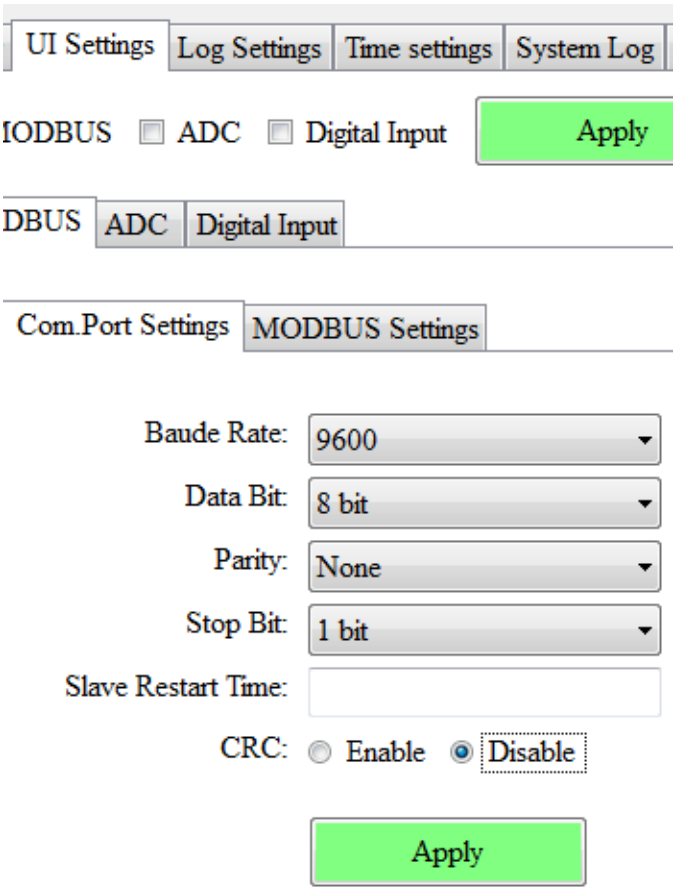


2. UI Settings

2.1. MODBUS

2.1.1. Com Port Settings

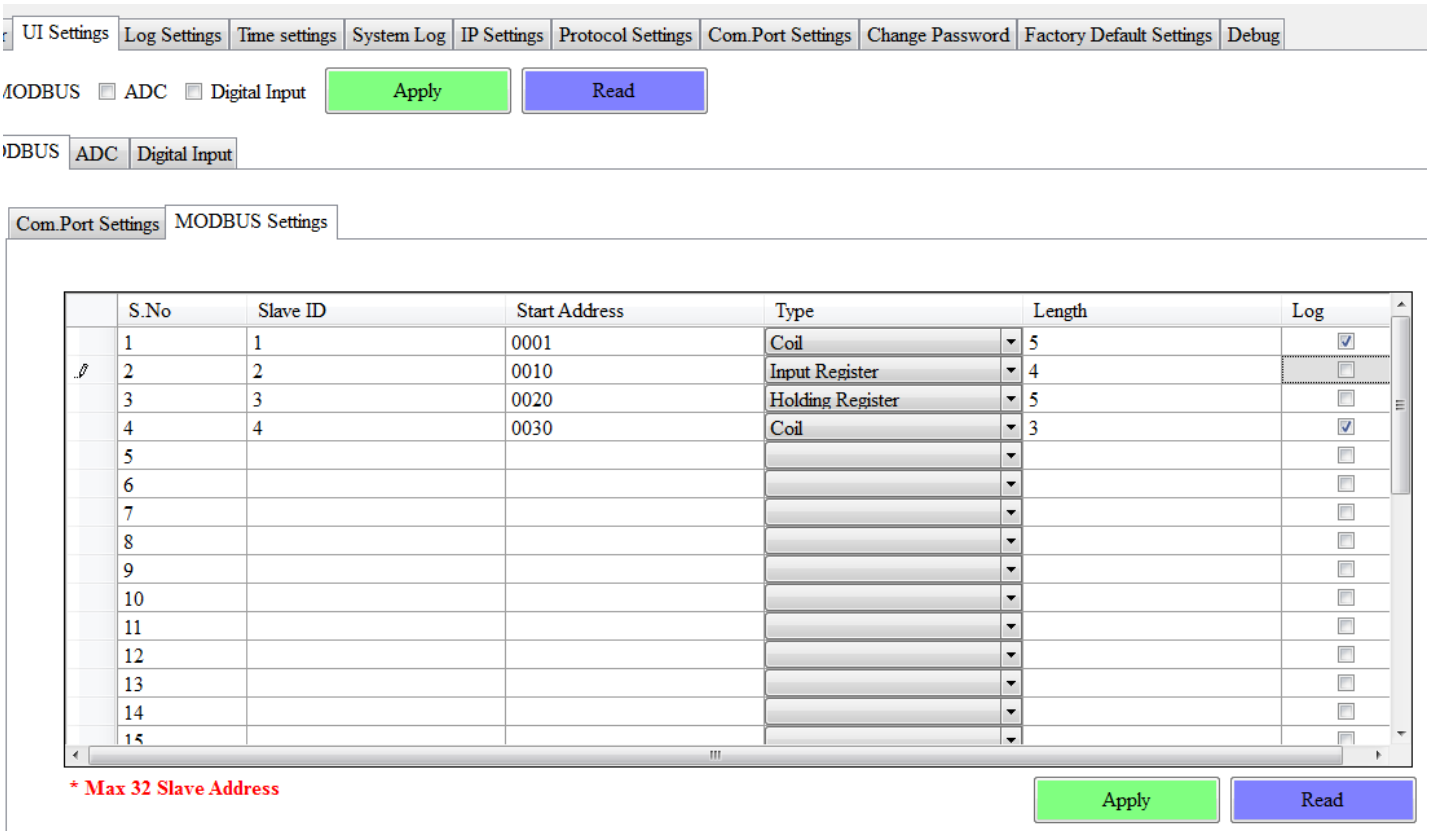
This is the UART settings for Modbus Communication. Refer the screenshot below.



1. Select **Baud Rate** from the list.
2. Select **Data Bit** from the list.
3. Select **Parity** from the list.
4. Select **Stop Bit** from the list.
5. Ignore **Slave Restart Time** for now.
6. Select **CRC** Disable
7. Click on Apply.

2.1.2. Modbus Settings

This is Modbus Slave information to log the Modbus data.



1. **Slave ID:** This is the Modbus Slave ID. Maximum 32 Slave info can be accessed.
2. **Start Address:** This is the starting address of the slave from where data needs to be read.
3. **Type:** Mention the register type. It **c**ould be Coil/Input Register/Holding Register.
4. **Length:** Number of data to read. Ex: 5 indicates registers are read from address 0001 to 0005, a total of 5x2=10 bytes as each data is 2 bytes wide.
5. **Log:** If tick is enabled, the slave data pertaining to that slave id will be logger, if tick is not enabled, slave data is not logged.
6. Click Apply will write these configuration settings in the memory.
7. Clicking on Read will display the configuration that is already saved.

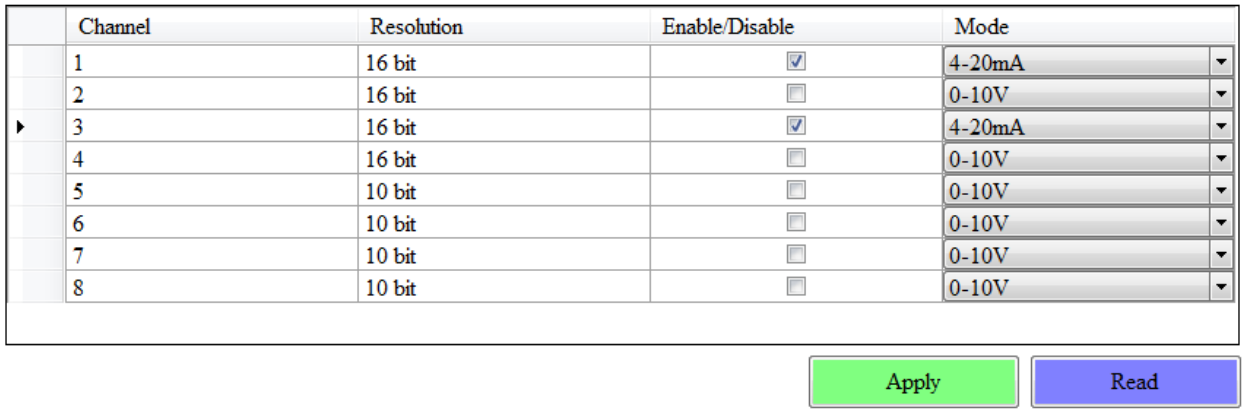
2.2. ADC

2.2.1. ADC Channel Settings

These Settings will configure ADC as either current channel (4-20mA) or 0-10V ADC Channel.

1. **Tick enabled** on **Enable/Disable** on a particular channel number will log that ADC channel data. **Tick Disabled** on **Enable/Disable** will not log the channel data.
2. Selecting **4-20mA** will configure the adc as a current channel, leaving adc in **0-10V** will configure adc as a normal adc channel.
3. Click Apply will write these configuration settings in the memory.

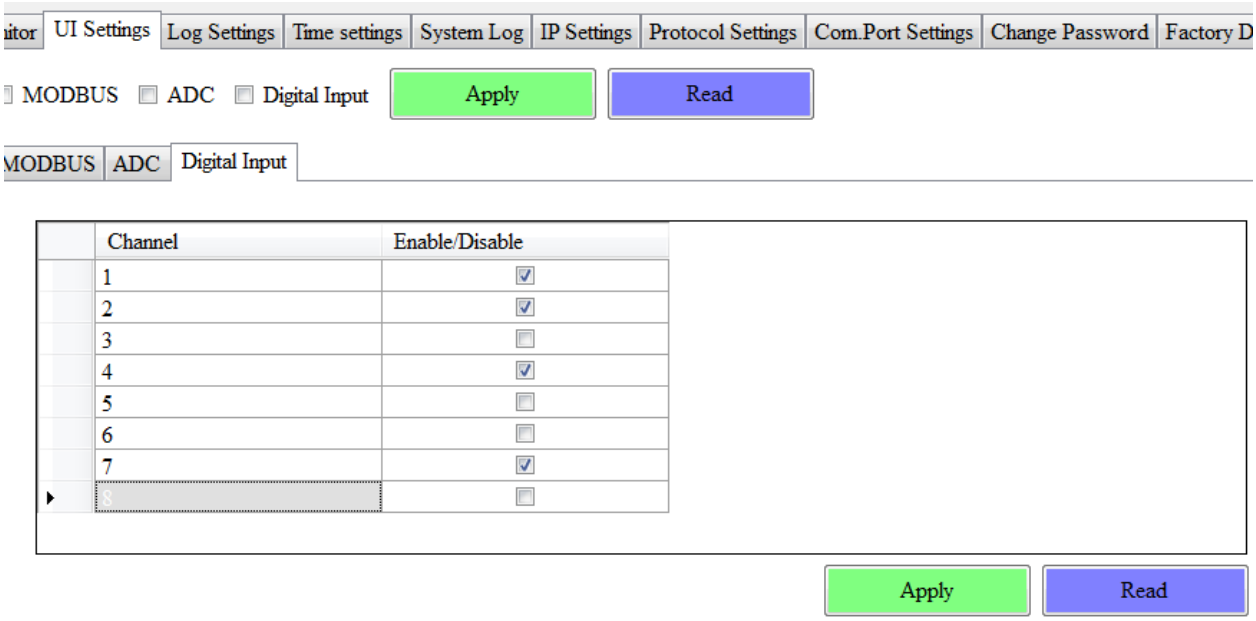
4. Clicking on Read will display the configuration that is already saved.



2.3. Digital Input

This Setting will indicate which digital input needs to be logged.

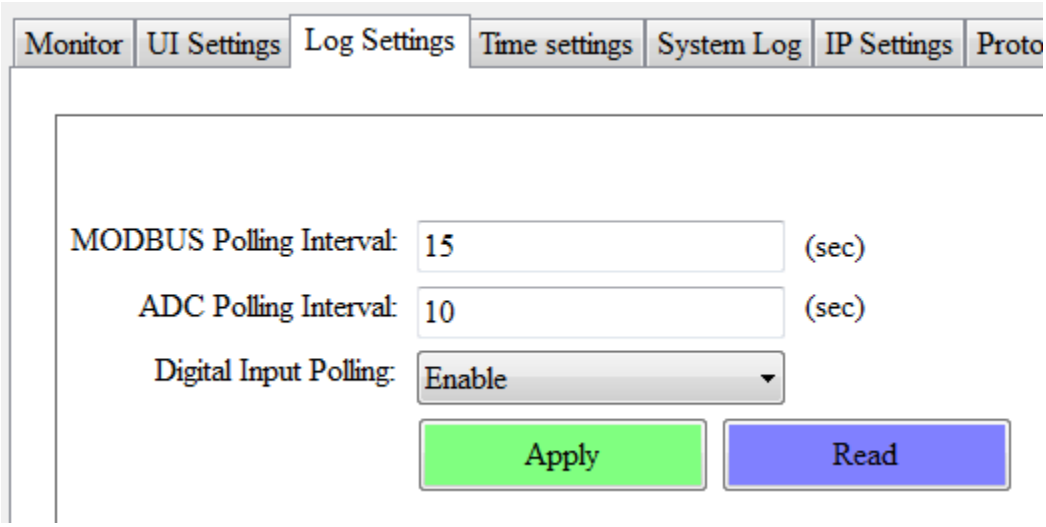
1. **Tick enabled** on **Enable/Disable** on a particular channel number will log that Digital Input channel data. **Tick Disabled** on **Enable/Disable** will not log the digital input channel data.
2. Click Apply will write these configuration settings in the memory.
3. Clicking on Read will display the configuration that is already saved.



3. Log Settings

These settings will indicate how often logging of data needs to happen for Modbus/ADC/Digital Input.

1. **MODBUS Polling Interval:** Every polling interval of time Modbus Channel data is logged to a file. Value should be in seconds (between 1- 86400).
2. **ADC Polling Interval:** Every polling interval of time ADC Channel data is logged to a file. Value should be in seconds (between 1- 86400).
3. **Digital Input Polling:** Acts like a Master Control. Selecting enable will enable the data logging for selected channels in Modbus Setting Tab. Selecting Disable here will Disable the data logging for the digital input channels even if the channels are selected for logging in Modbus Setting Tab.
4. Click Apply will write these configuration settings in the memory.
5. Clicking on Read will display the configuration that is already saved.

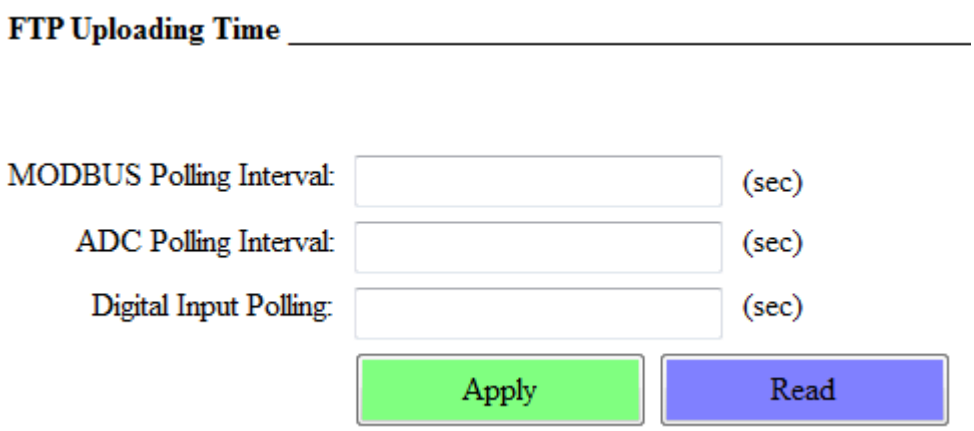


3.1. FTP Uploading Time

This setting is for uploading Modbus/ADC/Digital Input data to the server if enabled to log.

1. **MODBUS Polling Interval:** Every polling interval of time Modbus Channel data is logged to a server. Value should be in seconds (between 1- 86400).
2. **ADC Polling Interval:** Every polling interval of time ADC Channel data is logged to a server. Value should be in seconds (between 1- 86400).
3. **Digital Input Polling:** Acts like a Master Control. Selecting enable will enable the data logging for selected channels in Modbus Setting Tab. Selecting Disable here will Disable the data logging for the digital input channels even if the channels are selected for logging in Modbus Setting Tab.

4. Click Apply will write these configuration settings in the memory.
5. Clicking on Read will display the configuration that is already saved.

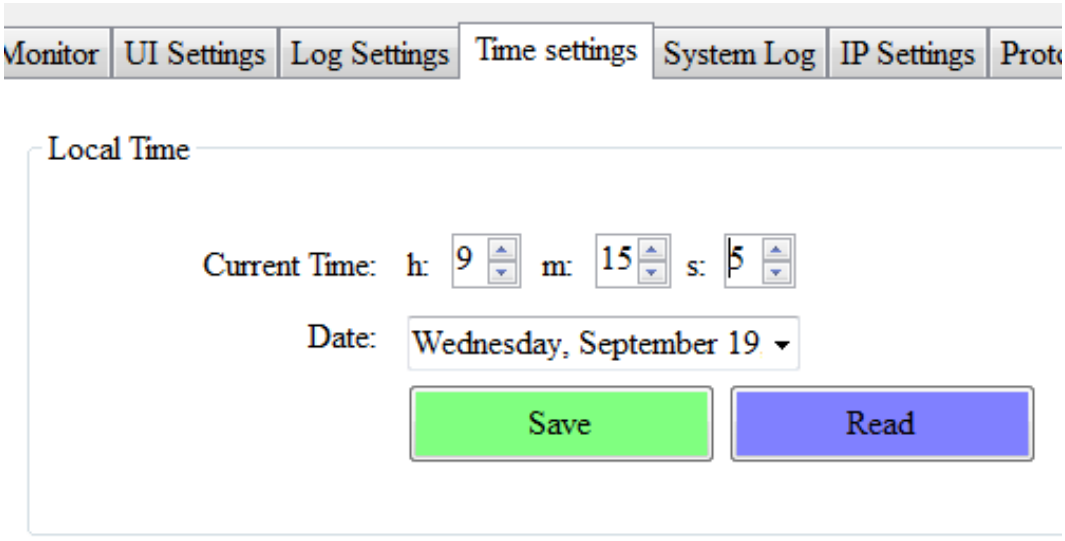


4. Time Settings

4.1. Local Time

This setting is for Setting/getting time from local machine.

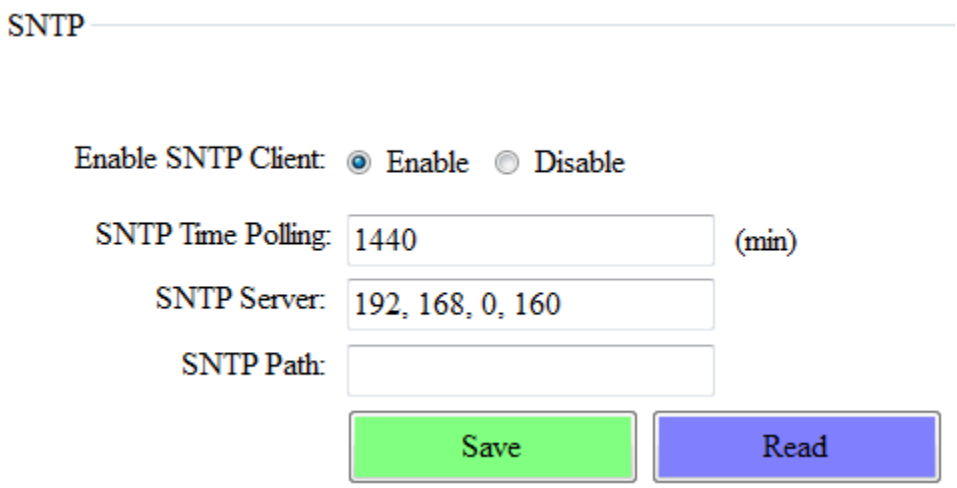
1. **Current Time:** Time in hour, minute and seconds.
2. **Date:** Select from the drop down menu
3. Click Save will write these time settings in the memory.
4. Clicking on Read will display the current time.



4.2. SNTP

This setting is for Synchronizing the time from the local machine with the time from NTP serve.

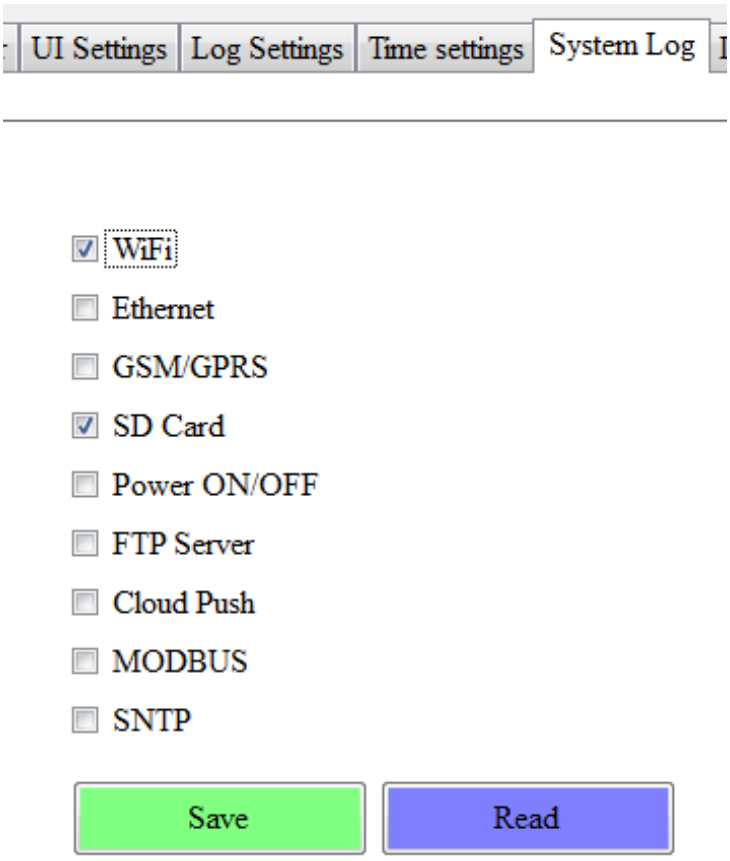
1. **Enable SNTP Client:** Time in hour, minute and seconds.
2. **SNTP Time Polling:** Synchronization time which tells how often the time from local machine needs to be in sync with the NTP server.
3. **SNTP Server:** Server URL or its IP address. Ex: public NTP server IP is 198.168.0.160
4. **SNTP Path:** Path for the SNTP server.
5. Click Save will write these time settings in the memory.
6. Clicking on Read will display the current time.



5. System Log

This setting will enable or disable the system log for the list shown.

1. Presence of tick for an item in the list will enable logging system data for that item.
2. Absence of tick for an item in the list will disable logging system data for that item.
3. Click Apply will write these configuration settings in the memory.
4. Clicking on Read will display the configuration that is already saved.

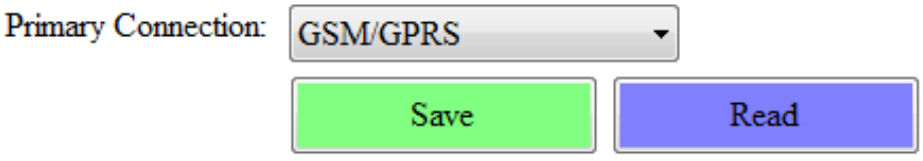


6. IP Settings

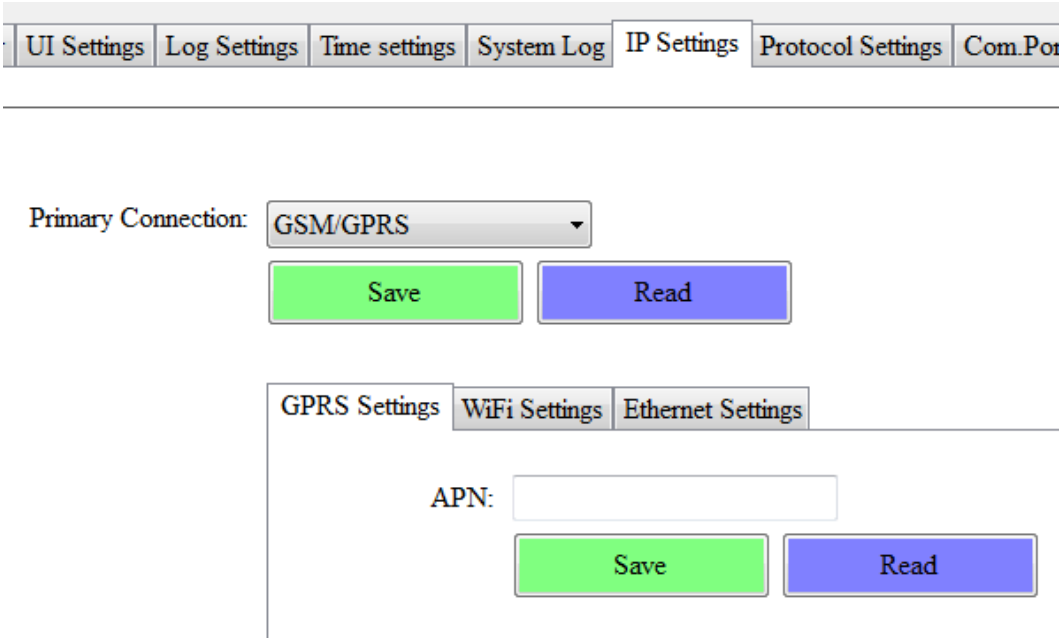
6.1. Primary Connection

This setting will choose the connection for the server.

1. **Primary Connection:** Choose the primary connection from the drop down menu; settings are enabled for the selected primary connection.
2. Click Save will save these settings in the memory.
3. Clicking on Read will display the configuration that is already saved.

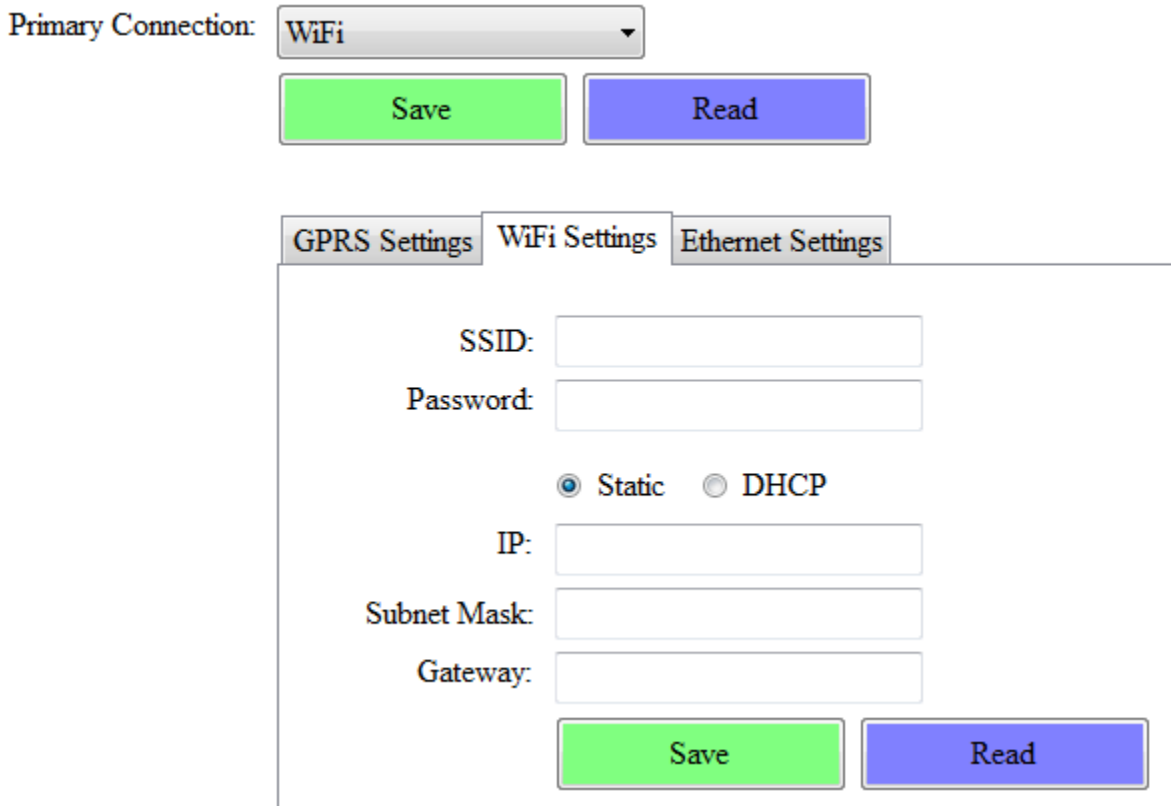


6.2. GPRS Settings



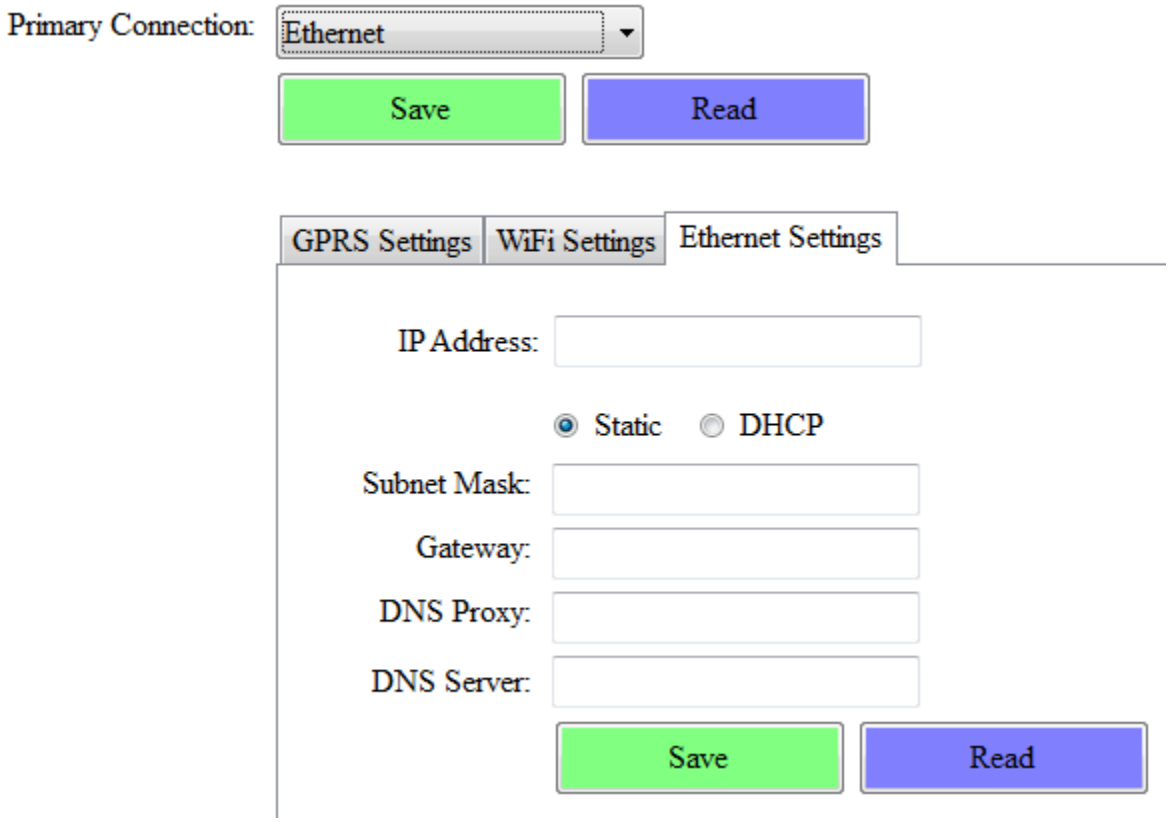
1. Choose **GSM/GPRS** in the **Primary Connection** as shown in the screenshot.
2. GPRS Settings are enabled now and ready to get/put user configuration.
3. **APN:** Provide APN for the connection. Ex: for Airtel it is "tp://airtelgprs.com".
4. Click Save will save these settings in the memory.
5. Clicking on Read will display the configuration that is already saved.

6.3. WiFi Settings



1. Choose **WiFi** in the **Primary Connection** as shown in the screenshot.
2. WiFi Settings are enabled now and ready to get/put user configuration.
3. **SSID:** Provide SSID (username) of the WiFi connection(/Router).
   Ex: rdl123
4. **Password:** Provide Password of the WiFi connection(/Router).
   Ex: password
5. Choose whether the WiFi connection is a Static IP or DHCP.
6. **Subnet Mask:** Provide subnet mask of the WiFi connection(/Router). Ex: 255.255.240.0
7. **Gateway:** Provide Gateway of the WiFi connection(/Router). Ex: 192.168.0.1
8. Click Save will save these settings in the memory.
9. Clicking on Read will display the configuration that is already saved.

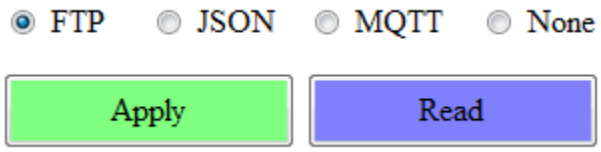
6.4. Ethernet Settings



1. Choose **Ethernet** in the **Primary Connection** as shown in the screenshot.
2. Ethernet Settings are enabled now and ready to get/put user configuration.
3. **IP Address:** Provide IP address of the Ethernet connection. Ex: "tp://airtelgprs.com".
4. Choose whether the connection is a Static IP or DHCP.
5. **Subnet Mask:** Provide subnet mask of the Ethernet connection. Ex: 255.255.240.0
6. **Gateway:** Provide Gateway of the Ethernet connection. Ex: 192.168.0.1
7. **DNS Proxy:** Provide Gateway of the Ethernet connection. Ex: 4.3.3.3
8. **DNS Server:** Provide Gateway of the Ethernet connection. Ex: 8.8.8.8
9. Click Save will save these settings in the memory.
10. Clicking on Read will display the configuration that is already saved.

7. Protocol Settings

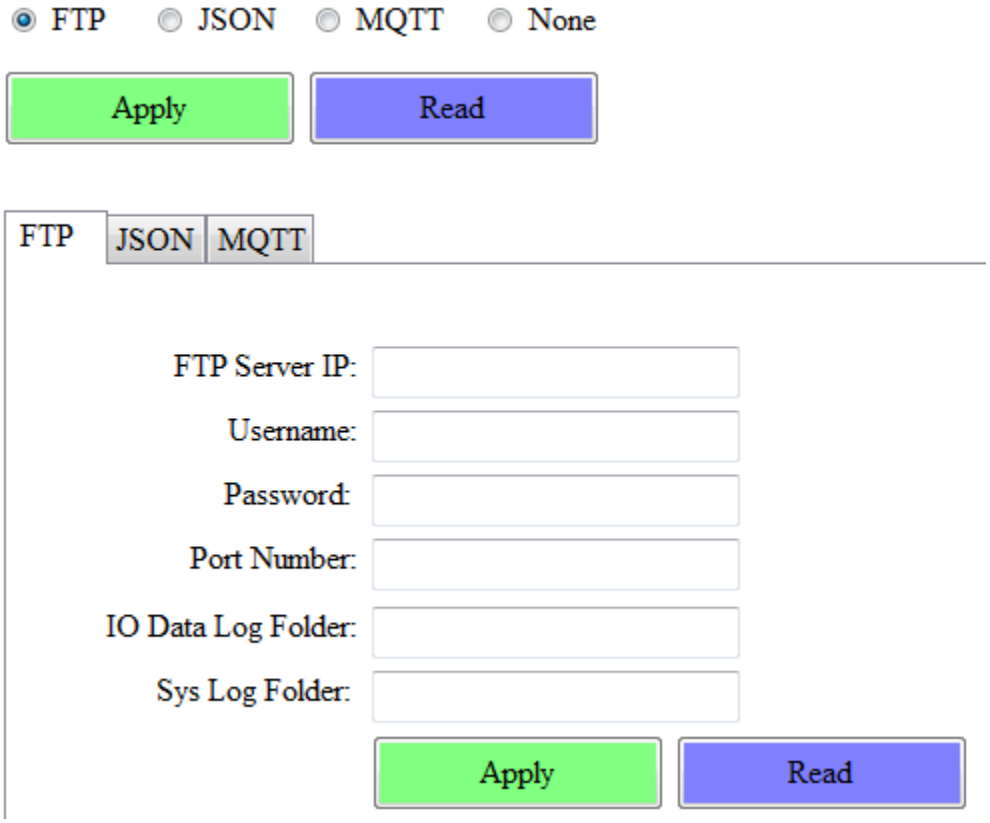
7.1. Choose Protocol



This setting will choose the protocol to be used for data logging.

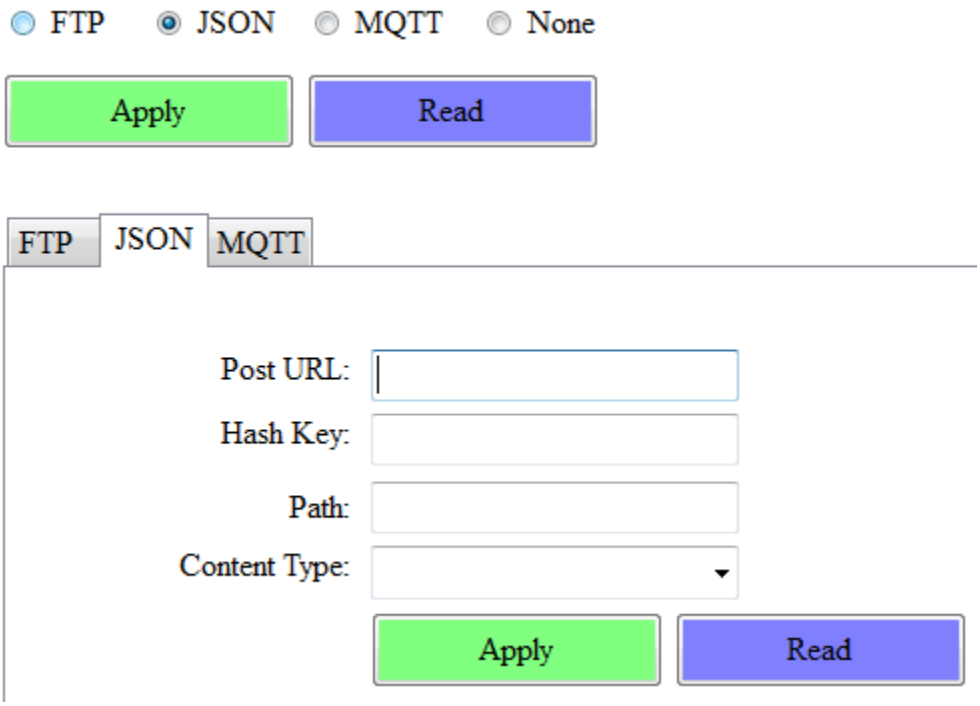
1. **FTP:** Data logging happens to FTP server.
2. **JSON:** Data logging happens to JSON server.
3. **MQTT:** Data logging happens to MQTT server.
4. **None:** Data logging is disabled.
5. Click Save will save these settings in the memory.
6. Clicking on Read will display the configuration that is already saved.

7.2. FTP



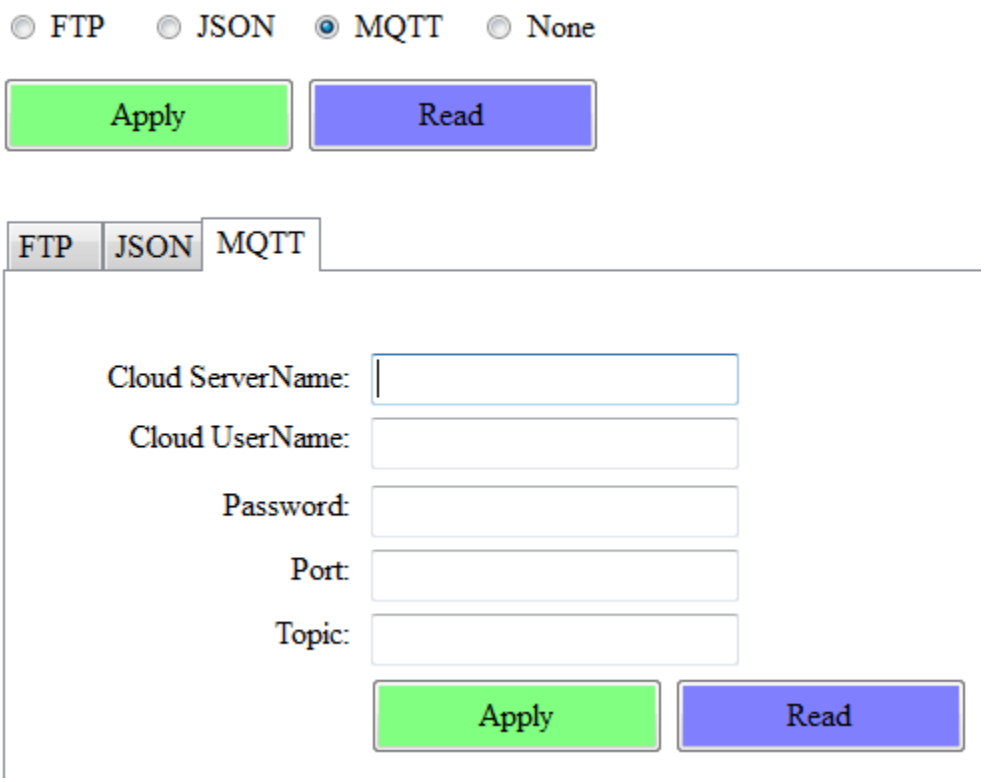
1. Choose **FTP** as shown in the screenshot.
2. FTP Settings are enabled now and ready to get/put user configuration.
3. **FTP Server IP:** Provide IP address for the FTP connection. Ex: "tp://airtelgprs.com" if IP Setting is GSM?GPRS and Provider is Airtel.
4. **Username:** Provide Username for the FTP Server. Ex: rdl123
5. **Password:** Provide Password for the FTP Server. Ex: password
6. **Port Number:** Provide Port number for the FTP Server. Ex: 80
7. **IO Data Log Folder:** Provide folder name for the FTP Server. Ex: Data_Logger.
8. **Sys Log Folder:** Provide folder name for the FTP Server. Ex: Data_Logger.
9. Click Save will save these settings in the memory.
10. Clicking on Read will display the configuration that is already saved.

7.3. JSON



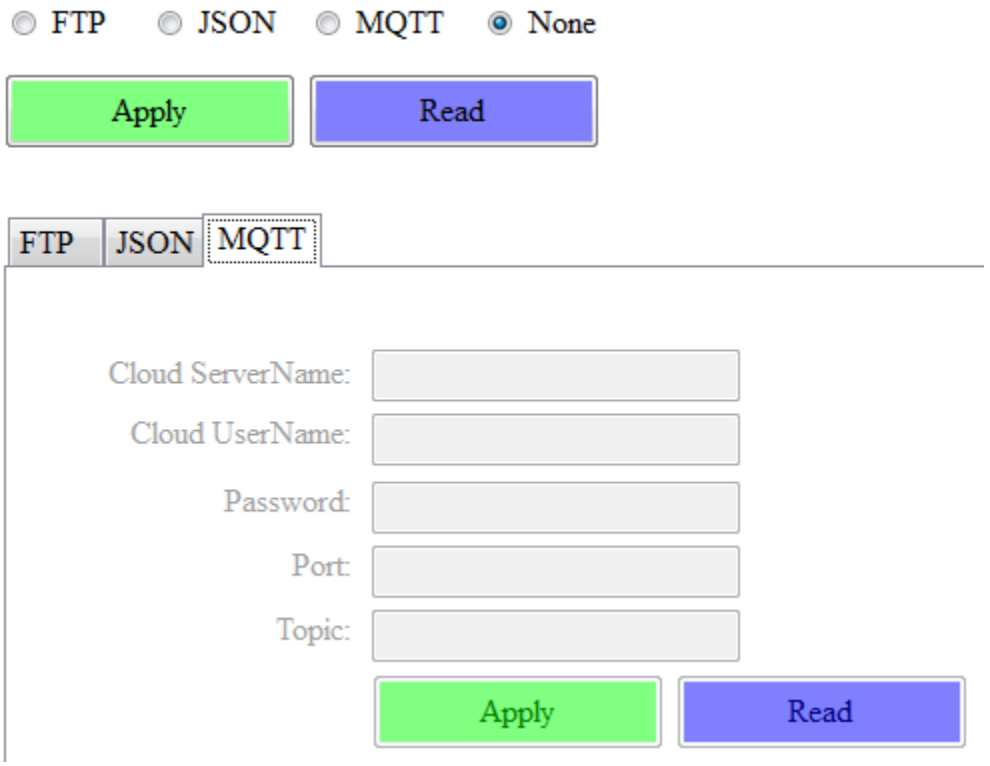
1. Choose **JSON** as shown in the screenshot.
2. JSON Settings are enabled now and ready to get/put user configuration.
3. **Post URL:** Provide Server URL. Ex: "datalog.in"
4. **Hash Key:** Provide AES encryption key for security.
5. **Path:** Provide Path for the URL. Ex: "/datalogserver/datainsert.php"
6. **Content Type:** Choose from dropdown. Ex: application/json
7. Click Save will save these settings in the memory.
8. Clicking on Read will display the configuration that is already saved.

7.4. MQTT



1. Choose **MQTT** as shown in the screenshot.
2. MQTT Settings are enabled now and ready to get/put user configuration.
3. **Cloud ServerName :** Provide Server Name. Ex: "m11.cloudmqtt.com"
4. **Cloud UserName :** Provide MQTT cloud User Name.
5. **Password:** Provide MQTT cloud Password.
6. **Port:** Provide Port number for MQTT cloud. Ex: password
7. **Topic:** Provide Topic for v. Ex: RDL
8. Click Save will save these settings in the memory.
9. Clicking on Read will display the configuration that is already saved.

7.5. None



1. When **None** is chosen, all the protocol gets disabled.