

# User Manual

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*BTH UPS SNMP MONITOR v 11.06*

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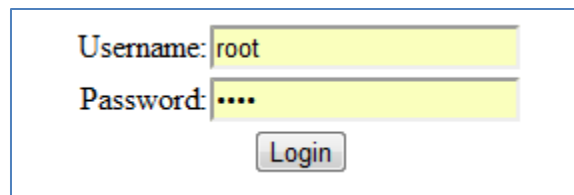
## 1 Install

Please see "README.TXT".

## 2 Users

There are three kinds of users, *viewer*, *admin* and *root*. Only one build-in *root* is allowed, they could control everything. *Root* is the special one from *admin* group as *root* has all the power of *admin* and other important authority. *Anyone* will be mentioned and it means any kind, any one of the users.

## 3 Login



A login form with two input fields: "Username:" containing the text "root" and "Password:" containing four dots. Below the fields is a "Login" button.

*Anyone* should login to manage or view system.

The default password for *root* is *root*. Three more uses: *admin1*, *admin2* and *user1*. Their default passwords are the same as the usernames.

Please change it after logged in.

## 4 Display Overview

There are three areas: LOGO, MENU and Main Display.



A screenshot of the "BLEKINGE TEKNISKA SKOLA UPS MONITOR" web interface. The interface has a header with the school logo and name. On the left is a "MENU" sidebar with links: Home, Devices/Status, OIDs/Thresholds, Attached Servers, Users, View Errors, Change Password, Change Email, About, and Logout. The main content area is titled "UPSNMP MONITOR" and "Version 11.06". It displays system information: Server Time (2011-05-29 23:33:57), System Devices (Owned/Total: 2/2), and System Status (Total: All devices are OK). Below this is a "Main Display" section with "Monitor Status: STOPPED" in red. It includes buttons for "Run it", "Run test", and "Stop it", with a note "to test only data sample, run test (200 samples)". There is a "Sample Interval (sec): 1" field with an "Ok" button. At the bottom, a red warning message reads "!!!! OBS !!!! INITIALIZE SYSTEM DANGEROUS".

## 5 Menu

### 5.1 Home (restricted authority)

**UPSNMP MONITOR**  
Version 11.06

**System Summary**  
Server Time: 2011-05-29 23:40:27  
System Devices (Owned/Total): 2/2  
System Status (Total): All devices are OK.

**Monitor Status: STOPPED**

**Monitor Control (root)**  
Run it Run test Stop it  
to test only with sample, not test (100 samples)  
Sample Interval (sec):  Ok

**System Recovery (root)**  
!!! CBS !!! INITIALIZE SYSTEM DANGEROUS

#### 5.1.1 System Summary (restricted authority)

At home, anyone could see *System Summary*. *System Devices* now showing: 2/2 which means there are 2 devices in the system, and this logged-in user could control all of them as this user is *root*. Normally, it would be 1/2 or 3/5 etc. For *viewer*, it should be 0/2 or 0/5.

The *System Status* usually is “All devices are OK.” If there are some problems, it would be:

Server Time: 2011-05-30 00:23:35  
System Devices (Owned/Total): 1/2  
System Status (Total):  
ERROR: 192.168.184.10 ( UPS5 ). Admin: SunnyBingoMe@gmail.com I've solved problems of this device.  
ERROR: 192.168.184.11 ( UPS6 ). Admin: SunnyBoyMe@gmail.com

where anyone could see the *ERROR: device ip ( Device Name ) Admin's email*. of all devices, but only *admin* who own this device or *root* could click the url to see what happened in *Details of Device* window. The *admin* or *root* also could reset this flag after they solved problems. To make sure the problems will be noticed, the flag should be reset manually.

### 5.1.2 Monitor Control (root only)

Though *anyone* could see the status of monitor, only *root* could stop or start the background perl monitor. The probe/sample interval will be configured by *root* here, too.

### 5.1.3 System Recovery (root only)

You could initialize the whole system via this button. Take care to use it because all history and the operations/actions will be gone, while only the demo users, devices, OIDs and attached servers will stay.

## 5.2 Devices and Status (admin only)

### 5.2.1 Devices Table

ID	Device IP	Device Name	Snmp Config	Status	Select to Delete
1	192.168.184.10	UPS5	2c : public	ERROR	<input type="checkbox"/>

Total number of device records: 1  
All info in monitor system about the deleted devices will be gone.

Select None Delete Selected

#### Add New Device

Device IP

Device Name  (NO Special Character)

SNMP Version

SNMP Community

Admin's Email SunnyBingoMe@gmail.com

No. of Oids 0

No. of Statistic Oids 0

Reset Add

The *admins* and *root* could add or delete devices whose OIDs would be monitored by SNMP here. One device could be seen only by the *admin* who added it or the *root*.

The *Status* could be *ERROR* or *OK*, a user could click to see the details in *Details of Device* window.

## 5.2.2 Details of Device window


<div><div>Home</div><div>Devices/Status</div><div>OIDs/Thresholds</div><div>Attached Servers</div><div>Users</div><div>View Errors</div><div>View an OID</div><div>Change Password</div><div>Change Email</div><div>About</div><div>Logout</div></div>	<div>Details of Device: 192.168.184.10 ( UPS5 ) <div>View Errors</div></div> <div>Last: 2011-05-28 23:33:28</div> <div>Status</div> <div>Statistic</div> <div>History</div> <div>Select to Delete</div>							
	1	1.3.6.1.2.1.1.3.0	SystemUpTime_10ms	154378280	OK	N	N/A	<input type="checkbox"/>
	2	1.3.6.1.4.1.318.1.1.1.2.1.1.0	BatteryStatus	2	OK	N	N/A	<input type="checkbox"/>
	3	1.3.6.1.4.1.318.1.1.1.4.2.1.0	OutputVoltage	231	OK	Y View/Edit Threshold QuarterHour Day Week Month		<input type="checkbox"/>
	4	1.3.6.1.4.1.318.1.1.1.2.2.3.0	BatteryRemaining_10ms	150000	OK	Y View/Edit Threshold QuarterHour Day Week Month		<input type="checkbox"/>
	83	1.3.6.1.2.1.1.1.0	Description	APC Web SNMP Management Card (MB-v3.8.6 PF-v3.5.5)	OK	N	N/A	<input type="checkbox"/>
	85	1.3.6.1.4.1.318.1.1.1.5.1.2.1.2.1	AttactedDevice_1	Device 1	OK	N	N/A	<input type="checkbox"/>
	86	1.3.6.1.4.1.318.1.1.1.5.1.2.1.2.2	AttactedDevice_2	Device 2	OK	N	N/A	<input type="checkbox"/>
	87	1.3.6.1.4.1.318.1.1.1.5.1.2.1.2.3	AttactedDevice_3	Device 3	OK	N	N/A	<input type="checkbox"/>
	89	1.3.6.1.4.1.318.1.1.1.2.2.1.0	BatteryRemaining_percent	100	OK	Y View/Edit Threshold QuarterHour Day Week Month		<input type="checkbox"/>
	90	1.3.6.1.4.1.318.1.1.1.2.2.2.0	Temperature_C	21	OK	Y View/Edit Threshold QuarterHour Day Week Month		<input type="checkbox"/>
	93	1.3.6.1.4.1.318.1.1.1.3.2.1.0	InputVoltage	231	OK	Y View/Edit Threshold QuarterHour Day Week Month		<input type="checkbox"/>
	95	1.3.6.1.4.1.318.1.1.1.4.2.3.0	OutputLoad_percent	26	OK	Y View/Edit Threshold QuarterHour Day Week Month		<input type="checkbox"/>
	97	1.3.6.1.4.1.318.1.1.1.1.2.1.0	FirmwareRevision	665.6.1	OK	N	N/A	<input type="checkbox"/>
	99	1.3.6.1.2.1.1.6.0	Location	NPL	OK	N	N/A	<input type="checkbox"/>
	101	1.3.6.1.4.1.318.1.1.1.1.1.1.0	BasicModel	Smart-UPS 2200 RM	OK	N	N/A	<input type="checkbox"/>
	103	1.3.6.1.4.1.318.1.1.1.1.1.2.0	UpaidName	UPS_5	OK	N	N/A	<input type="checkbox"/>
	105	1.3.6.1.4.1.318.1.1.1.5.2.4.0	AlarmCondition	1	OK	N	N/A	<input type="checkbox"/>
	107	1.3.6.1.4.1.318.1.1.1.5.2.5.0	AlarmTimer	0	OK	Y View/Edit Threshold QuarterHour Day Week Month		<input type="checkbox"/>
	109	1.3.6.1.2.1.1.5.0	SystemName	UPS5	OK	N	N/A	<input type="checkbox"/>
<div>Total number of oids records: 19</div> <div>If there is oid deleted, all history log in monitor system about this device will be deleted.</div> <div>5.2.2.4 (Selected OIDs)</div>								

Here, a user could know the details of one device.

### 5.2.2.1 Current Values and Status

NOTE: If the *Status* of one device is *ERROR*, but the *statuses* of all OIDs of the same device are *OK*, it usually means *No response from remote host* when the monitor query this device. A user could click *View Errors* on the top to view the latest 1000 errors of this device.

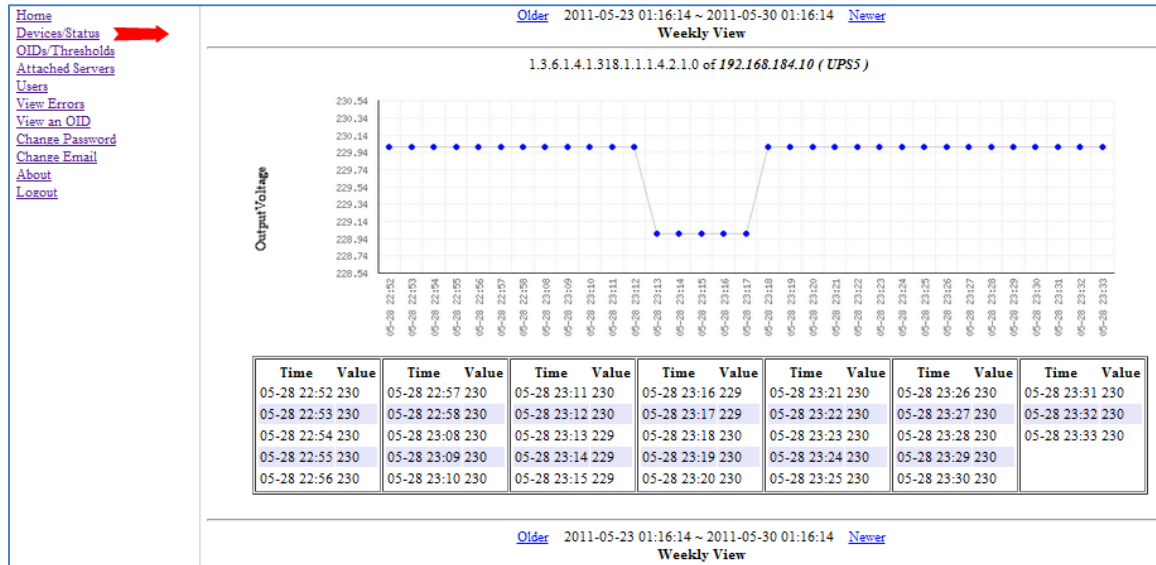
### 5.2.2.2 Thresholds

<a href="#">Home</a> <a href="#">Devices/Status</a>  <a href="#">OIDs/Thresholds</a> <a href="#">Attached Servers</a> <a href="#">Users</a> <a href="#">View Errors</a> <a href="#">View an OID</a> <a href="#">Change Password</a> <a href="#">Change Email</a> <a href="#">About</a> <a href="#">Logout</a>	<div>Config Thresholds of OID: <i>OutputVoltage</i> for Device: 192.168.184.10 ( UPS5 )</div> <div> <b>Threshold 1</b>  <input checked="" type="radio"/> Don't Use <input type="radio"/> Use It         </div> <div> <b>Threshold 2</b>  <input type="radio"/> Don't Use <input checked="" type="radio"/> Use It         </div> <div>           If            OutputVoltage &gt; <input type="text" value="250"/>            then  <input checked="" type="radio"/> Email Administrator  <input type="radio"/> Shutdown Attached Servers  <div>Output Voltage of UPS5 is higher than 250.</div> </div> <div>NOTE: If the threshold of the value (which is about time) smaller than sample interval, we can not handle the threshold correctly.</div> <div>OK</div>
--	--

For a *Statistic OID* (see 5.3), a user could configure the thresholds for it. There are two thresholds for each OID at most. The alarm email could be sent or the *Attached Servers* (see 5.4) will be shut down when the battery is low or the voltage is too high etc. The *ERROR FLAG* will be set which the user could see in *Home* window or *Device and Status* window.

NOTE: Only one email will be sent for each device if the user does not reset the *ERROR FLAG* for the specific device.

### 5.2.2.3 History



A user could view the history of each OID by one of four *View Types*: Quarter-hourly, Daily, Weekly or Monthly. The resolution of Quarter-hourly view is 15 seconds (but not higher than the sample resolution) at most and only the last 1 hour is available. The resolutions of the other three are 1 hour at most. In the last three *View Types*, the user could click the specific time slot on the graph to see details and the data will be stored for 5 months.

### 5.2.2.4 Delete OIDs

A user could select some OIDs and *Delete Selected OIDs* (To add OIDs, see 5.3.1).

## 5.3 OIDs and Thresholds (admin only)

**Add or Delete Oids for Devices**

ID	Device IP	Device Name	Admin Email	No. of Statistic OID / Total	Select to Add Oids
1	192.168.184.10	UPS5	SunnyBingoMe@gmail.com	7 / 19 <a href="#">View/Edit Details/Thresholds</a>	<input type="checkbox"/>
2	192.168.184.11	UPS6	SunnyBoyMe@gmail.com	7 / 19 <a href="#">View/Edit Details/Thresholds</a>	<input type="checkbox"/>

Total number of device records: 2

Please type in new numeric oids here, separate them by newline ("Enter").(Max 50 characters for each oid.)

**5.3.1**

[Add to Selected](#)

An *admin* could add OIDs here and *root* could configure the *OID Names*.

### 5.3.1 Add OID(s)

**Add or Delete Oids for Devices**

ID	Device IP	Device Name	Admin Email	No. of Statistic OID / Total	Select to Add Oids
1	192.168.184.10	UPS5	SunnyBingoMe@gmail.com	7 / 19 <a href="#">View/Edit Details/Thresholds</a>	<input checked="" type="checkbox"/>
2	192.168.184.11	UPS6	SunnyBoyMe@gmail.com	7 / 19 <a href="#">View/Edit Details/Thresholds</a>	<input checked="" type="checkbox"/>

Total number of device records: 2

Please type in new numeric oids here, separate them by newline ("Enter").(Max 50 characters for each oid.)

1.3.6.1.4.1.318.1.1.1.5.1.2.1.2.1  
1.3.6.1.4.1.318.1.1.1.2.2.0

Type in numeric OIDs here.

**5.3.1**

[Add to Selected](#)

Type in the numeric OIDs which would be monitored and *Add to Selected* devices above.

**Please config each oid.**

Numeric OID	Assign a Name*
1.3.6.1.4.1.318.1.1.1.5.1.2.1.2.1	AttactedDevice_1
1.3.6.1.4.1.318.1.1.1.2.2.0	Temperature_C(STATISTIC)

\*The name will affetc the graphic view, please be careful.  
\*\*Statistic means this oid's value is a dynamic number and need a graphic view of history.

Total number of new oids: 2

[Reset](#) [OK](#)

**5.3.1**

When ask to assign a name to each numeric OID, choose the suitable name.

NOTE: Only the one with a *Statistic OID Name* will have the history graphs and values to view.

### 5.3.2 OID Names

*Root* could add/delete/change OID names here, just like what could be done in the *Details of Device* window. As the *OID Names* will affect the whole system, *admin* shall apply to *root* to add/delete/change OID names if needed.

NOTE: 1. When deleting an *OID Name*, all OIDs with the name will be deleted. 2. Every device could not have the same numeric OID or *OID Name* more than once.

## 5.4 Attached Servers (admin only)

[Home](#)

[Devices/Status](#)

[OIDs/Thresholds](#)

[Attached Servers](#)

[Users](#)

[View Errors](#)

[View an OID](#)

[Change Password](#)

[Change Email](#)

[About](#)

[Logout](#)

Attached Servers

ID	Device IP	Device Name	Admin Email	No. of Servers
1	192.168.184.10	UPS5	SunnyBingoMe@gmail.com	1 <a href="#">View/Add/Delete</a>
2	192.168.184.11	UPS6	SunnyBoyMe@gmail.com	2 <a href="#">View/Add/Delete</a>

Total number of device records: 2

An *admin* could only choose one of the devices owned by the *admin*-self to configure the attached servers to shutdown (should be configured in thresholds, see 5.2.2.2).


<a href="#">Home</a> <a href="#">Devices/Status</a> <a href="#">OIDs/Thresholds</a> <a href="#">Attached Servers</a> <a href="#">Users</a> <a href="#">View Errors</a> <a href="#">View an OID</a> <a href="#">Change Password</a> <a href="#">Change Email</a> <a href="#">About</a> <a href="#">Logout</a>	<div>Details of 192.168.184.10 (UPS5)</div> <table><tr><th>ID</th><th>Server IP</th><th>Server Name</th><th>Port</th><th>Secret</th><th>Message</th><th>Select to Delete</th></tr><tr><td>9</td><td>194.47.147.46</td><td>sia</td><td>9999</td><td>shutdown</td><td></td><td><input type="checkbox"/></td></tr></table> <p>Total number of servers records: 1</p> <p>If there is server deleted, all its thresholds will be deleted.</p> <p><a href="#">Select None</a> <a href="#">Delete Selected</a></p> <div>Add New Servers</div> <table><tr><td>Server IP</td><td><input type="text"/></td></tr><tr><td>Server Name (NO Special Character)</td><td><input type="text" value="newHpServer"/></td></tr><tr><td>Shutdown Port Number (of Shutdown Daemon)</td><td><input type="text" value="9999"/></td></tr><tr><td>Secret Message (for Shutdown Daemon) (NO Special Character/Space)</td><td><input type="text" value="newSecretMessage"/></td></tr></table> <p><a href="#">Reset</a> <a href="#">OK</a></p>	ID	Server IP	Server Name	Port	Secret	Message	Select to Delete	9	194.47.147.46	sia	9999	shutdown		<input type="checkbox"/>	Server IP	<input type="text"/>	Server Name (NO Special Character)	<input type="text" value="newHpServer"/>	Shutdown Port Number (of Shutdown Daemon)	<input type="text" value="9999"/>	Secret Message (for Shutdown Daemon) (NO Special Character/Space)	<input type="text" value="newSecretMessage"/>
ID	Server IP	Server Name	Port	Secret	Message	Select to Delete																	
9	194.47.147.46	sia	9999	shutdown		<input type="checkbox"/>																	
Server IP	<input type="text"/>																						
Server Name (NO Special Character)	<input type="text" value="newHpServer"/>																						
Shutdown Port Number (of Shutdown Daemon)	<input type="text" value="9999"/>																						
Secret Message (for Shutdown Daemon) (NO Special Character/Space)	<input type="text" value="newSecretMessage"/>																						

An *admin* could delete/add new servers.



NOTE: To shut down the attached servers when an UPS going down, a daemon perl script (*shut.pl* in the folder *monitor*) should running on the *Shutdown Port Number* of the servers and the main monitor should have the permission to create a socket to send *Secret Message* to the specific *Shutdown Port Number* of the attached servers.


## 5.5 Users (root only)

<a href="#">Home</a> <a href="#">Devices/Status</a> <a href="#">OIDs/Thresholds</a> <a href="#">Attached Servers</a> <a href="#">Users</a>  <a href="#">View Errors</a> <a href="#">View an OID</a> <a href="#">Change Password</a> <a href="#">Change Email</a> <a href="#">About</a> <a href="#">Logout</a>	<table border="1"> <thead> <tr> <th>ID</th> <th>Username</th> <th>User Type</th> <th>Email</th> <th>Select to Delete</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>admin1</td> <td>Administrator</td> <td>SunnyBingoMe@gmail.com</td> <td><input type="radio"/></td> </tr> <tr> <td>7</td> <td>admin2</td> <td>Administrator</td> <td>SunnyBoyMe@gmail.com</td> <td><input type="radio"/></td> </tr> <tr> <td>12</td> <td>root</td> <td>Administrator</td> <td>Me@SunnyBoy.Me</td> <td>Undeletable.</td> </tr> <tr> <td>8</td> <td>user1</td> <td>Viewer</td> <td>BinSun@mail.com</td> <td><input type="radio"/></td> </tr> </tbody> </table> <p>Total number of user records: 4</p> <p>After deleted, handover devices and permission to:</p> <p>admin1 : SunnyBingoMe@gmail.com <input type="text"/></p> <p><input type="button" value="Select None"/> <input type="button" value="Delete Selected"/></p> <hr/> <p><b>Add New User</b></p> <p>Username (NO Special Character) <input type="text" value="root"/></p> <p>Password <input type="password" value="...."/></p> <p>Confirm Password <input type="password"/></p> <p>Email (Important) <input type="text"/></p> <p>User Type <input checked="" type="radio"/> Viewer   <input type="radio"/> Administrator</p> <p><input type="button" value="Reset"/> <input type="button" value="Add"/></p>	ID	Username	User Type	Email	Select to Delete	1	admin1	Administrator	SunnyBingoMe@gmail.com	<input type="radio"/>	7	admin2	Administrator	SunnyBoyMe@gmail.com	<input type="radio"/>	12	root	Administrator	Me@SunnyBoy.Me	Undeletable.	8	user1	Viewer	BinSun@mail.com	<input type="radio"/>
ID	Username	User Type	Email	Select to Delete																						
1	admin1	Administrator	SunnyBingoMe@gmail.com	<input type="radio"/>																						
7	admin2	Administrator	SunnyBoyMe@gmail.com	<input type="radio"/>																						
12	root	Administrator	Me@SunnyBoy.Me	Undeletable.																						
8	user1	Viewer	BinSun@mail.com	<input type="radio"/>																						

*Root* could add/delete users here (except the *root*-self).

NOTE: When deleting a user, the authority and devices of the user should be handover to an already-exist *admin*.

## 5.6 View Errors (root only)

[Home](#)  
[Devices/Status](#)  
[OIDs/Thresholds](#)  
[Attached Servers](#)  
[Users](#)  
[View Errors](#)   
[View an OID](#)  
[Change Password](#)  
[Change Email](#)  
[About](#)  
[Logout](#)


1 ~ 3 / 3

ID	Time Stamp	Device IP	Description
2886	2011-05-28 22:51:58	192.168.184.10	No response from remote host "192.168.184.10"
2885	2011-05-28 22:51:53	192.168.184.10	No response from remote host "192.168.184.10"
2884	2011-05-28 22:51:48	192.168.184.10	No response from remote host "192.168.184.10"

1 ~ 3 / 3


*Root* could see all errors of the whole system here without any restrict to specific devices owned (all devices are owned by *root*).

## 5.7 View an OID (anyone)

<a href="#">Home</a> <a href="#">Devices/Status</a> <a href="#">OIDs/Thresholds</a> <a href="#">Attached Servers</a> <a href="#">Users</a> <a href="#">View Errors</a> <a href="#">View an OID</a>  <a href="#">Change Password</a> <a href="#">Change Email</a> <a href="#">About</a> <a href="#">Logout</a>	<div>IP: <input type="text"/></div> <div>OID Name: <input type="text" value="AlarmCondition"/></div> <div>View Type: <input type="text" value="Quarter-hourly"/></div> <div><input type="button" value="OK"/></div>
--	---

*Anyone* could view the history graph and values if they know the IP of the device.

## 5.8 Change Password (anyone)

<a href="#">Home</a> <a href="#">Devices/Status</a> <a href="#">OIDs/Thresholds</a> <a href="#">Attached Servers</a> <a href="#">Users</a> <a href="#">View Errors</a> <a href="#">View an OID</a> <a href="#">Change Password</a>  <a href="#">Change Email</a> <a href="#">About</a> <a href="#">Logout</a>	<div>Username: <input type="text" value="root"/></div> <div>Old password: <input type="password"/></div> <div>New password: <input type="password"/></div> <div>Confirm New password: <input type="password"/></div> <div><input type="button" value="Reset"/> <input type="button" value="OK"/></div>
--	--

*Anyone* could change the password for themselves. All passwords will be encrypted by MD5.

## 5.9 Change Email (anyone)

*Anyone* could change the email for themselves.

## 5.10 About (anyone)

*Anyone* could find the information about the system here.

## 5.11 Logout (anyone)

Please logout on time to keep system and data in safe (Though the web session may expire after 24 minutes if there is not any operation).