# PDU Utility

## User Manual

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# 1. Introduction

## General

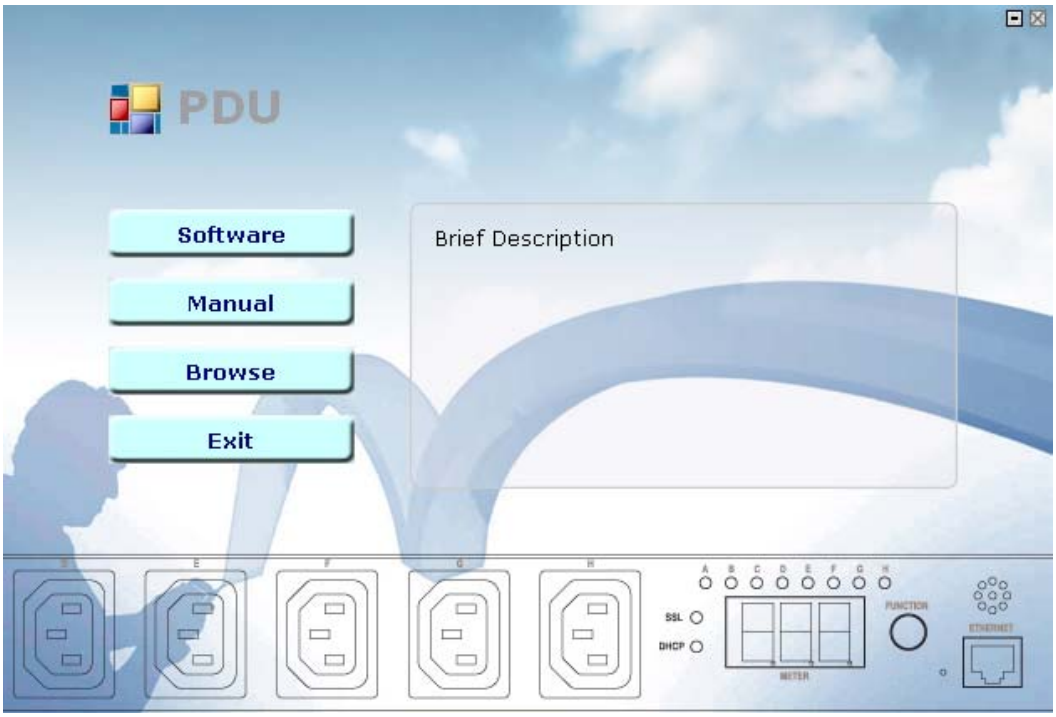
The PDU Utility is PDU monitoring, management software. It has been designed to provide information about power conditions, status of PDU and power environment.

It has the following functions:

1. Monitors a large amount of PDU power consumption simultaneously.
2. Provides for group management of a large number of PDUs.
3. Provides power consumption chart for daily monthly or user-defined period.
4. Sends email and traps to the specific account when a power event occurs.
5. Forwards the trap to the user-defined account.
6. Provides the capability to log and export events to the Syslog server.

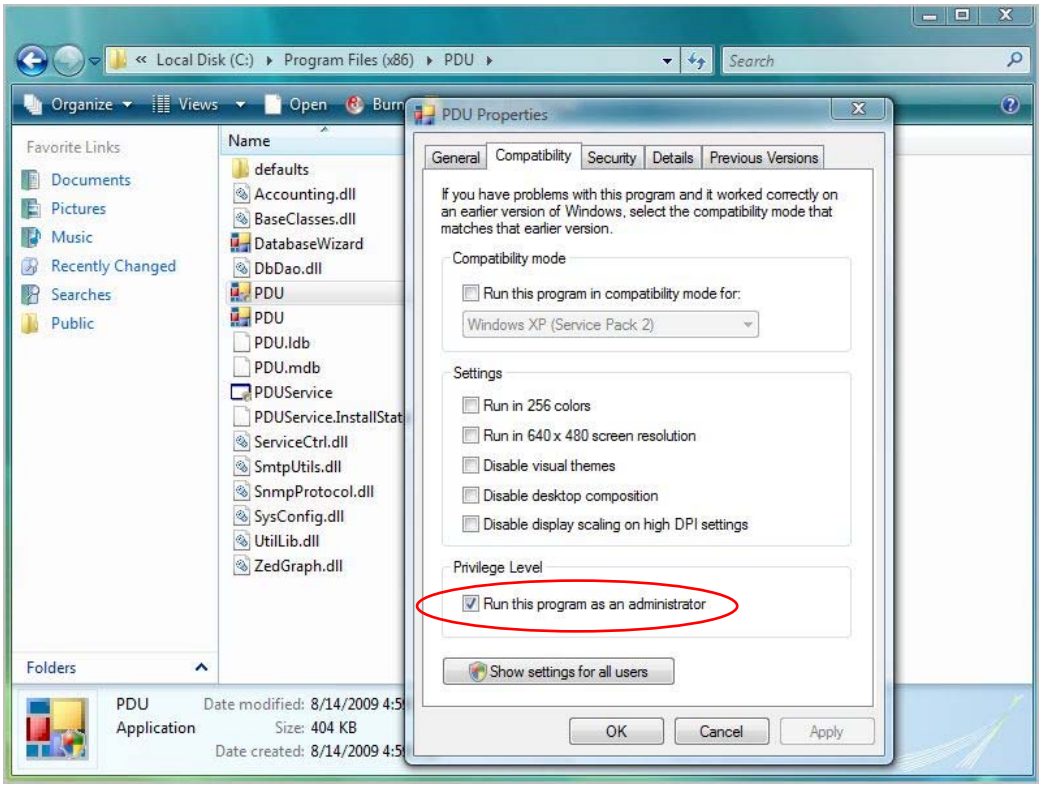
# 2. Installation

**Install procedure:**
This window should open automatically when the CD is inserted.



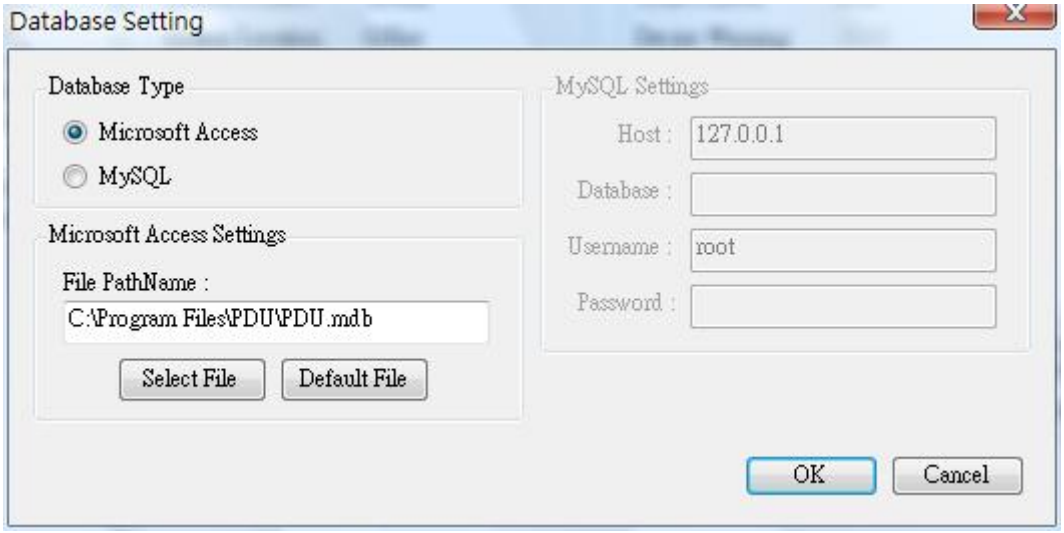

**Note:**

1. **It will take several minutes to install if your operating system does not already have Microsoft .NET Framework installed.**
2. **We recommend that the PDU Utility be installed at the server level of Windows operation system.**
3. **When using the PDU Utility under Windows Vista, you must first go to the installation folder for the PDU (as shown on the next page) and select the Properties of "PDU.exe" to "Run this program as an administrator".**




The first time you use the PDU software, you must select what kind of database that you want to use to record the PDU information.

- The default database is set to Microsoft Access.
- If you want to use MySQL database, you may download it from http://www.mysql.org

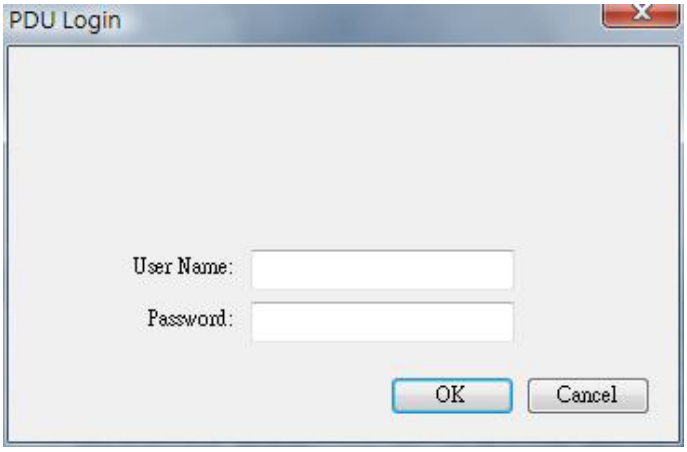


# 3. PDU Utility Interface

## Start

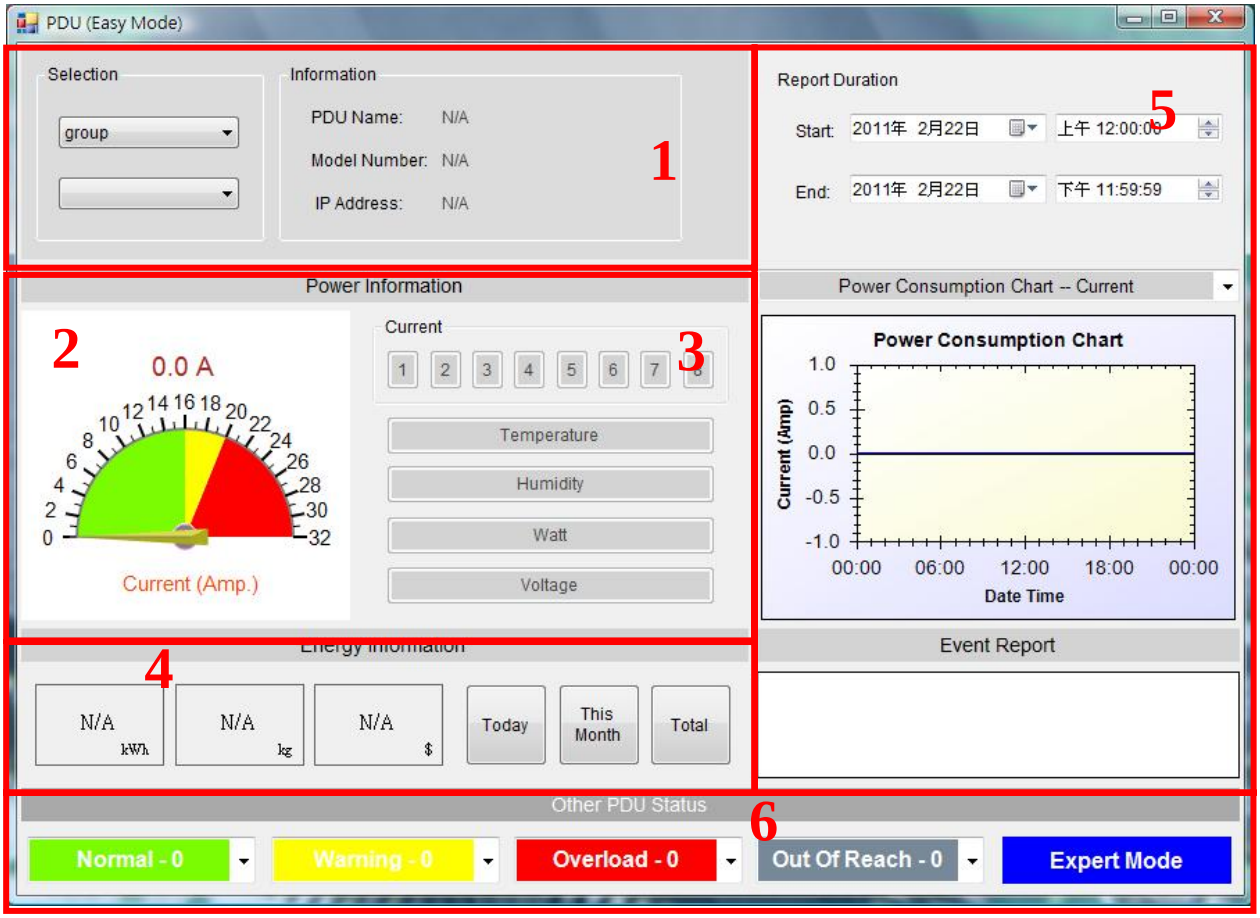
The Login Screen.

The default User Name is: **admin**, Password is: **1234** .



**Easy Mode:** Displays all power information by graphical interface.

Note: If it is the first time using the PDU utility, please enter “Expert Mode” to setup the utility.




**System Information:**

1. User can choose the PDU to be monitored by “Selection”. It will display PDU name, Model Number and the PDU IP address.

**Power Information:**

2. Graphical display for the PDU information.
3. Selection area, used to monitor PDU by selecting Current, Temperature, Humidity, Watt and Voltage. The selected button is lit light with a green color.

**Energy Information:**

4. Provides a snapshot by selecting “Today”, “This Month” and “Total” for the following categories:
   a. Main Energy in kWh.
   b. Carbon Emission Data in kg.
   c. Rate unit in Dollars.

**Data Log and Report:**

5. Provides Data and Event log. Data logs provide 3 different charts- Current, kWh and Voltage.

**PDU Status:**

6. Provides status of all PDUs being monitored by PDU utility, included Normal, Warning, Overload, Out of Reach.

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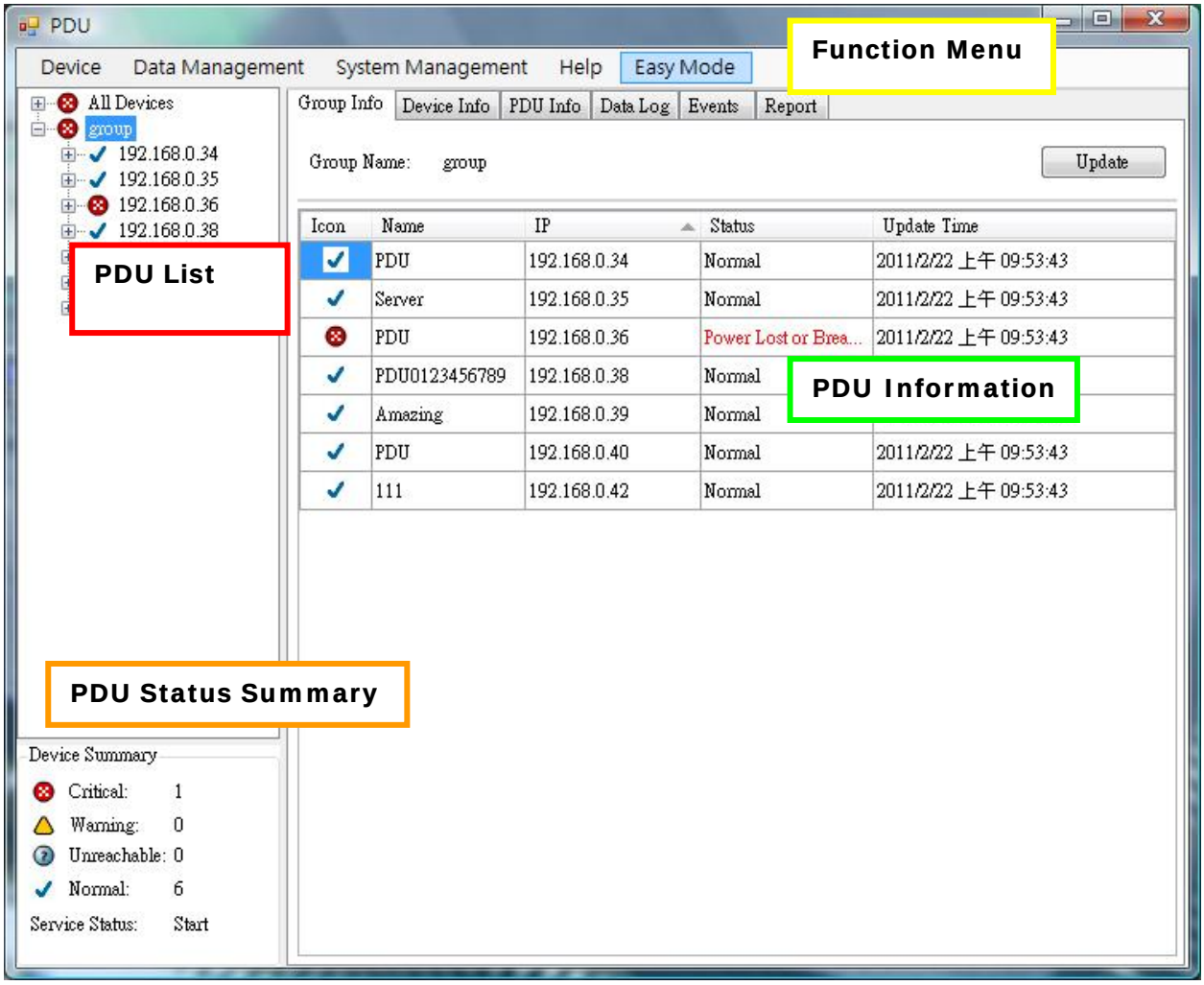
**Expert Mode:** Displays all power information by table and txt interface. Provide more detail than Easy Mode.




1. **Function Menu:**
   PDU Utility functions bar.

2. **PDU List:**
   List all the PDUs in the network; user can define groups to easily manage a large number of PDUs.

3. **PDU Information:**
   This area provides all detail information about the PDU.

4. **Device Summary:**
   Indicate the status of the monitored PDU in the network.

## Function Menu

### Device

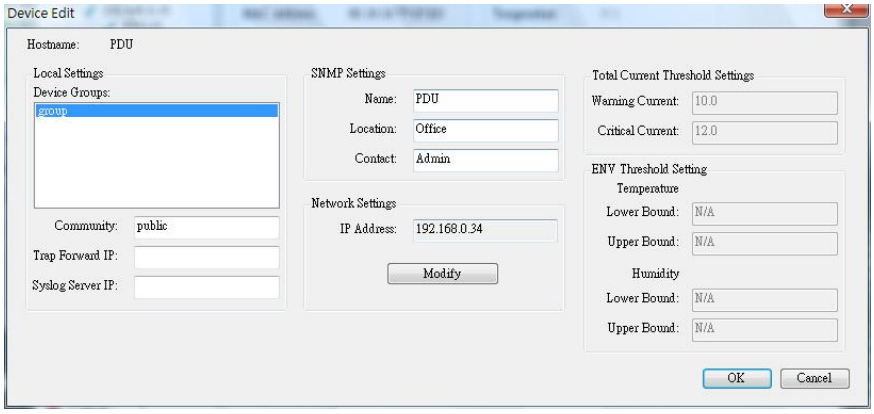
Add Device

Administrator can add a PDU manually if the PDU already has an IP address.


| | |
|---|---|
| Device Group: | Select the group the PDU belongs to |
| SNMP Community: | Set the community, it must the same as the one set in the PDU in order to communicate with it. **Default setting is "private"**<br><br>**Note1:** This community is set for the authority of "WRITE".<br><br>**Note2:** The "READ" community is set to "public", and user can not change it. |
| Trap forward IP: | When event occurs, it can forward the event trap to the listed NMS. |
| Syslog server IP: | Forward the log to the listed Syslog server. |

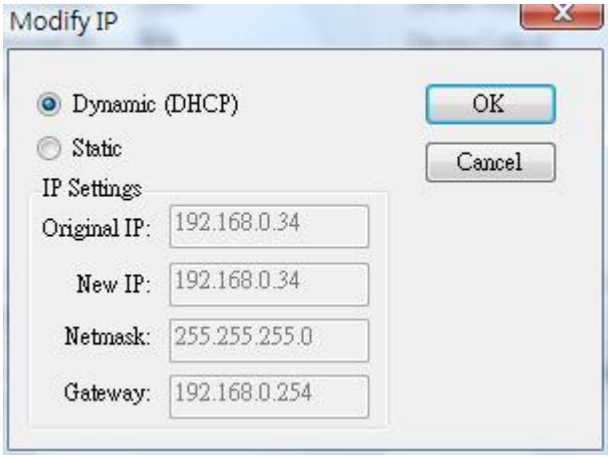
Edit Device

Administrator can redefine the PDU information here, including

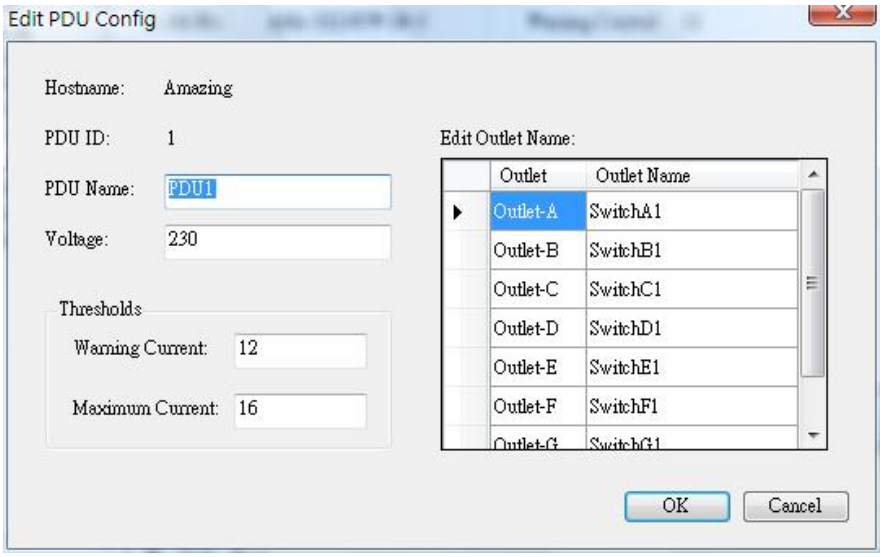



| | |
|---|---|
| Device Group: | Change the group the PDU belongs to |
| SNMP Community: | Set the community, it must the same one set in the PDU.<br><br>**Note:** This community is set for the authority of “WRITE”. |
| Trap forward IP: | Change the trap receiver IP. |
| Syslog server IP: | Change the Syslog server IP. |
| SNMP Settings: | Modify the SNMP information for the PDU. |
| Network Settings: | Re-defined the IP address of PDU. |
| Total Current Threshold Setting | It is only available when there is more than one PDU under this IP address.<br><br>User can input the current threshold to prevent total PDUs’ power consumption exceed the facility capacity. |
| ENV Threshold Setting | When the temperature or humidity exceeds the pre-setting, utility will send mail to notify manager. |

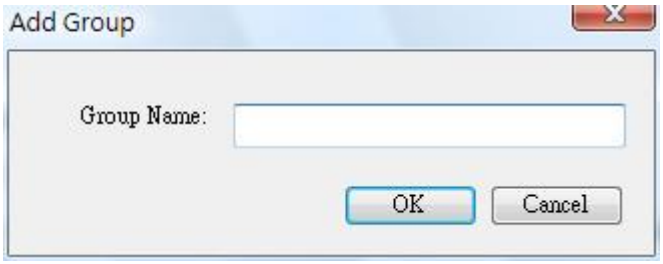
Manager can change the method that PDU Utility to get the IP.




| | |
|---|---|
| Remove Selected Device | Delete the selected the IP address of PDU |
| Edit PDU Config | Modify PDU configuration.<br>PDU Name: User defines the PDU name.<br>Voltage: User defines the voltage..<br>Threshold: PDU Threshold.<br>Outlet Name: User defines the outlet name. |




| | |
|---|---|
| Remove Selected PDU | Delete the selected PDU |

| | |
|---|---|
| Update Device Information | Update the PDU information manually. |
| Add Device Group | Create a new group.<br>  <br><br>The default group is named “Lab”. |
| Edit Group | Rename the group<br>  <br> |
| Remove Device Group | Delete an existing group. All PDU listed under this group must be removed first. |
| **Data Management** | |
| Export kW*hr Account to CSV | Export power data with Comma Separated Values (CSV) format. |
| Export Data Log to CSV | Export current data log with CSV format. |
| Export Events to CSV | Export events data with CSV format.. |
| Remove kW*hr Account Records | Delete power consumption data. |
| Remove Data Log Records | Delete current data log. |

| | |
|---|---|
| Remove Event Records | Delete event log. |

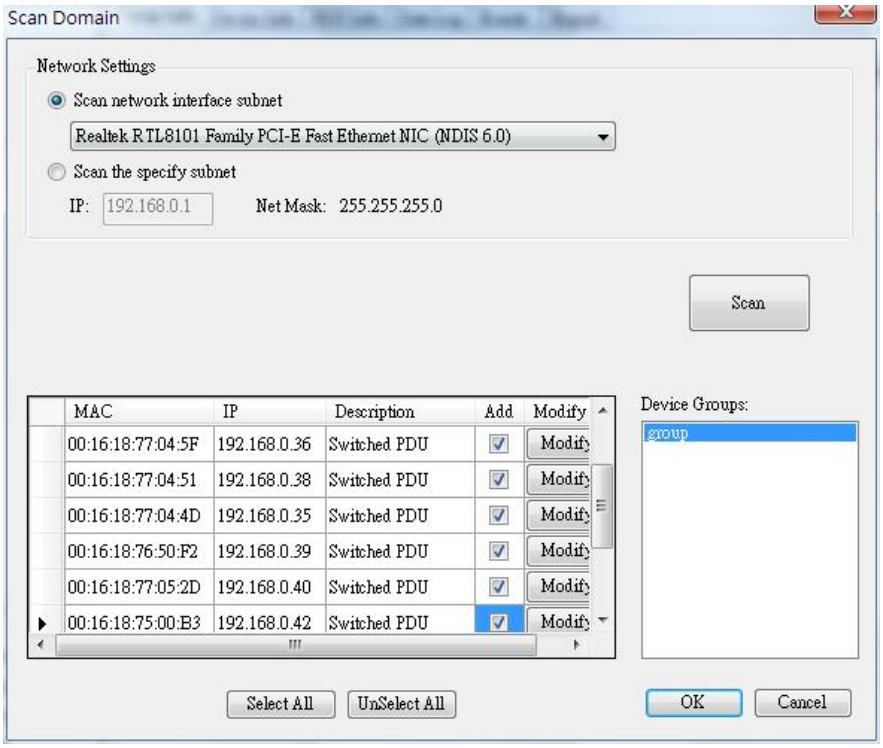
**System Management**

Scan Subnet

Search all IP addresses of PDU that are connected under the same subnet.

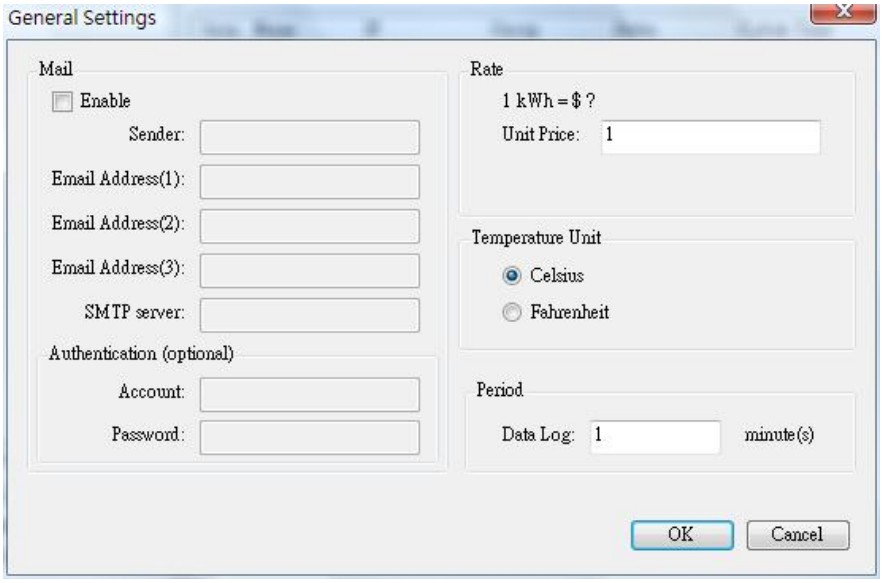
Procedure:

1. Select the way to scan the PDU in the network.
   - Scan network interface subnet
   - Scan the specified subnet
2. Press the “Scan” Button to search for all PDU devices under this subnet.
3. Checked the box of “ADD” that you want to add to PDU Utility.
4. Select one of the groups in the “Device Group” to group the PDU.
5. Select “OK” to finish the procedure.




General Setting

This setting contains two functions.




Mail:
When the event occurs, PDU Utility can send out the email message to the pre-defined account.

Rate:
User can input the electricity rate to calculate the bill for reference.

Temperature Unit:
Switch the temperature unit between Celsius and Fahrenheit.

Period:
Change the interval of log.

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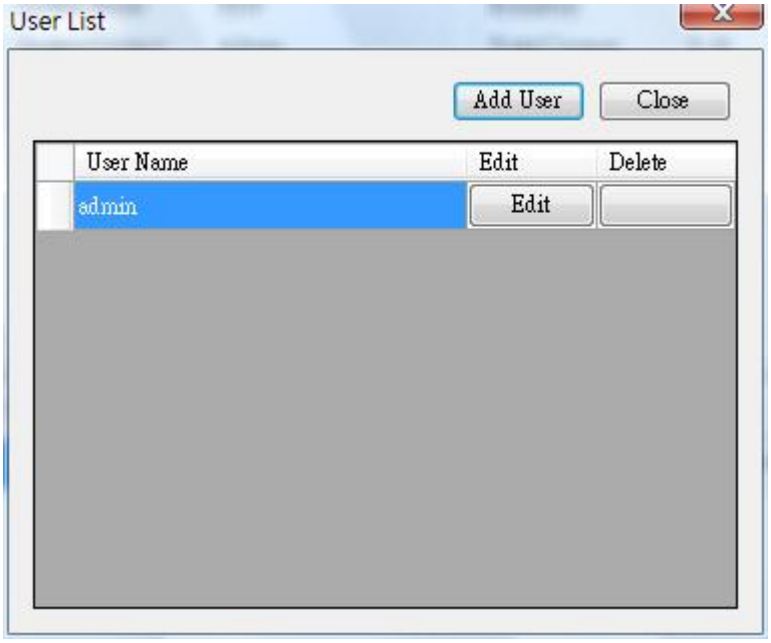
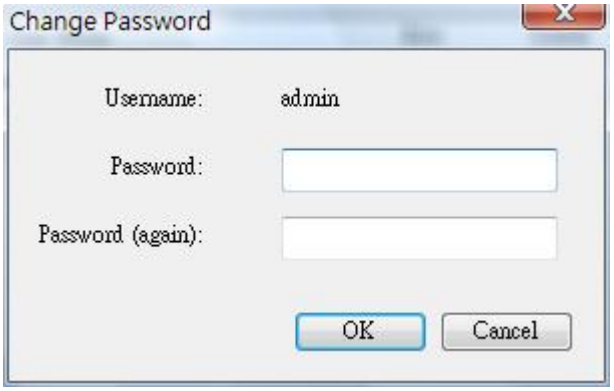
| | |
|---|---|
| User List | Administrator can add, delete and manage all the user privilege here. |

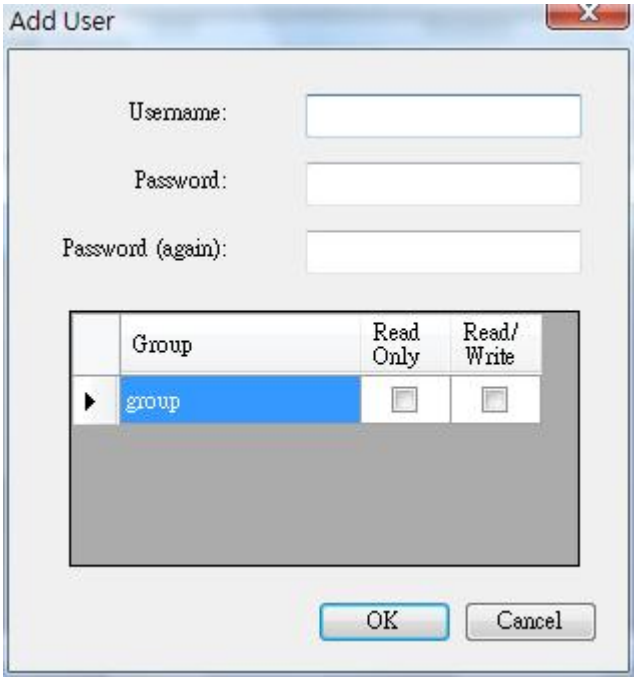



User can only change the password for the “Admin” account.




Add user

User can be assigned to the authority of Read only or Read/Write.




Edit User:

Change the password, authority for the user.

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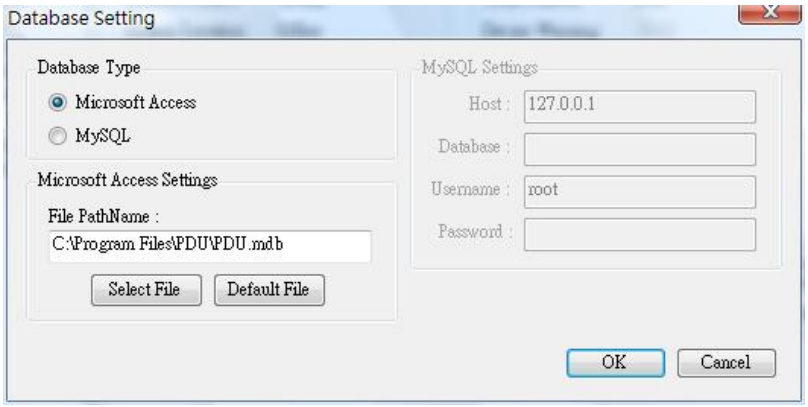
Database Setting

Modify the database setting.

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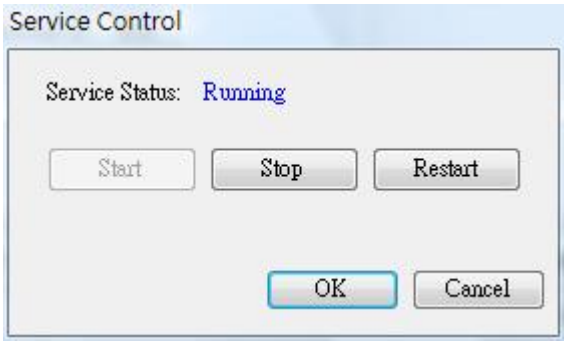
Service Control

Service control.




**Note:**
If the service can not start, it could be the SNMP port had been used by the other program in the Windows OS. Please close the program and then restart PDU.

## Easy Mode

Shift to Graphical interface to monitor the PDU.

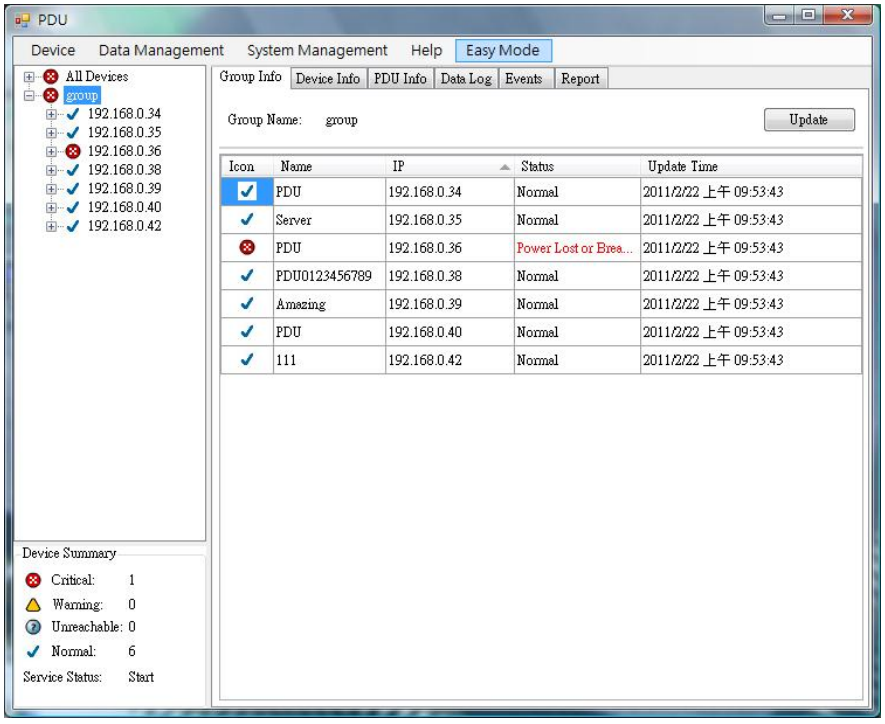
## PDU Information

**Group Information:**

List all PDUs in this table and provide some important information.

**Device Summary**

| | |
|---|---|
| Critical: | Indicates output power of the PDU exceeded the setting of overload. |
| Warning: | Indicates output power of the PDU exceeded the setting of warning. |
| Unreachable: | Indicates that PDU Utility can not reach the PDU. |
| Normal: | Indicates the PDU is working normally. |
| Service Status | PDU Utility service status.<br>When the status is “Stopped” , please go to System Management> Service Control to “Start” the service. |




| | |
|---|---|
| Icon: | Indicate the PDU status by different icon. |
| Name: | The name of PDU. |
| IP: | The IP address of PDU |

| | |
|---|---|
| Status: | Indicate the communication status with PDU Utility.<br>● Normal: The PDU Utility is communicating with PDU normally.<br>● Querying: The PDU Utility is requesting data from the PDU.<br>● Communication Lost: The PDU Utility can not communicate with the PDU.<br>● Warning: The power consumption of PDU exceeds the threshold of warning.<br>● Overload: The power consumption of PDU exceeds the threshold of overload. |
| Update Time: | The last time of the PDU provided information. |

| | |
|---|---|
| **Device Information:** | |

**Network Information:**

Indicates the network and system information, Including

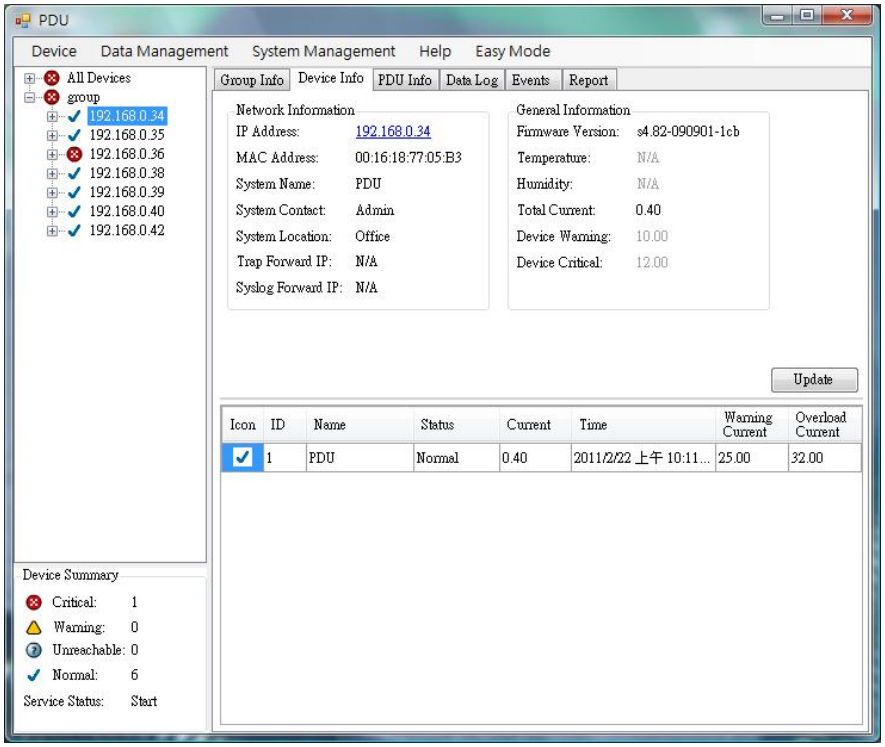
- IP Address
- MAC Address
- System Name
- System Contact
- System Location
- Trap Forward IP: Utility can forward the trap coming from the PDU to the given IP.
- Syslog Forward IP: Utility can send the log to the given IP which is syslog server.

**General Information:**

Indicates the detected information from total PDU device and attached device, Including

- Firmware Version
- Temperature
- Humidity
- Total Current: If this IP lists more than one PDU, utility can provide the function to accumulate all the current consumption under this IP.
- Device Warning: The warning threshold for all the current consumption under this IP.

- Device Critical: The critical threshold for all the current consumption under this IP.




The connected PDU information included:

| | |
|---|---|
| Icon: | Indicates the PDU status by different icon. |
| ID: | The identification of PDU. |
| Name: | The name of PDU |
| Status: | Indicate the communication status with PDU Utility.<br>● Normal: The PDU Utility is communicating with PDU normally.<br>● Querying: The PDU Utility is requesting data from the PDU.<br>● Communication Lost: The PDU Utility can not communicate with the PDU.<br>● Warning: The power consumption of PDU exceeds the threshold of warning.<br>● Overload: The power consumption of PDU exceeds the threshold of overload. |
| Current: | The PDU power consumption. |
| Time: | The current time. |
| Warning Current | Displays the setting of PDU for warning threshold. |

| | |
|---|---|
| Overload Current | Displays the setting of PDU for overload threshold. |

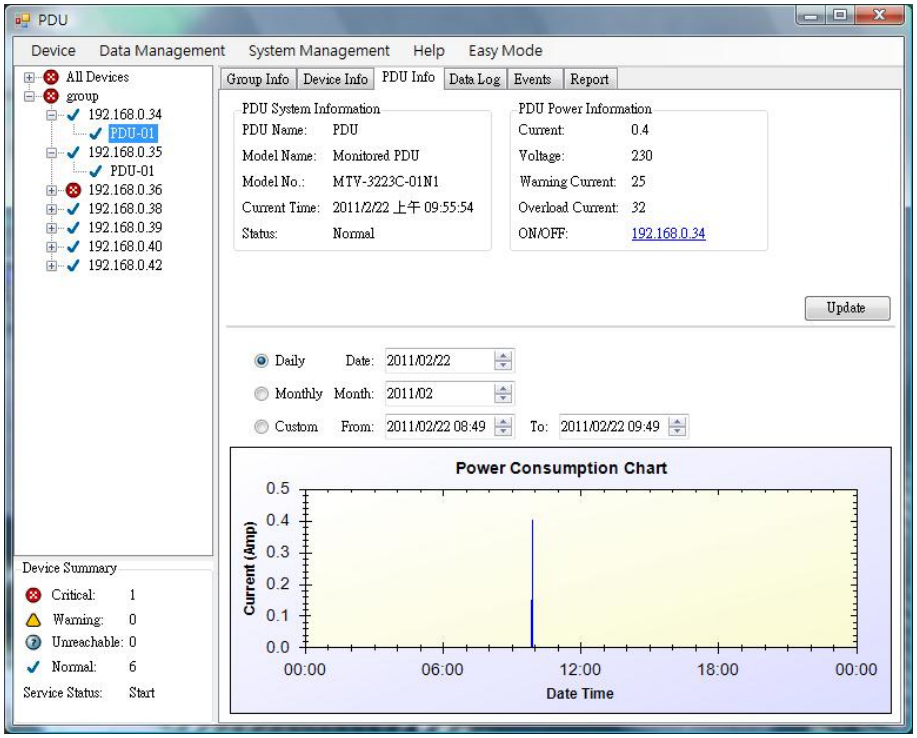
**PDU Information:**

**PDU System Information:**

Provide the PDU information and status.

**PDU Power Information:**

Provide PDU power information; if the PDU support outlet control, you can click the hyperlink and enter to the PDU web page to control the outlet.

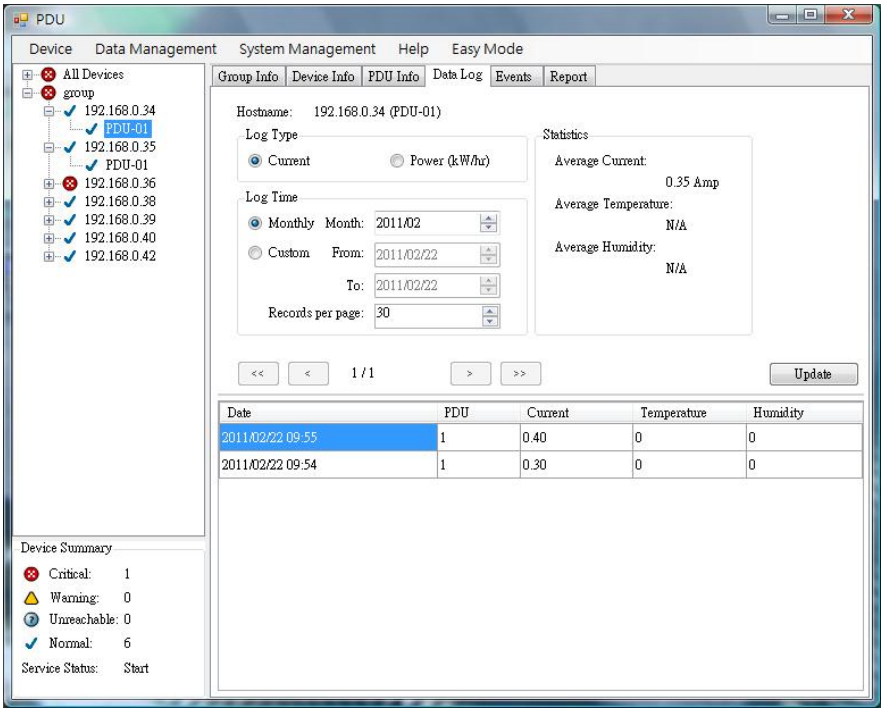



**Power Consumption Chart:**

Provide the chart for the PDU power consumption record. Administrator can check the record by Daily, Monthly, Custom-defined time period.

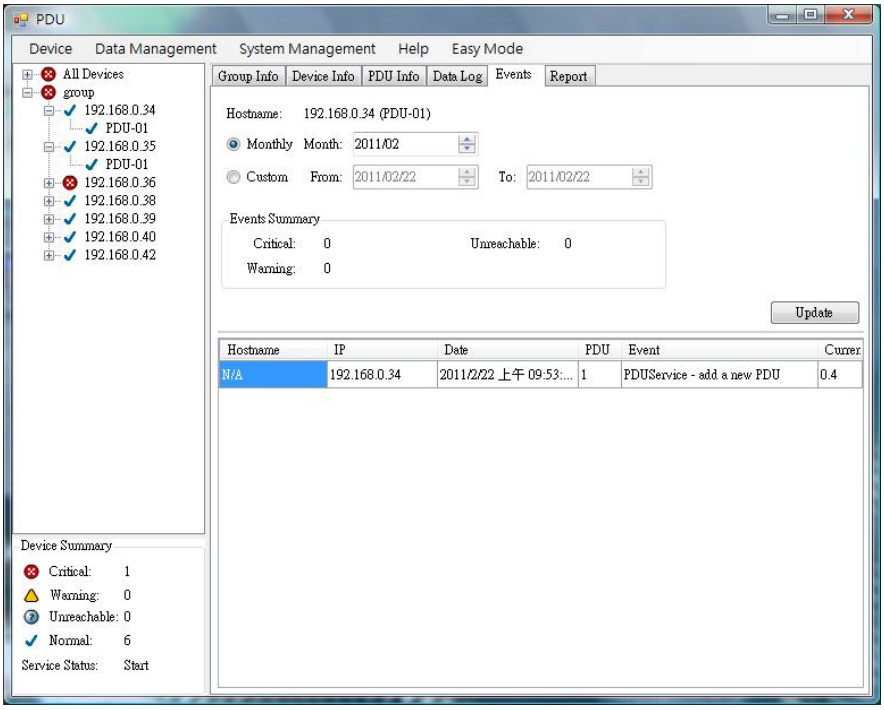
**Data Log:**

Provide PDU current data and power record.




## Events:

Provide events log.



## Report:

Provide data analysis.

1. Accumulated Power
2. Average Current
3. Average Temperature
4. Average Humidity