ICE iPush® Communication Server

Embedded

Remote Administration Guide

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Ver.: 1.3

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Chapter 1. Introduction to the I/O

About iPush® Embedded Remote Administration

iPush® Embedded Remote Administration application (Remote Administration, for short) is a management tool for ICE iPush® Communication Server Embedded (iPush® Embedded, for short). Right now, it runs on MS Windows 2000 / XP / NT / ME / 98 operating system.

And almost every edition of iPush® Embedded Remote Administration serves a specified PLC controller, such as WinCon-8000 of ICPDAS Co., LTD. (http://www.icpdas.com).

About this iPush® Embedded Remote Administration Guide

This Remote Administration Guide illustrates how to use iPush® Embedded Remote Administration application for WinCon-8000. You may find the last updated version of this document from the web site of ICE Technology Corporation (http://www.icetechnology.com).

About iPush® Embedded

iPush® Embedded is an industrial edition of ICE iPush® Communication Server (iPush® Server, for short), which is the first leading platform of MOM (Message-oriented Middleware) developed by ICE Technology Corp. iPush® Embedded is featured with the properties described below:

- **Active Push**

iPush® Embedded adopts the message-driven mechanism. That is, when receiving a message from the I/O modules, iPush® Embedded will automatically push the data to subscribers, with no pulling efforts by request.

- **Bi-directional Real-Time Communication**

iPush® Embedded can immediately send a message to the subscribers. The subscribers that receive messages are also able to send control commands

modules (within milliseconds).

- **Massive Messaging**

iPush® Embedded is able to send a great amount of data (including meters, status and alerts) that are received from the I/O modules.

- **Wide Range Accessibility**

iPush® Embedded can be accessed easily by a variety of remote devices, such as PC, Pocket PC and mobile phone.

- **Massive Connection**

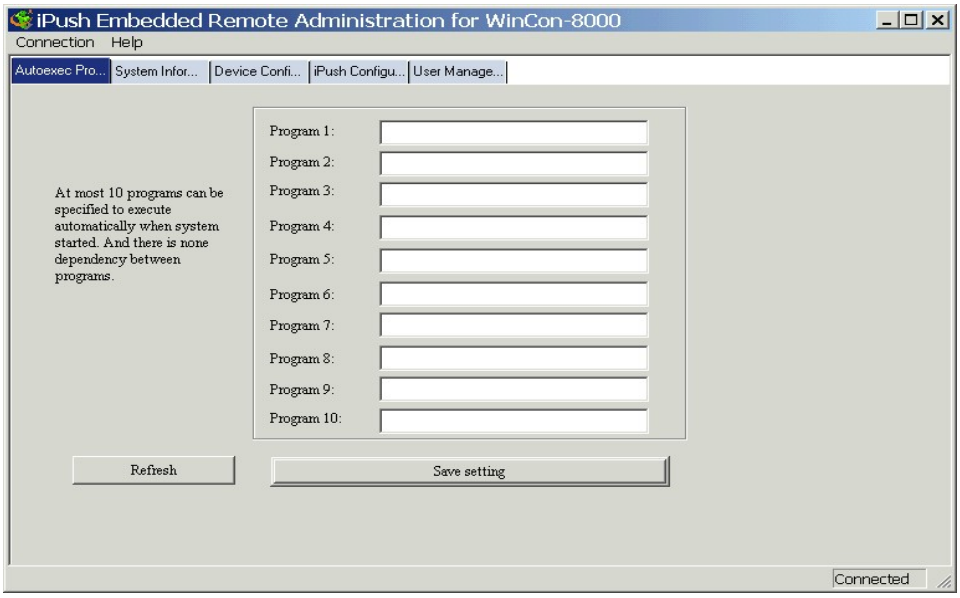
iPush® Server can be installed to manage the massive connection of WinCon-8000s group.

Chapter 2. Start Remote Administration

Start Remote Administration for WinCon-8000

Please find the shortcut 

or executable file (RAdm.exe) of iPush® Embedded Remote Administration for WinCon-8000 in Windows system. Double-click the icon you find, you will see the application as illustrated below:



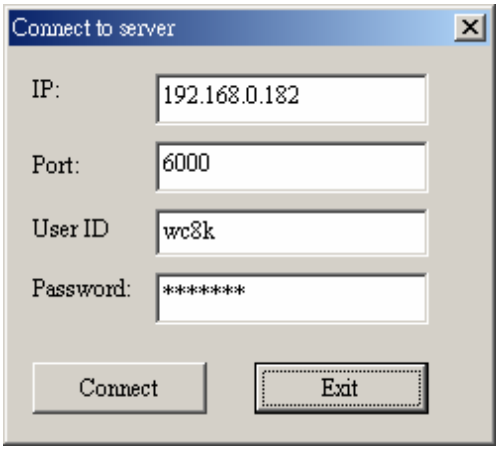
You may change working tab by clicking the captain of tab you want. We will give you the details of each tab in later chapters of this document.

Tips: User will Prompt to enter IP address and port number at startup, default port number of WinCon-8000 is 6000 (maybe vender will make custom adjustment like 9000 or other number).

Connect to iPush® Embedded in WinCon-8000

Step 1. Select [Connect] from the [Connection] menu.
Step 2. Input the IP address / Port of iPush® Embedded (WinCon-8000) you want to connect, and User ID ('**wc8k**', default) / Password ('**wc8kadm**', default), then click 

:



The status bar of Remote Administration will show “**Connected** ” if connected successfully.

Disconnect from iPush® Embedded

Step 1. Select [**Disconnect**] from the [**Connection**] menu.

The status bar of Remote Administration will show “**Disconnected** ” if it disconnected from iPush® Embedded successfully.

Chapter 3. Autoexec Programs

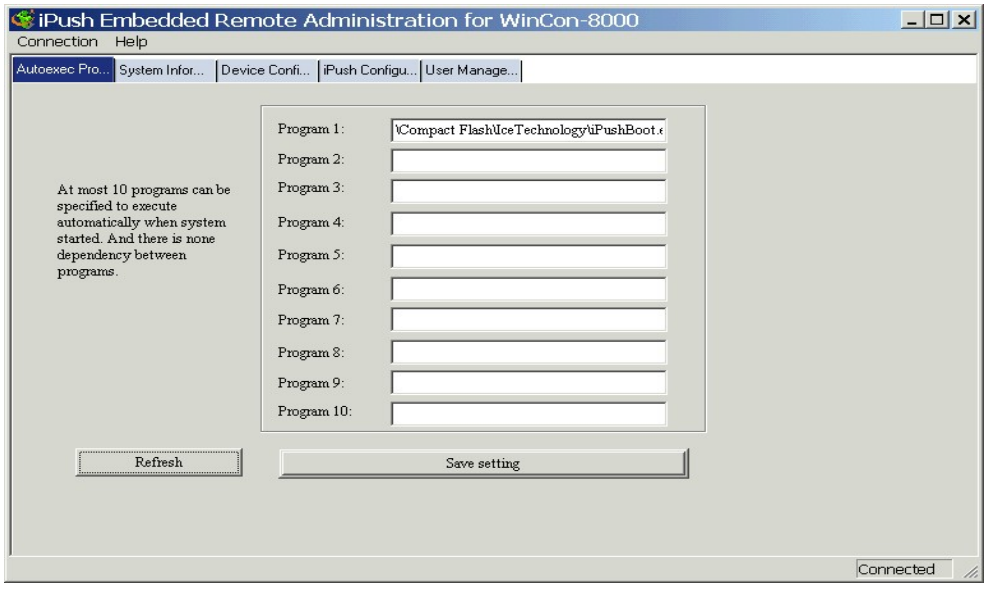
What's Autoexec program (for WinCon-8000)

Autoexec programs can be auto started when WinCon-8000 boots. The administrator can use tab <Autoexec Programs> in Remote Administration to add or remove item in the program list.

Configure Autoexec Programs

Step 1. Change the working tab to <Autoexec Programs>.

Step 2. Click Refresh to get the current setting of Autoexec Programs in WinCon-8000. The setting will be displayed in the program list. Figure below shows there is one program named 'iPushBoot.exe' set as autoexec program:



Step 3. Add or remove the autoexec programs by editing the program list. Please remember each program must be given a full path from the root directory '\' in CE's file system.

Step 4. Add or remove the autoexec programs by editing the program list. Please remember that each program must be given a full path from the root directory '\' in CE file system.

Step 5. Click 

, the changes will be updated to WinCon-8000.

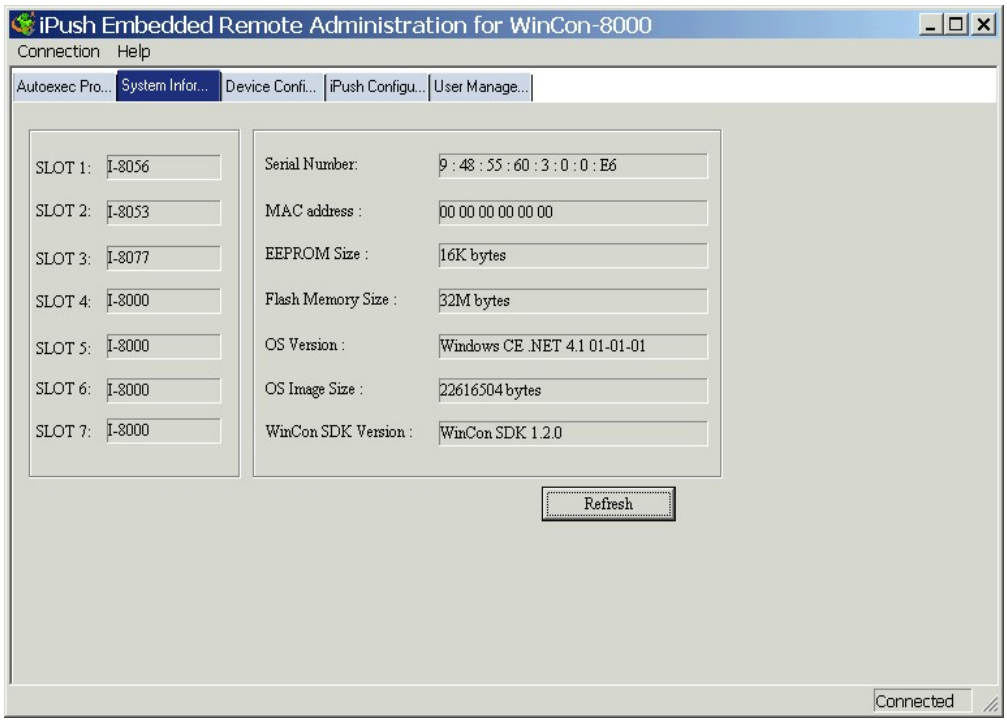
Chapter 4. System Information

The tab <System Information> gives you the system information about WinCon-8000 you connected.

Look up system information of WinCon-8000

Just click [Refresh] to show the information, as figure below.

On the left side of the tab, you may see the I/O modules have been plugged into slot 1~7. On the right side, you can see the information about hardware, firmware, operating system, and SDK.



Chapter 5. Device Configuration

The tab <Device Configuration> can show you the subject tree of iPush® Embedded for real-time message addressing to and from I/O devices. And you can add, edit, and delete the node (Group/Subgroup) or leaf (Tag) of the subject tree in this tab.

What's subject tree of iPush® Embedded

For sending real-time message to and receiving real-time message from I/O devices of WinCon-8000 with iPush® Embedded, ICE uses the subject tree hierarchy for message addressing (message destination). There is one default subject tree designed by ICE for user's convenience, but you may change it as you want.

The subject hierarchy is constructed in format below:

WC8K.*<System Name>*.*<Device>*_*<Slot#>*.*<Group Name>*.*<Tag Name>*

Node ***<Group Name>*** can be omitted. Multiple ***<Group Name>*** nodes are allowed.

A tag can represent a bit or a group of bits of I/O device in WinCon-8000.

I/O Module of iPush® Embedded gives the words above in blue, it will auto-detect the device model and slot number from WinCon SDK. And user can assign the words above in red.

ALL THE NAMING ARE CASE SENSTIVE

So a legal subject name may like:

- **WC8K.Chobits.8056_4.SuperGroup.SubGroup.Tag9**
- **WC8K.Lucifer.8064_2**
- **WC8K.Venus.8024_1.Analog0**

Where '**Chobits**', '**Lucifer**', and '**Venus**' are system names; '**SuperGroup**' '**SubGroup**', and '**ICE**' are group names; '**Tag9**', '**TagA**', and '**Analog0**' are tag names.

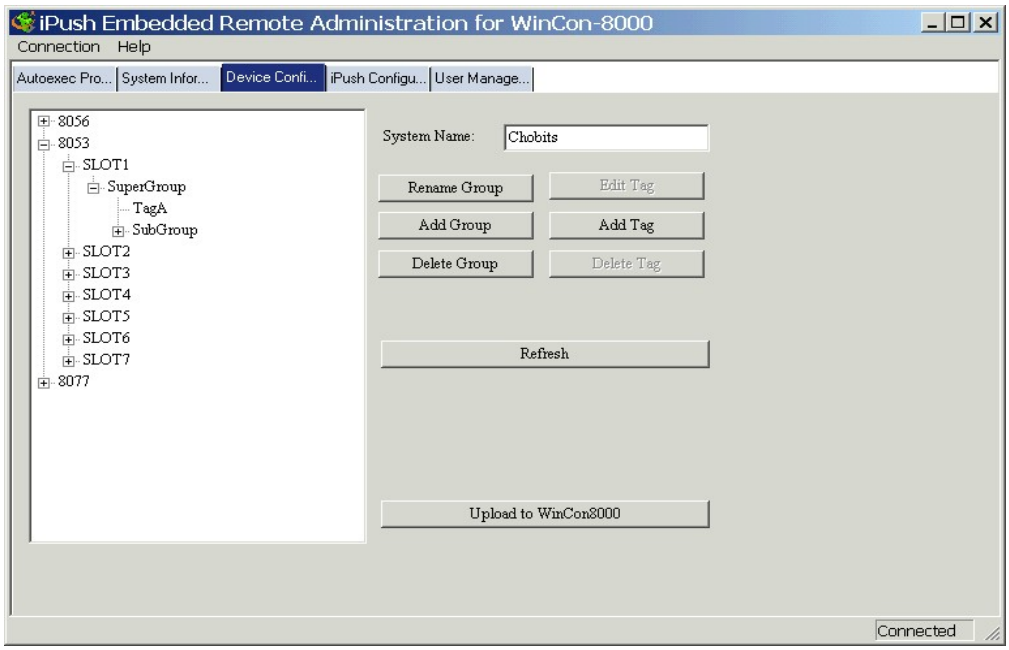
You may send (publish) or receive (subscribe) real-time messages with such subject tree hierarchy in your own iPush client application.

Please be ware of subject name is case-sensitive and has the 224-byte long limitation.

Look up subject tree and system name of iPush® Embedded

Just click [Refresh] in the tab <Device Configuration> to show the information, as figure below.

On the left side of the tab, you may see the subject tree without root '**WC8K**' and ***System Name***. Click node to expand the subject tree.



On the top of right side, you may see current system name of iPush® Embedded.

Change system name of iPush® Embedded

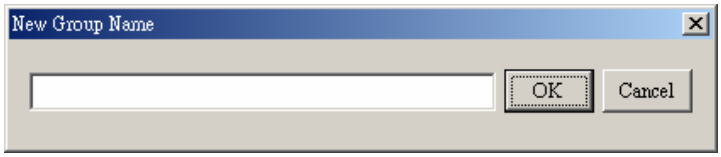
Step 1. Edit the system name in the System Name text box.
Step 2. Click [Upload to WinCon8000] to save change to WinCon-8000.

Change subject tree of iPush® Embedded

You may add, rename, or remove a group, and add, edit, or remove a tag with the subject tree. And make sure you have clicked [Upload to WinCon8000] to save the setting to WinCon-8000 after any change.

Add a group

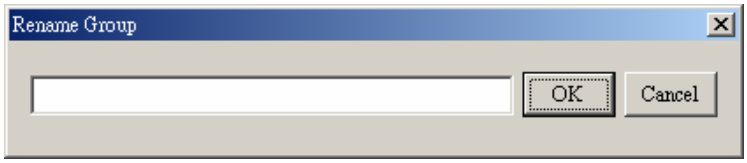
Step 1. Select a SLOT or a group in the subject tree.
Step 2. Click [Add Group].
Step 3. In the dialog box followed, input the new group name and click [OK]:



Then you have added a new node (group) to the node you selected.

Rename a group

Step 1. Select a group in the subject tree.
Step 2. Click [Rename Group].
Step 3. In the dialog box followed, input the new group name you want to change and click [OK].



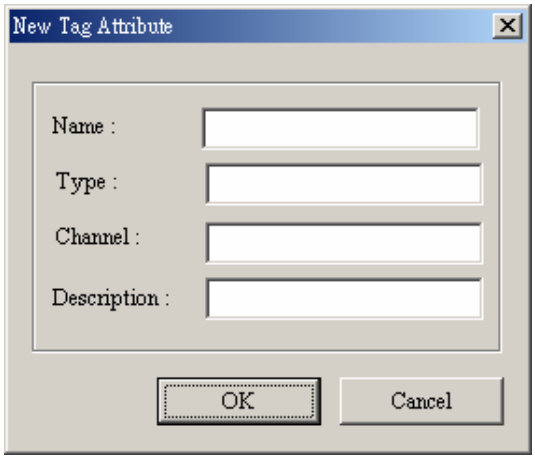
Remove a group

Step 1. Select a group in the subject tree.
Step 2. Click Delete Group.
Step 3. Make sure you want to remove this selected group in the confirmation dialog box followed.

Add a tag

Step 1. Select a SLOT or a group in the subject tree.
Step 2. Click Add Tag.
Step 3. In the dialog box followed, input the attributes of new tag and click OK:

- Name: give the name of this new tag.
- Type: according to the I/O device type of WinCon-8000, there are 6 types you can input here: **DigitalInput**, **DigitalOutput**, **BitInput**, **BitOutput**, **AnalogInput**, and **AnalogOutput**.
- Channel: input the I/O device channel (bit) of WinCon-8000 you want the message to send to or receive from. '*' represents the group of all bits.
- Description: input any description for this tag.

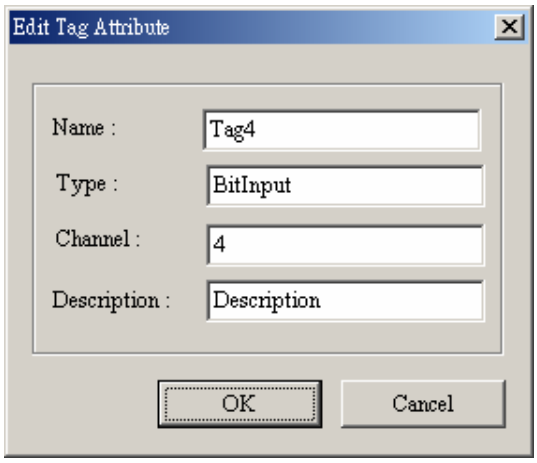


Step 4. Click OK.

Then you have added a new leaf (tag) to the node you selected.

Edit a tag

Step 1. Select a tag in the subject tree.
Step 2. Click Edit Tag.
Step 3. In the dialog box followed, edit the attributes you want to change and click OK.



Remove a tag

Step 1. Select a tag in the subject tree.
Step 2. Click Delete Tag.
Step 3. Make sure you want to remove this selected tag in the confirmation dialog box followed.

Chapter 6. iPush Configuration

The tab <iPush Configuration> can show you the configurable items of iPush® Embedded. And you can edit and save the changed value of each item in this tab.

Configurable items of iPush® Embedded

There are six configurable items of iPush® Embedded in this tab:

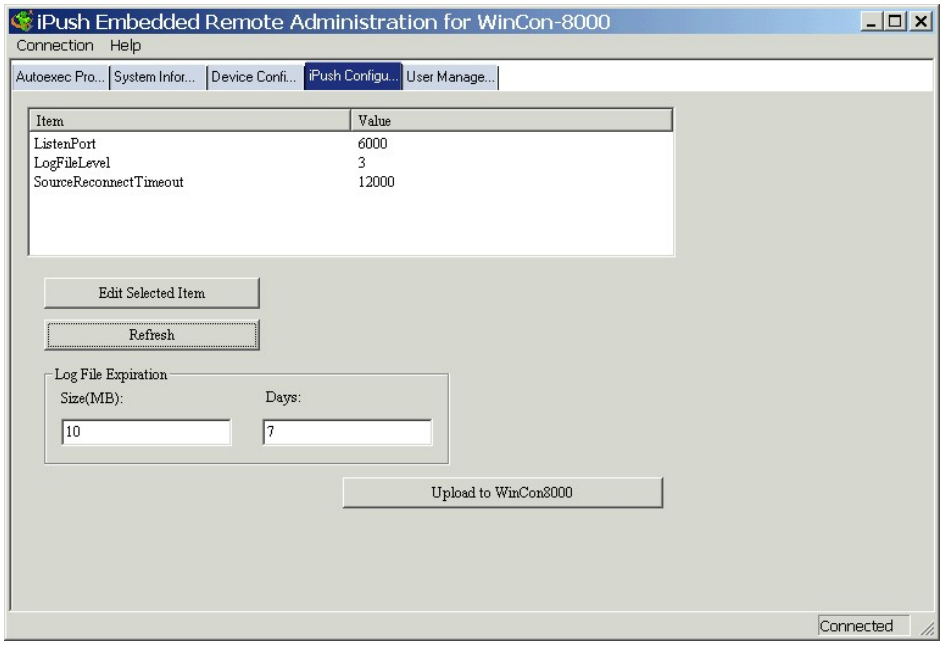
- ListenPort: the TCP/IP port number of iPush® Embedded listens to.
- LogFileLevel: the level of logging system works, from 1 to 5, the lower number produces more details log records. Default is 3.
- SourceReconnectTimeout: the disconnected time duration (in ms) for starting to reconnect to up-linking iPush® Server. Default is 12000 (12 seconds).
- Log File Expiration: set the maximum total size (in MB) of log files and time duration (in day) for expiration. Default is 10 MB, 7 days.

Tips: Please Check IOModule Programming Guide and Remote Administration Guide for advance configuration information.

Look up configurable items of iPush® Embedded

Just click 

in the tab <iPush Configuration> to show the current values, as figure below.



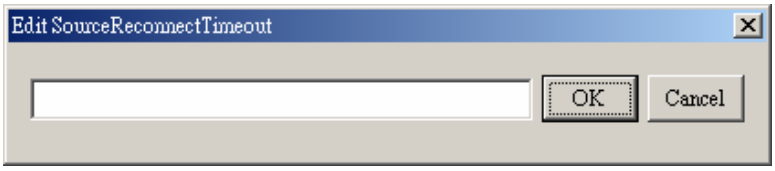
Change value of each configurable items

For ListenPort / LogFileLevel / SourceReconnectTimeout / SourceAddress0 / SourcePort0

Step 1. Select any item you want to change in the list.

Step 2. Click Edit Selected Item.

Step 3. In the dialog box followed, input the new value of the selected item and click OK:



Step 4. Click Upload to WinCon8000 to save the setting to WinCon-8000 after any change.

For Log Files Size and Expiration Days

Step 1. Edit the text box of Size or Days in the Log File Expiration section.

Step 2. Click 

to save the setting to WinCon-8000 after any change.

Chapter 7. User Management

The tab <User Management> can let administrator manage the users of iPush® Embedded.

Users of iPush® Embedded

There are three kinds of users for iPush® Embedded: system-reserved user, administration user, and messaging user. And there is three default users, as descript below:

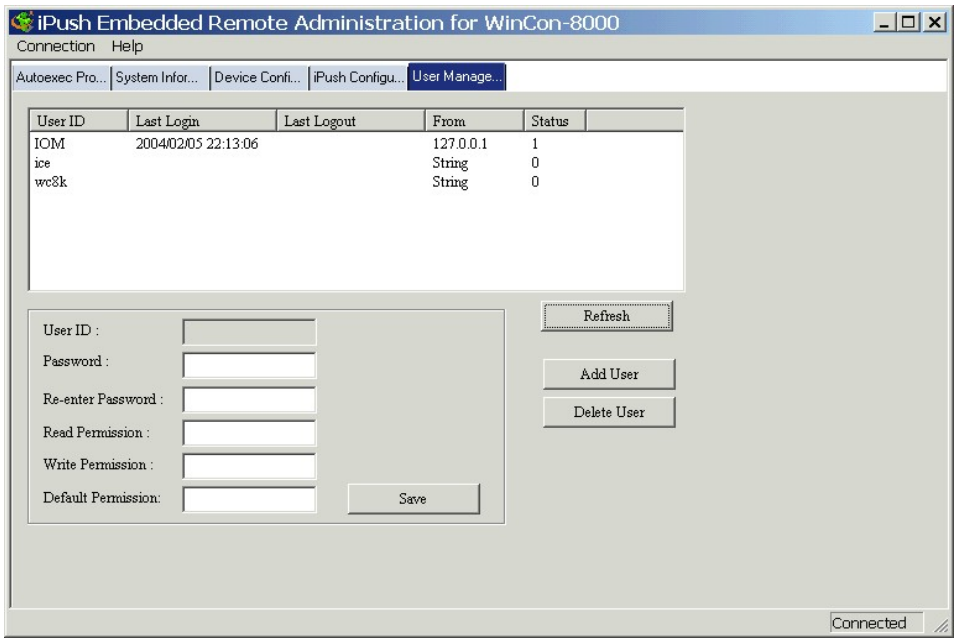
- **IOM**: this is a system-reserved user, owned by I/O Module in WinCon-8000. So please do not make any change to it.
- **wc8k**: this is a administration user, as administrator and user of iPush® Embedded Remote Administration application. You may only change the password of it (the default password is '**wc8kadm**').
- **ice**: this is a messaging user. It has the full access right of subscribing all subjects and publish message with all subjects (the default password is '**ice**').

As an administrator, you may add or delete a messaging user as you want.

Look up users of iPush® Embedded

Just click 

in the tab <User Management> to show the current users, as figure below.



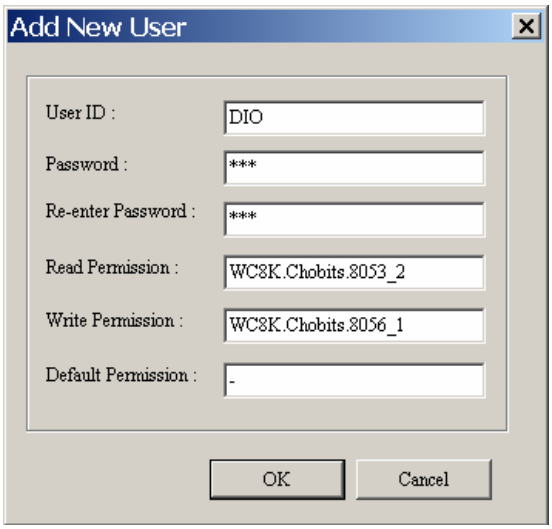
Change messaging users of iPush® Embedded

You may add, edit, or remove a messaging user in tab <User Management>.

Add a messaging user

Step 1. Click Add User. Use * sign, - sign, and Subject name for setting. THE SUBJECT STRING SETTING **CASE SENSTIVE**.

Step 2. In the dialog box followed, input the new group name and click OK:



- **User ID**: the name of the messaging user account.
- **Password**: password set of the user account.
- **Re-enter Password**: re-enter the password of the user account for confirmation.
- **Read Permission**: permission of the user account to receive messages from the iPush® Embedded (subject name. Separate each by the mark "," if there is more than two subjects).
- **Write Permission**: permission of the user account to send messages to the iPush® Embedded (subject name. Separate each by the mark "," if there is more than two subjects).
- **Default Permission**: default read permission of the user account to receive messages from the iPush® Embedded (subject name. Separate each by the mark "," if there is more than two subjects).

Then you have added a new messaging user to iPush® Embedded.

Edit a messaging user

Step 1. Select a messaging user from the user list.
Step 2. Edit the user in text boxes.
Step 3. Click 

to save the change to WincCon-8000.

Remove a messaging user

Step 1. Select a messaging user from the user list.
Step 2. Click 

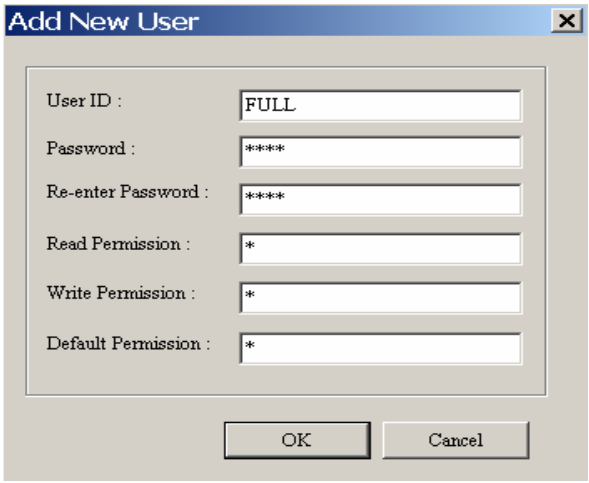
.
Step 3. Make sure you want to remove this selected user in the confirmation dialog box followed.

User Permission Setting Examples:

Full Permission on WinCon800

If a user want to have full permission on every I/O Device at WinCon8000, can use * sign to set READ, WRITE, DEFAULT Permission as fellow:

READ: *
WRITE: *
DEFAULT: *

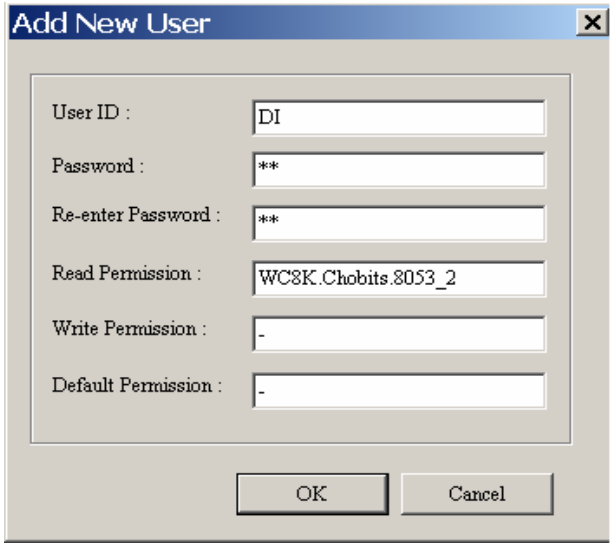


User don't have to input the system name or subject string here (For Example: "Chobits" Here)

READ Permission on WinCon800

For an i8053 Digital input Module at WinCon8000 SLOT 2, and user want to RAED the input data ONLY, please set READ Permission as Fellow:

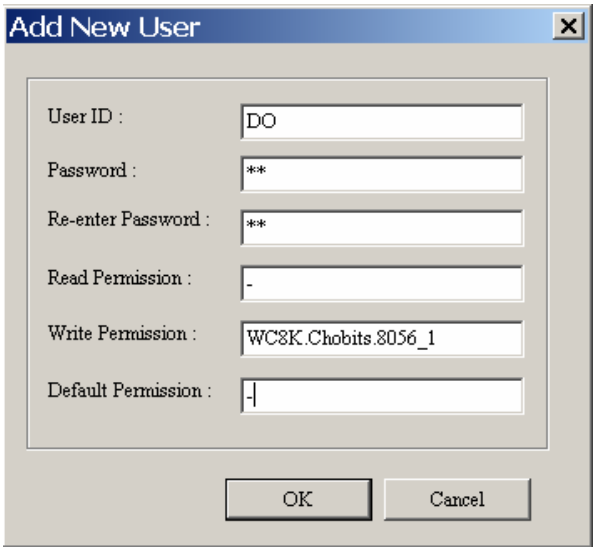
READ: WC8K.Chobits.8053_2
WRITE: -
DEFAULT: -



WRITE Permission on WinCon800

For an i8056 Digital Output Module at WinCon8000 SLOT 1, and user want to WRITE the output data ONLY, please set WRITE Permission as Fellow:

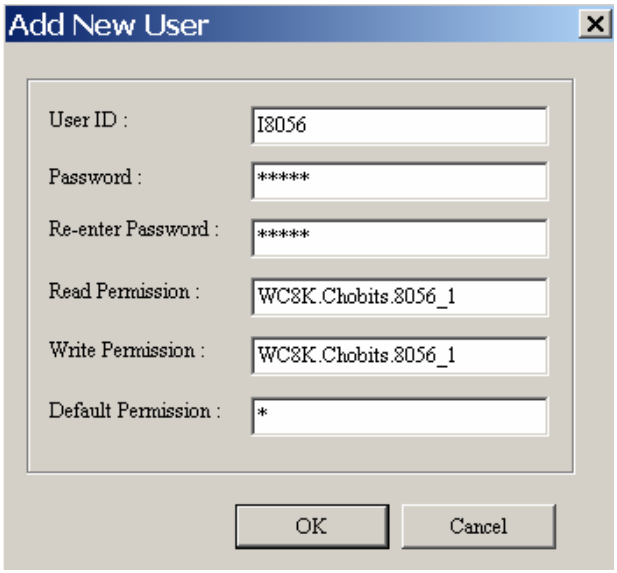
READ: -
WRITE: WC8K.Chobits.8056_1
DEFAULT: -



RAED and Monitor Permission on WinCon800

For an i8056 Digital Output Module at WinCon8000 SLOT 1, and user want to WRITE the output data, and READ the writing result, please set RAED/WRITE Permission as Fellow:

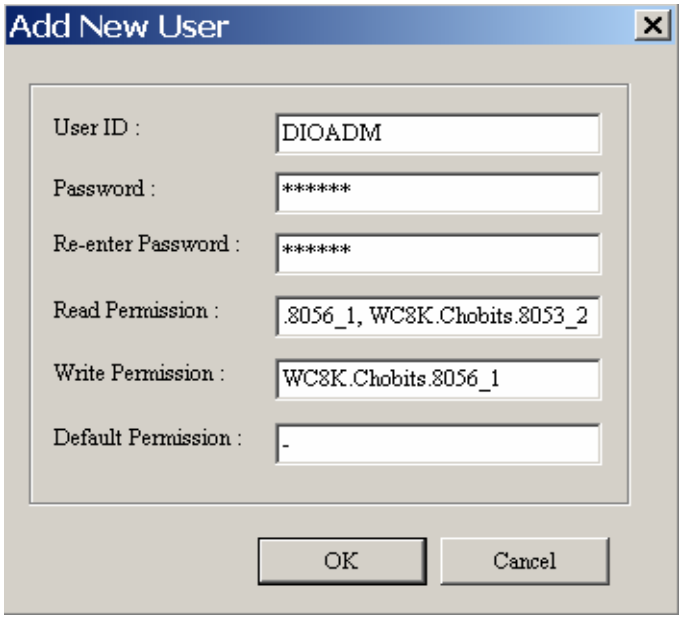
READ: WC8K.Chobits.8056_1
WRITE: WC8K.Chobits.8056_1
DEFAULT: -



Multiple I/O Read Write Permission

For an i8056 Digital Output Module at WinCon8000 SLOT 1, and i8053 Digital Input Module at WinCon8000 SLOT 2, and user want to READ BOTH the input and output data, and have write permission on i8056 at WinCon8000 SLOT1, please set RAED/WRITE Permission as Fellow, separate with “ , ”:

READ: WC8K.Chobits.8056_1, WC8K.Chobits.8053_2
WRITE: WC8K.Chobits.8056_1
DEFAULT: -



Send or Receive data from IOModule Tester

Following condition have to meet in order to successfully read/write data to I/O device.

- **USER Must have account and permission on iPush Embedded**

User must have account and correct permission setting discuss earlier this chapter. For read or write data to I/O devices with iPush Embedded.

- **FULL subject string with correct character case**

For Digital Output like i8056, User must give full string length like:

WC8K.Chobits.8056_1.SuperGroup.SubGroup.Tag3
Or
WC8K.Chobits.8056_1.SuperGroup.TagA

Wrong CASE subject string setting will NOT work, like:
WC8K.CHOBITS.8056_1.SUPERGROUP.TAGA or
wc8k.chobits.8056_1.supergroup.taga is **WRONG**

- **Transmit Data Type, Name, and Value must match with I/O Device**

For Digital Output device like i8056, for subject string control individual tag may look like:

WC8K.Chobits.8056_1.SuperGroup.SubGroup.Tag3

Must Provide With:

- Property: BOOL
- Name: BitOutput
- Value: TRUE or FALSE (UPPER CASE ONLY)

For Digital Output device like i8056, for subject string control whole module may look like:

WC8K.Chobits.8056_1.SuperGroup.TagA

May Provide With:

- Property: INT or BYTE
- Name: DigitalOuput
- Value: 0-65535 for INT, 0-255 for BYTE