

# Link Admin Utility Manual

This document list instructions to change settings for various Link features using Link Admin Utility program

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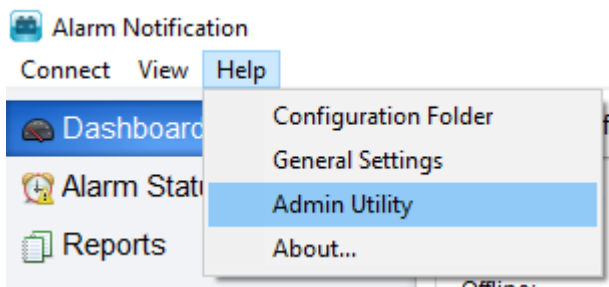
## Contents

<b>Setup SMTP server for data emailing</b> .....	3
<b>Enable Data Export</b> .....	5
<b>Disable Data Export</b> .....	6
<b>Enable Email Alarm Notification</b> .....	7
<b>Enable SMS Alarm Notification</b> .....	10
<b>Enable Email Alarm Notification by Monitor</b> .....	12
<b>Disable Email Alarm Notification by Monitor</b> .....	14
<b>Disable Email Alarm Notification</b> .....	15
<b>Edit Battery Alarms Setting</b> .....	16
<b>Database Backup</b> .....	17
<b>Database Restore</b> .....	17
<b>Start/Stop Services</b> .....	18
<b>Change Link to Service Edition</b> .....	19
<b>Change Link to Standard Edition</b> .....	19
<b>Change Link User Mode</b> .....	20
<b>Save System Summary</b> .....	21
<b>Email System Summary</b> .....	22
<b>Database Repair</b> .....	23
<b>Database Tables</b> .....	24
<b>Link Remote Client Setup</b> .....	25

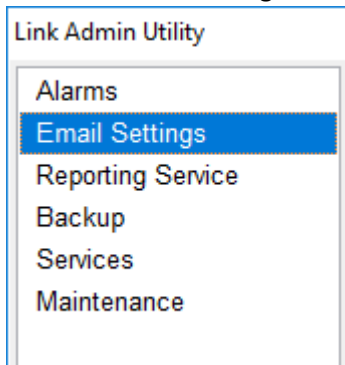
## Setup SMTP server for data emailing

Correct SMTP server setup is required for data emailing.

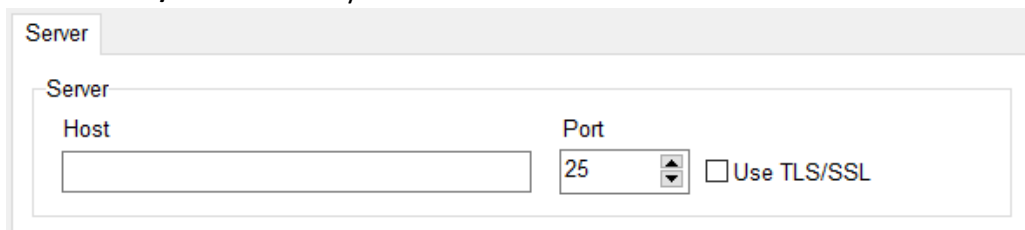
1. Start "Link Client"
2. Click **Help** -> **Admin Utility** to start Link Admin Utility



3. Click on "Email Settings" tab.

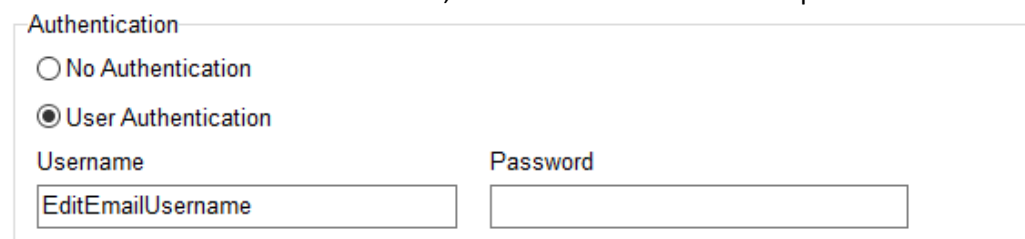


4. Enter Server address under **Host** and enter **Port number**  
Click Use **TLS/SSL** button only if SMTP server uses **SSL** otherwise leave it unchecked

A screenshot of the 'Server' configuration form. It contains a 'Host' text input field, a 'Port' dropdown menu set to '25', and a 'Use TLS/SSL' checkbox which is currently unchecked.

Notice: Link version 4.0.1 only supports SSLv3, and does not support TLS. Most email hosting operations, such as those provided by Google, Microsoft, or Amazon, require TLS support. These providers are not currently supported by Link.

5. If SMTP server requires authentication, click "User Authentication" option and enter in **Username** and **Password**. Otherwise, select "No Authentication" option

A screenshot of the 'Authentication' configuration form. The 'User Authentication' radio button is selected. Below it are 'Username' and 'Password' text input fields. The 'Username' field contains the text 'EditEmailUsername'.

6. Edit Retry period, Email Address and Sender Description if required. Then Click Save button

Retries

0 Minutes

Emails that fail to send will be tried again after this time interval.

Sender

Email Address: link@donotreply.com

Sender Description: Link Battery Monitoring Software

Test

Test Connection

Click the button to test the above email configuration

Save Close

7. After these changes all services will restart automatically. System should have SMTP server setting for data emailing now

**Correct SMTP server setting can be checked with following procedures:**

1. Click on "Test Connection" button
2. Enter **Email Address** to receive test email and click "OK" button

Link Admin Utility

Enter the test email address

OK Cancel

3. If correct SMTP settings are made, Admin Utility will display "Test Successful" message and test email will be received in Email address entered in step 2. If there is error in setting, Admin Utility will display error message

Test

Test Connection

Test Successful

Test

Test Connection

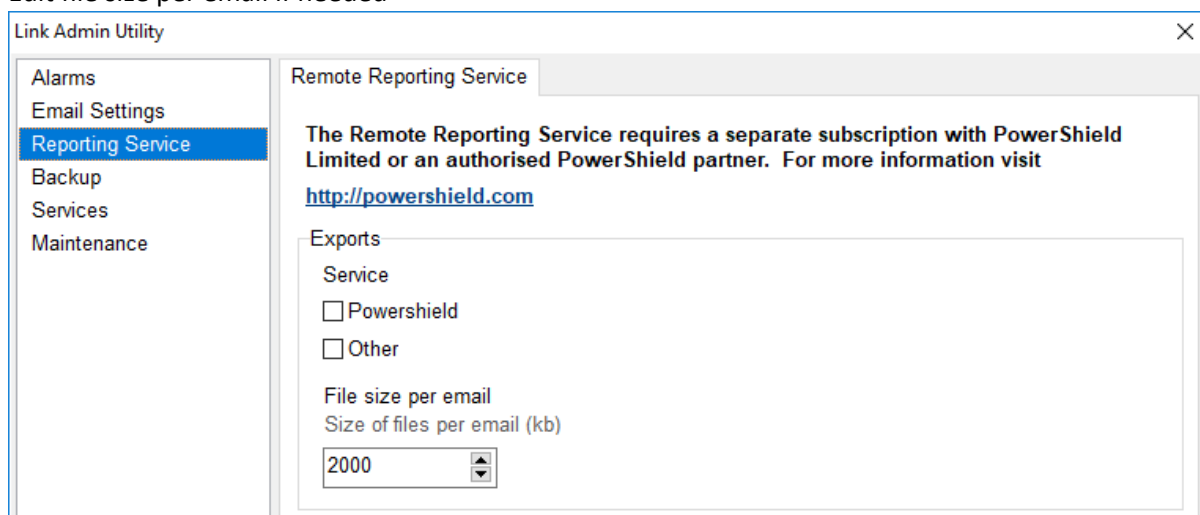
Test Failed  
10060:Connection timed out

## Enable Data Export

Export feature is disabled for default install. Follow below procedures to enable export.

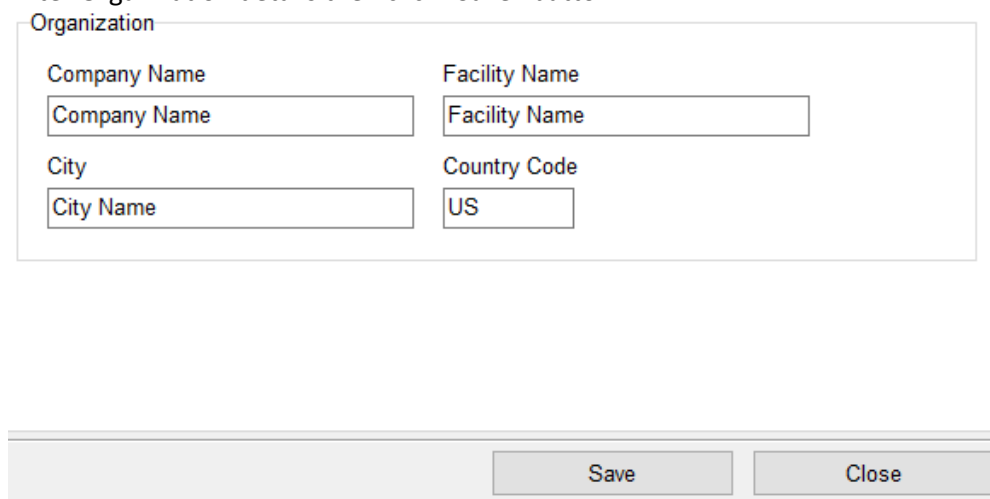
**Note:** Ensure correct SMTP server setting is set before enabling data export

1. Click on "Reporting Service" tab in Link Admin Utility.
2. Select **Powershield** button to send data emails to [data@powershield.co.nz](mailto:data@powershield.co.nz) or select **Other** button and enter in email address to receive data export emails. Selecting both options will send data emails to both email address  
**Note:** multiple email address can be listed separated by comma
3. Edit file size per email if needed



The screenshot shows the 'Link Admin Utility' window with the 'Reporting Service' tab selected. The 'Remote Reporting Service' section contains a warning message: 'The Remote Reporting Service requires a separate subscription with PowerShield Limited or an authorised PowerShield partner. For more information visit <http://powershield.com>'. Below this, the 'Exports' section has two radio buttons: 'Powershield' and 'Other'. The 'File size per email' section has a dropdown menu set to '2000' kb.

4. Enter Organization details then click "Save" button



The screenshot shows the 'Organization' form with the following fields: 'Company Name' (text input), 'Facility Name' (text input), 'City' (text input), and 'Country Code' (text input with 'US' entered). At the bottom of the form are 'Save' and 'Close' buttons.

After these changes all services will restart automatically. System should have export feature enabled after service reset.

## Disable Data Export

1. Click on “Reporting Service” tab in Link Admin Utility. Ensure both tick boxes under **Exports/Service** tab are **unchecked** then click “Save” button

Link Admin Utility

Alarms  
Email Settings  
**Reporting Service**  
Backup  
Services  
Maintenance

Remote Reporting Service

The Remote Reporting Service requires a separate subscription with PowerShield Limited or an authorised PowerShield partner. For more information visit <http://powershield.com>

Exports

Service

Powershield  
 Other

File size per email  
Size of files per email (kb)

2000

Organization

Company Name Facility Name  
City Country Code

City Name US

Save Close

After these changes all services will restart automatically. System should have export feature disabled after service reset.

## Enable Email Alarm Notification

Email Alarm Notification feature is disabled for default install. Follow below procedures to enable this feature

**Note:** Ensure correct SMTP server setting is set before enabling Email Alarm Notification

1. Click on “Alarms” tab in Link Admin Utility
2. Select **Enable email notifications** option
3. Edit **Time Window** and **Email Limit** if needed

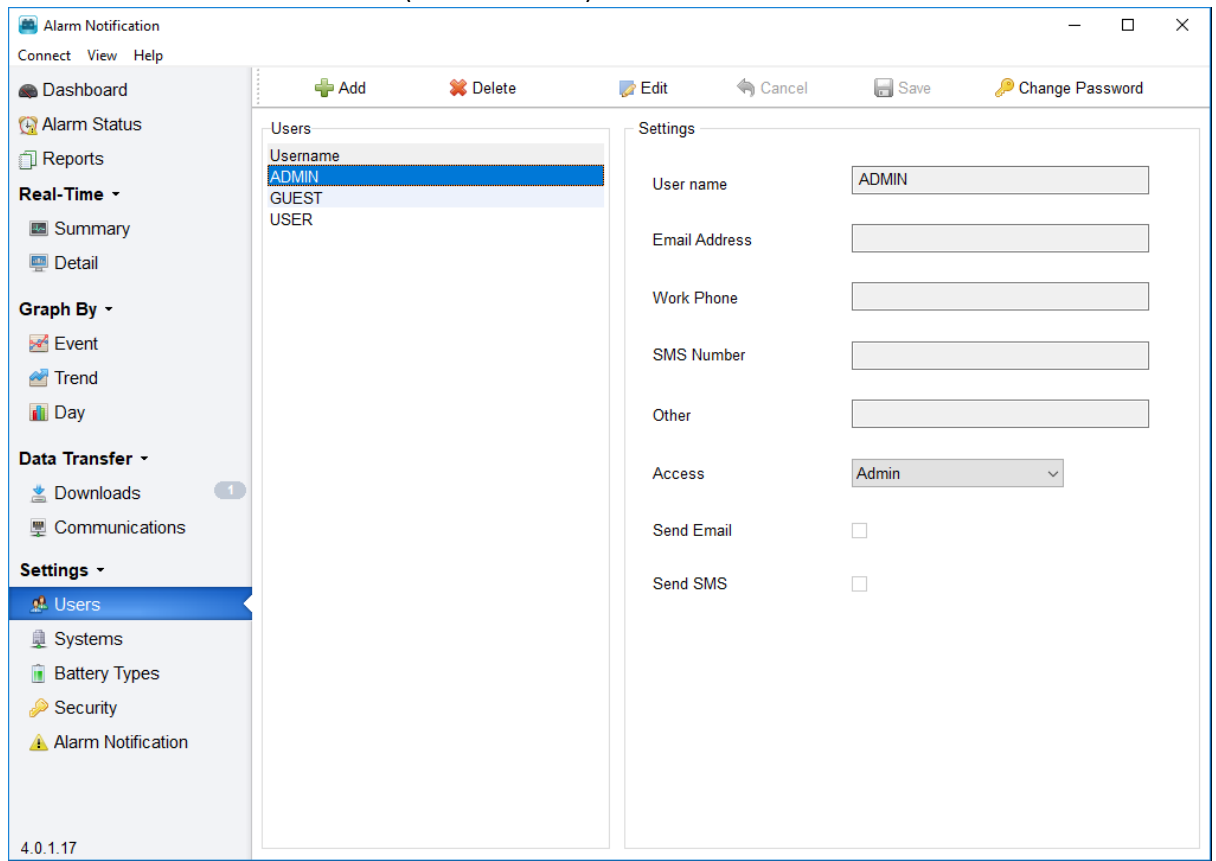
**Note:** Alarm emails will be only sent during Time Window set

4. Click “Save” button. After these changes all services will restart automatically.

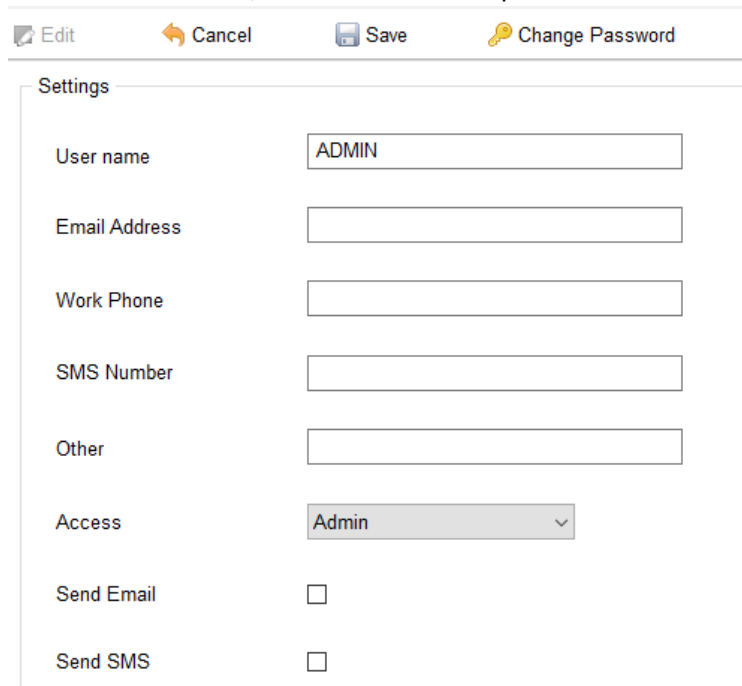
The screenshot shows the 'Link Admin Utility' window with the 'Emailing' tab selected. The left sidebar contains a menu with 'Alarms' highlighted. The main content area is divided into sections: 'Notifications' with a checked 'Enable email notifications' checkbox; 'Time Window' with radio buttons for '24 Hours (emails can be sent any time)' (selected) and 'Specified hours', and two time pickers for 'Start Time' (12:00:00 AM) and 'End Time' (11:59:59 PM); 'Email Limit' with a text box containing '10' and a description: 'The maximum number of emails an individual system can send within the time window. Emails past the limit are collected and sent at the beginning of the next time window.'; and a 'Test' section with a 'Test' button and a message: 'Click the button to test the above email configuration'. At the bottom right, there are 'Save' and 'Close' buttons.

5. Open Link Client

6. Select **Users** tab. Select one user (which is in use) and click **Edit** button



7. Enter **Email Address**, click “Send Email” option then click “Save” button

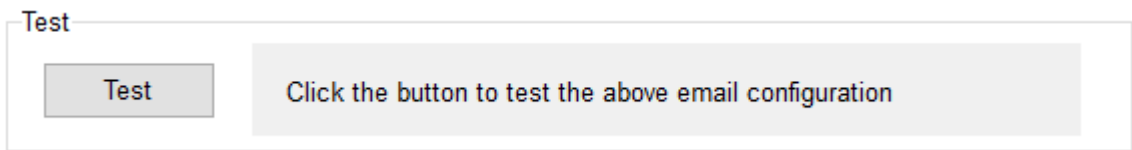


8. **Alarm notification email** will be sent to **email address** entered in step 7, if alarms are raised

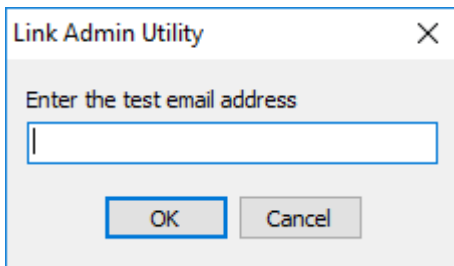


**Alarm notification setting can be checked with following procedures:**

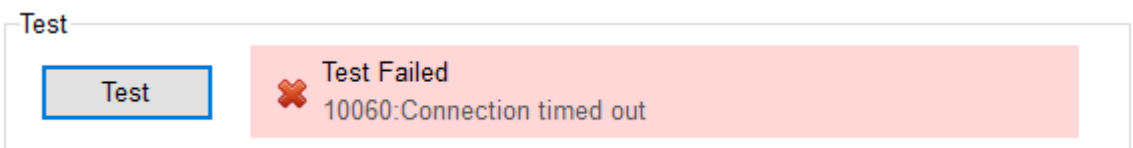
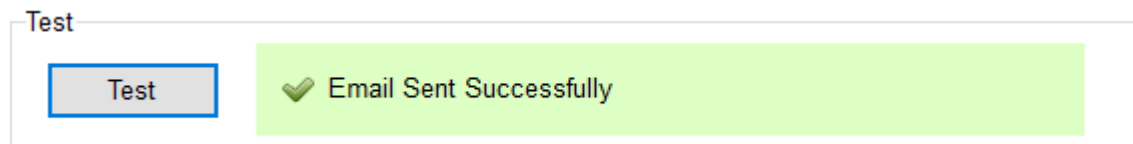
1. Click on "Test" button



2. Enter **Email Address** to receive test email and click "OK" button



3. If correct alarm notification settings are made, Admin Utility will display "Test Successful" message **and** test email will be received in Email address entered in step 2. If there is error in setting, Admin Utility will display error message



## Enable SMS Alarm Notification

### 1. Configure the “Email to SMS” gateway in the Link Admin Utility.

Link uses an Email to SMS gateway service to send SMS messages. Link sends a standard email to this service. The service then converts that email to an SMS and sends it to the SMS number. If no internal gateway service is available at the customer premises a third party service will be required.

The screenshot shows the 'Link Admin Utility' interface with the 'Email to SMS Gateway' configuration page. The left sidebar contains a menu with 'Email to SMS' selected. The main content area is titled 'Email to SMS Gateway' and includes the following sections:

- Parameters:** Two text boxes with instructions: 'To specify where to insert the number into the email address or subject use: sms-number' and 'To specify where to insert the alarm message into the email message body use: sms-message'.
- Email Format:** Three text boxes: 'Address Format' (containing 'sms-number@example.org'), 'Subject Format' (containing 'Link Alarm'), and 'Email Message Body' (containing 'sms-message').
- Test:** A 'Test' button and a larger button with the text 'Click the button to test sending an SMS'.
- A red banner at the bottom of the configuration area with the text: 'Please refer to the PowerShield Link Admin Utility Instructions for support'.

At the bottom of the utility window, a green status bar indicates 'Last configuration saved at 22/01/2020 2:50:24 PM', and there are 'Save' and 'Close' buttons.

These fields need to be configured to match the format of the email as required by the selected SMS gateway service. These requirements will be different between SMS gateway services.

#### a. Address Format:

This represents the email address where the alarms are sent. When sending a notification email Link will replace the word “sms-number” with the actual SMS numbers for each Link user who has entered an “SMS Number” and enabled the “Send SMS” checkbox.

#### b. Subject Format:

This is the subject of the email. The word “sms-number” can also be used in this field.

#### c. Email Message Body:

This represents the contents of the email. When sending a Notification email Link will replace the word “sms-message” with the details of the Link alarm. The word “sms-number” can also be used in this field.

**Do not enter SMS numbers directly in to these fields.**

## 2. Specify the SMS number to send notification messages to

1. Open Link Client.
2. Select the **Users** tab.
3. Select a valid Link “Username” from the “Users” List or click the “Add” button to add a new one.
4. Enter the SMS number into the “SMS Number” field.
5. Tick the “Send SMS” check box.

The screenshot shows the 'Link - Battery Management' application window. The left sidebar contains a navigation menu with the following items: Dashboard, Alarm Status, Reports, Real-Time (with sub-items Summary and Detail), Graph By (with sub-items Event, Trend, and Day), Data Transfer (with sub-items Downloads and Communications), and Settings (with sub-items Users, Systems, Battery Types, Security, and Alarm Notification). The 'Users' sub-item is selected. The main content area is divided into two panes. The left pane, titled 'Users', contains a table with the following data:

Username
ADMIN
GUEST
USER

The right pane, titled 'Settings', contains a form with the following fields and options:

- User name: ADMIN
- Email Address: (empty text box)
- Work Phone: (empty text box)
- SMS Number: (empty text box)
- Other: (empty text box)
- Access: Admin (dropdown menu)
- Send Email:
- Send SMS:

## Enable Email Alarm Notification by Monitor

Link can be configured to send alarm emails to a list of contacts per Monitor/System. Link needs to have at least one System added to configure this feature.

Once this feature is enabled a list of contacts can be entered for each system.

**Note:** This feature is using separate email contact lists for each monitor and overrides the previous approach that uses Contacts, and the Email SMS feature will not work with this approach.

Ensure that the correct SMTP server settings are set by testing this first before enabling Email Alarm Notification by Monitor.

To configure the feature, do the following:

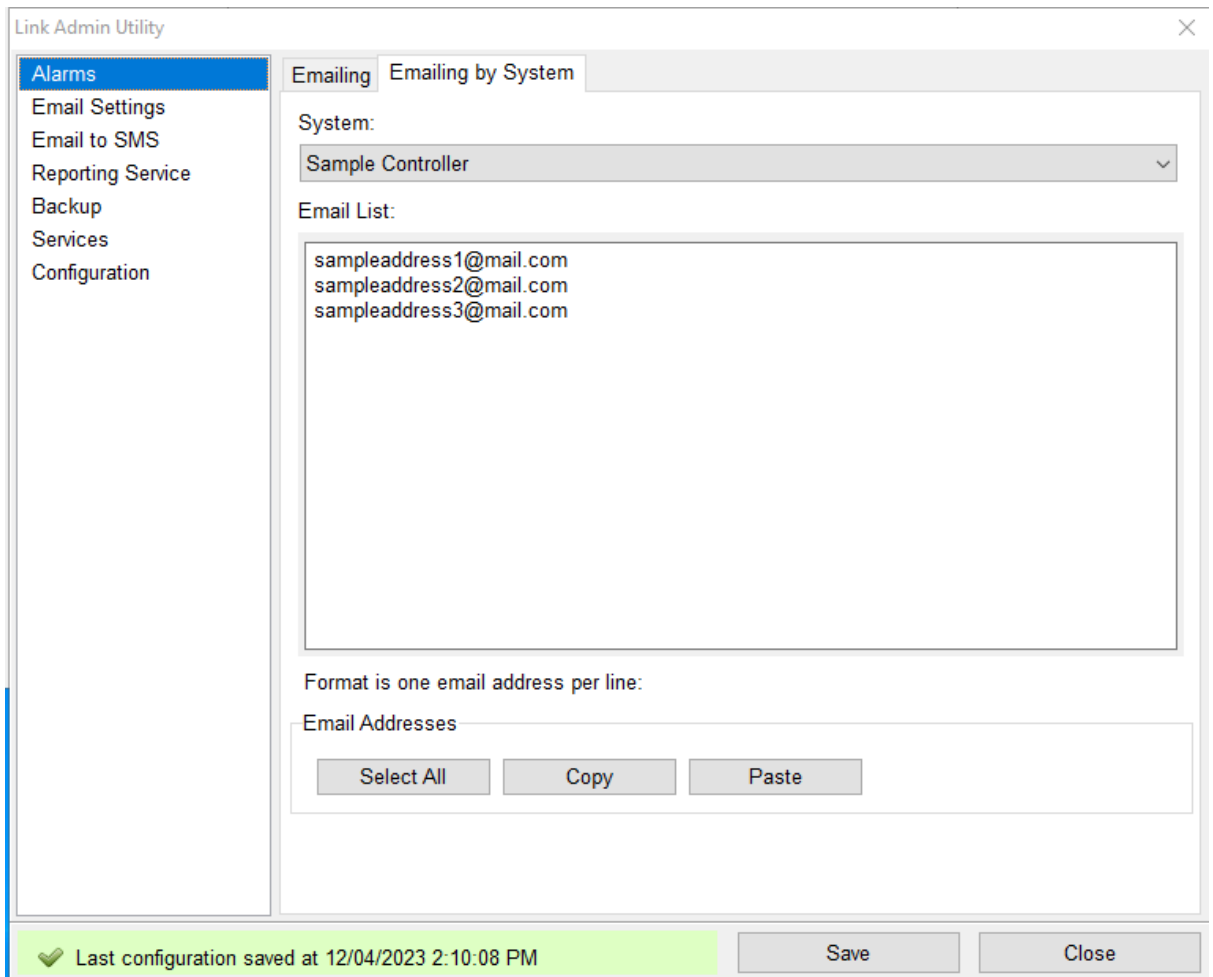
1. Click on “Alarms” tab in Link Admin Utility
2. Select both **Enable email notifications** and **Enable email notifications by monitor** options

The screenshot shows the 'Link Admin Utility' window with the 'Alarms' tab selected in the left-hand navigation menu. The main content area is titled 'Emailing' and 'Emailing by System'. Under the 'Notifications' section, two checkboxes are checked: 'Enable email notifications' and 'Enable email notifications by monitor'. The 'Time Window' section has two radio buttons: '24 Hours (emails can be sent any time)' is selected, and 'Specified hours' is unselected. Below the radio buttons are two time pickers: 'Start Time' is set to '12:00:00 AM' and 'End Time' is set to '11:59:59 PM'. The 'Email Limit' section has a text box with the value '10'. At the bottom of the window, a green status bar displays a checkmark icon and the text 'Last configuration saved at 12/04/2023 2:10:08 PM'. To the right of the status bar are 'Save' and 'Close' buttons.

3. Click on “Emailing by System” tab

The screenshot shows a window titled "Link Admin Utility" with a close button (X) in the top right corner. On the left is a sidebar menu with the following items: Alarms, Email Settings, Email to SMS, Reporting Service, Backup, Services, and Configuration. The main area has two tabs: "Emailing" and "Emailing by System", with the latter selected. Under the "Emailing by System" tab, there is a "System:" label above a dropdown menu currently showing "Sample Controller". Below this is an "Email List:" label above a large, empty text area. Underneath the text area is the text "Format is one email address per line:" followed by a text input field labeled "Email Addresses". Below the input field are three buttons: "Select All", "Copy", and "Paste". At the bottom right of the window are two buttons: "Save" and "Close".

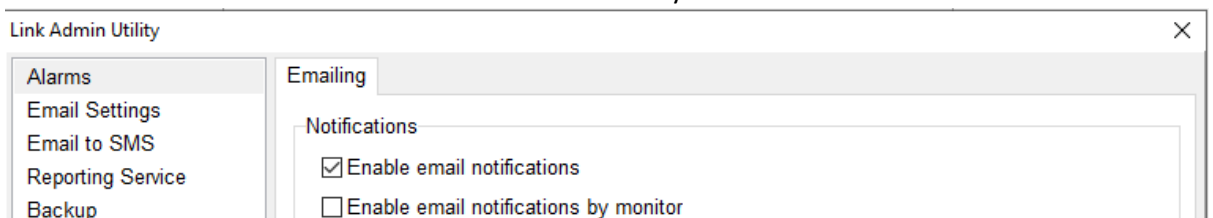
4. Select a System in the **System** drop-down menu, a respective list of email addresses should be displayed. It is empty initially
5. Fill up the list with email addresses that need to be notified when a particular System raises an alarm
6. Use **Select All**, **Copy**, and **Paste** buttons to perform repetitive operations for multiple Systems
7. Once configured, click “Save” button. After these changes all services will restart automatically



Configured email addresses will get notified when a corresponding Monitor/System raises an alarm. If users want to go back to the older approach that uses **Contacts**, they need to follow the instructions in the following “Disable Email Alarm Notification by Monitor” section.

### Disable Email Alarm Notification by Monitor

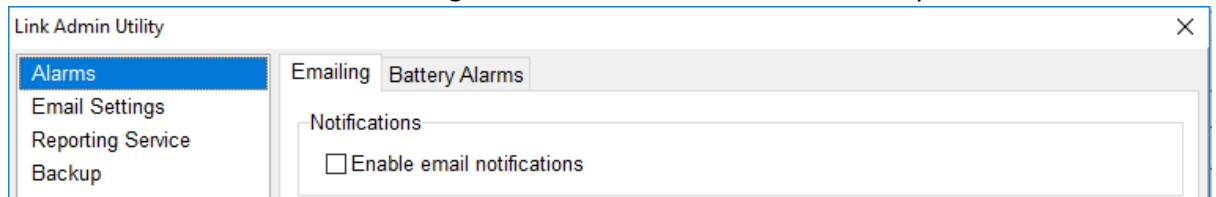
1. Click on Alarms tab in Link Admin Utility
2. Untick **Enable email notifications by monitor** option, leave **Enable email notifications** option ticked
3. Click “Save” button. All services will restart automatically



4. After these changes, alarm emailing will be working as per notifications configuration described in “Enable Email Alarm Notification” section of this manual

## Disable Email Alarm Notification

1. Click on Alarms tab in Link Admin Utility
2. Untick **Enable email notifications** option
3. Click "Save" button. After these changes all services will restart automatically

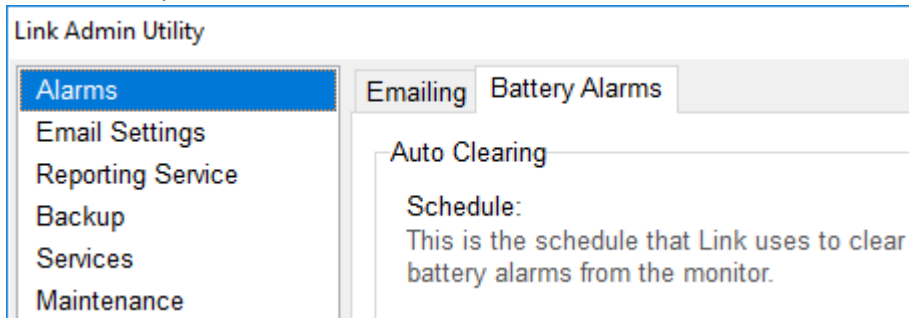


4. No email will be sent after alarm is raised once email alarm notification feature is disabled

## Edit Battery Alarms Setting

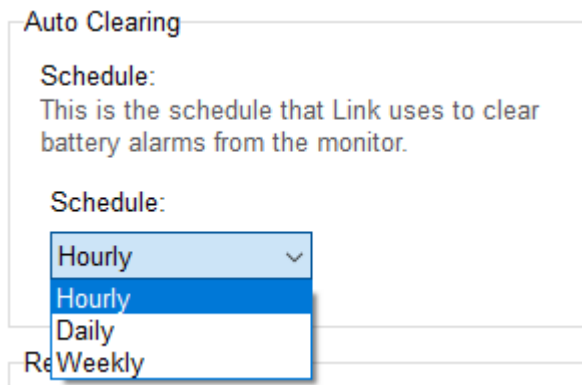
Notice: The settings on this page only affect Sentinels/B2000s. Controllers contain their own clearing logic and are unaffected by these settings.

1. Click on "Alarms" tab in Link Admin Utility
2. Select Battery Alarms tab



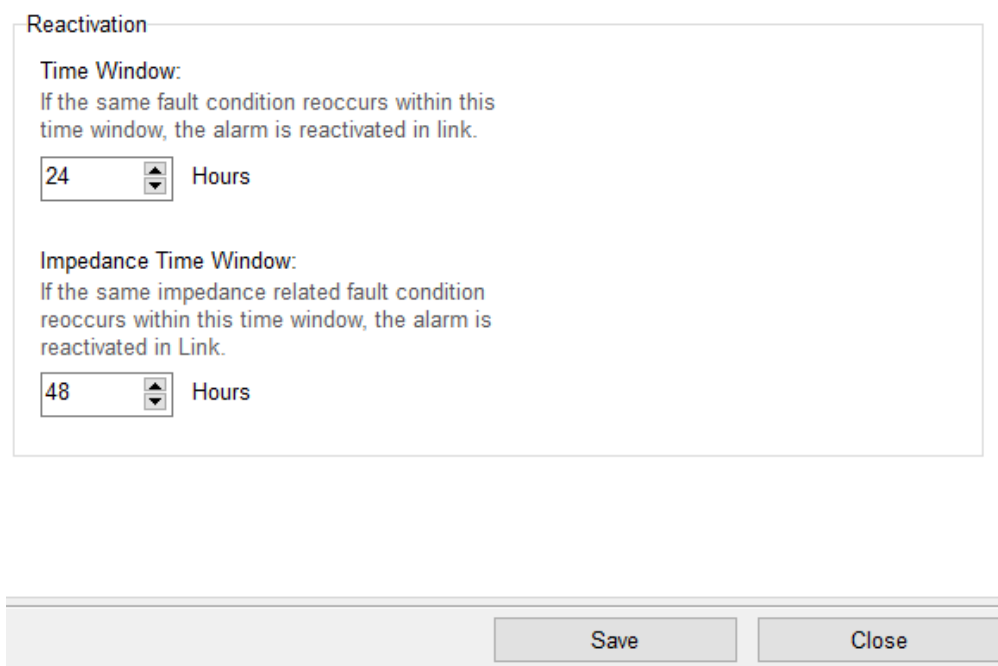
The screenshot shows the Link Admin Utility interface. On the left, a navigation menu lists 'Alarms', 'Email Settings', 'Reporting Service', 'Backup', 'Services', and 'Maintenance'. The 'Alarms' tab is selected. On the right, there are three sub-tabs: 'Emailing', 'Battery Alarms', and an unlabeled tab. The 'Battery Alarms' tab is active, displaying the 'Auto Clearing' section. The text in this section reads: 'Schedule: This is the schedule that Link uses to clear battery alarms from the monitor.'

3. Auto Clearing Schedule maybe edited with Hourly, Daily, Weekly options



This screenshot shows the 'Auto Clearing' section in detail. It includes the same explanatory text as the previous screenshot. Below the text, a dropdown menu is open, showing the following options: 'Hourly' (selected), 'Hourly', 'Daily', and 'ReWeekly'.

4. Time window for alarm reactivation maybe edited to reactivate alarm at faster or slower rate



The screenshot shows the 'Reactivation' section. It contains two settings, each with a descriptive text and a numeric input field with 'Hours' next to it. The first setting is 'Time Window', with the text 'If the same fault condition reoccurs within this time window, the alarm is reactivated in link.' and a value of '24'. The second setting is 'Impedance Time Window', with the text 'If the same impedance related fault condition reoccurs within this time window, the alarm is reactivated in Link.' and a value of '48'. At the bottom of the window, there are 'Save' and 'Close' buttons.

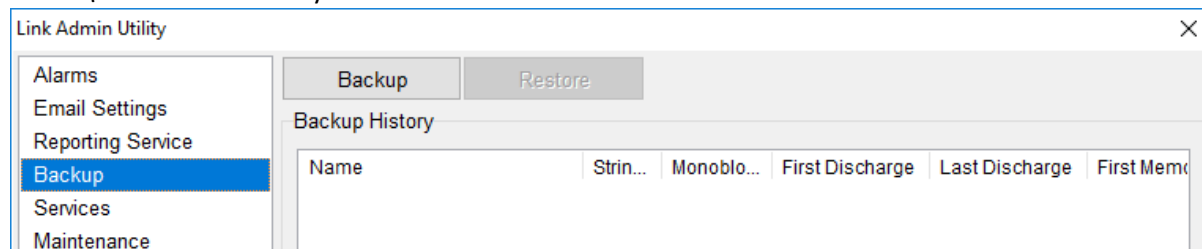
5. Click Save button to save changed settings. New settings will be applied after automatic service restart



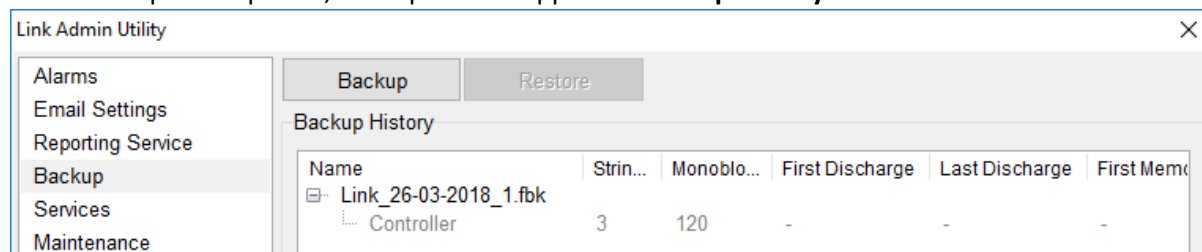
## Database Backup

1. Click on “Backup” tab in Link Admin Utility
2. Click on “Backup” button.

**Note:** Ensure Link.fdb database is located in *C:\Program Files (x86)\PowerShield\Link Server\Database* directory



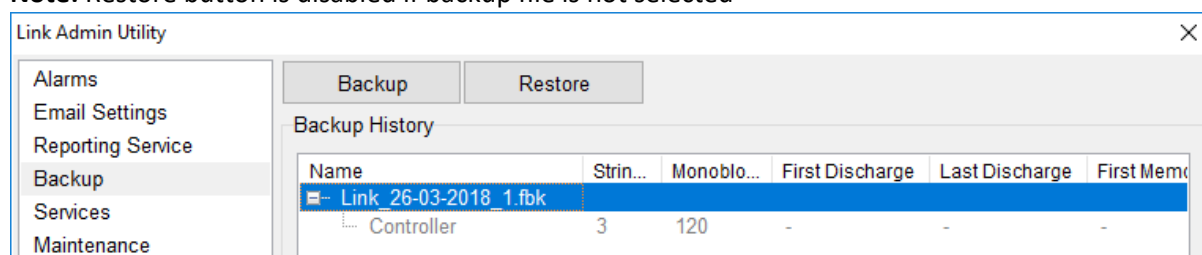
3. Once backup is completed, backup file will appear in **Backup History** screen



## Database Restore

1. Go to “Services” tab then **stop** all services (Detailed instruction on **stopping services** is listed in page 10)
  2. Rename Link.fdb to link test.fdb.
- Ensure** Link.fdb database is not located in *C:\Program Files (x86)\PowerShield\Link Server\Database* directory
3. Click on “Backup” tab in Link Admin Utility
  4. Select backup file then click “Restore” button.

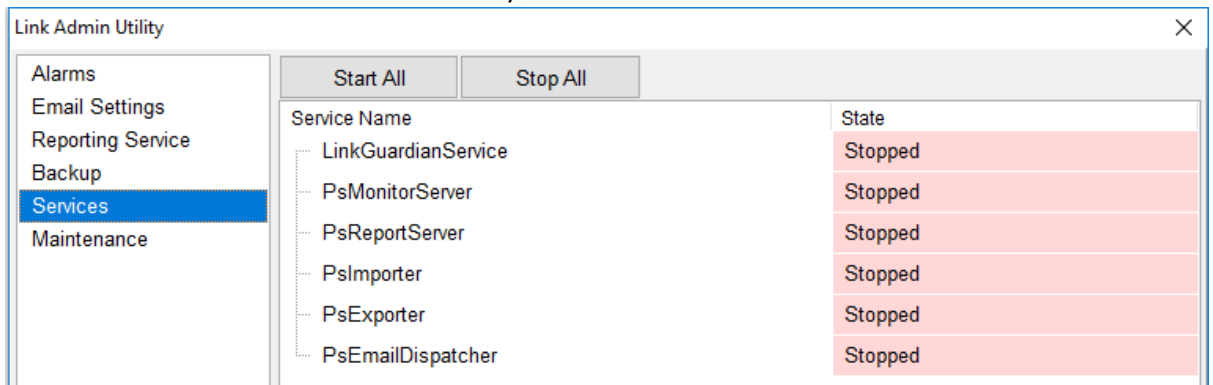
**Note:** Restore button is disabled if backup file is not selected



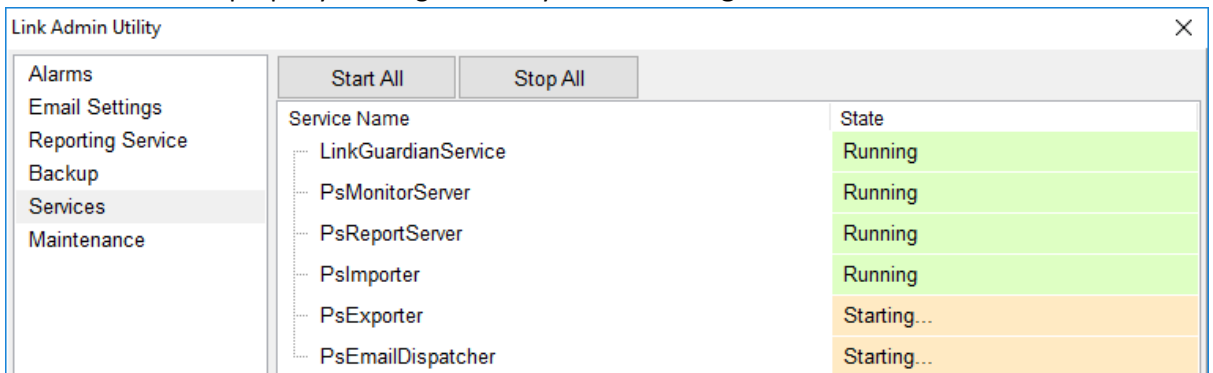
5. Once restore is completed, start all services then start Link
6. Link should be running with restored database

## Start/Stop Services

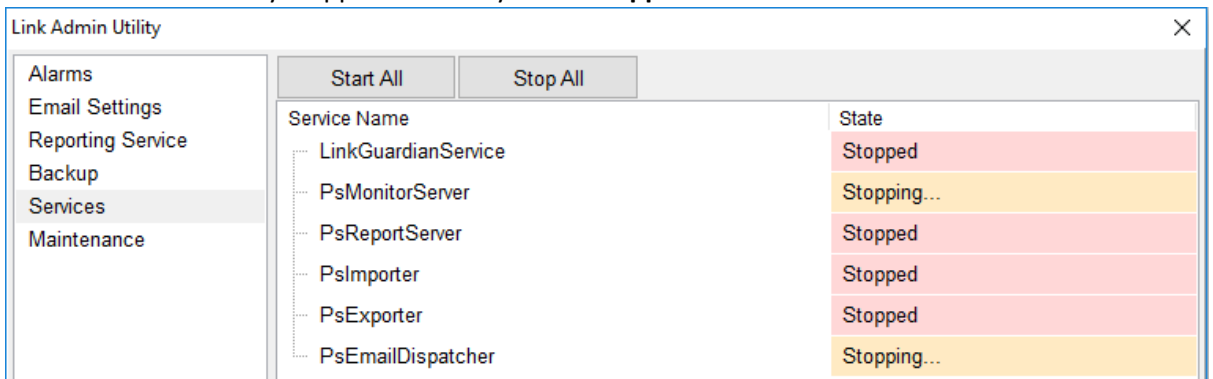
1. Click on “Services” tab in Link Admin Utility



2. When services are in **Stopped** state, click “Start All” button.  
State of service will be changed to **Starting...** then to **Running** state  
**Note:** Services are properly running once they are in **Running** state

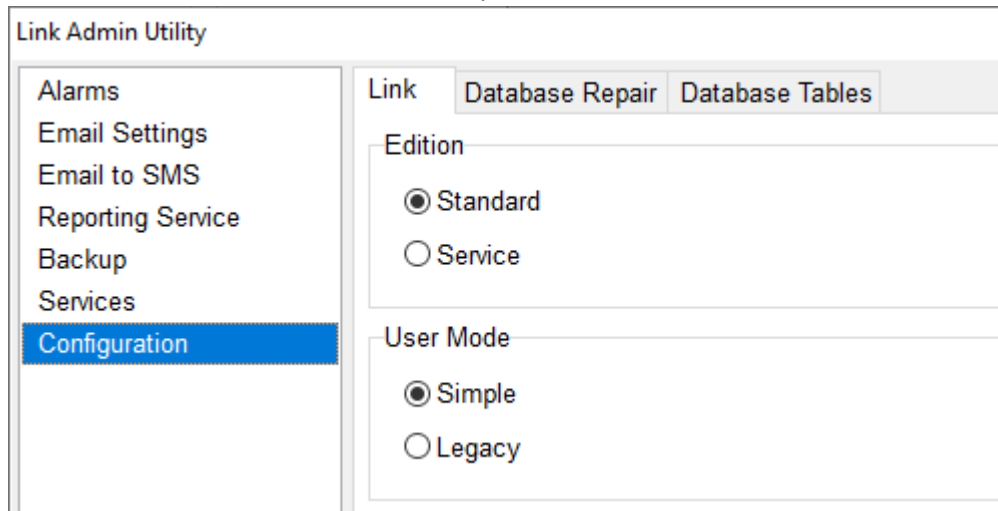


3. When services are in **Running** state, click “Stop All” button.  
State of service will be changed to **Stopping...** then to **Stopped** state  
**Note:** Services are fully stopped once they are in **Stopped** state



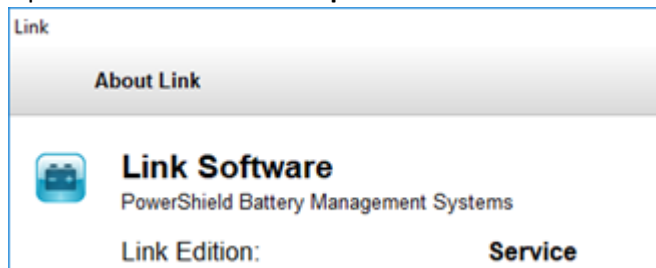
## Change Link to Service Edition

1. Click on “Configuration” tab
2. In the Edition box select the “Service” option



The screenshot shows the 'Link Admin Utility' interface. On the left is a navigation menu with 'Configuration' selected. The main area has three tabs: 'Link', 'Database Repair', and 'Database Tables'. Under the 'Link' tab, there are two sections: 'Edition' with radio buttons for 'Standard' (selected) and 'Service', and 'User Mode' with radio buttons for 'Simple' (selected) and 'Legacy'.

3. Click “Save” button. Changes will be applied once all service restarts
4. Open Link Client. Go to **Help-> About**. Link Edition should be displayed as **Service**



The screenshot shows the 'About Link' dialog box. It features the Link Software logo and the text 'Link Software' and 'PowerShield Battery Management Systems'. Below this, it displays 'Link Edition: Service'.

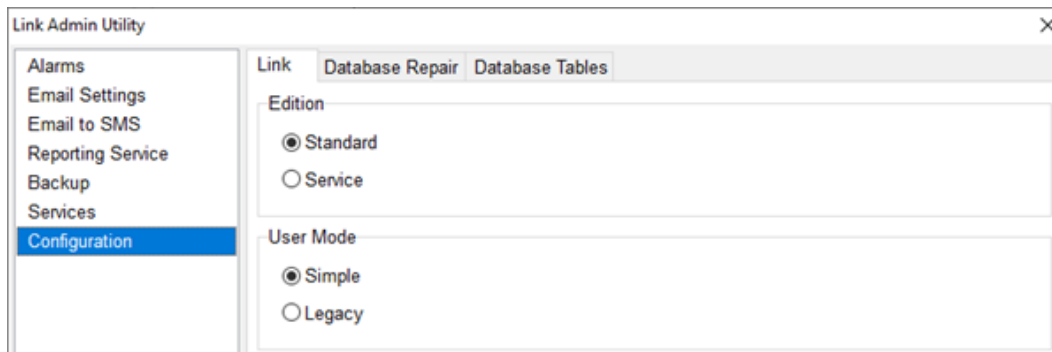
## Change Link to Standard Edition

1. Click on “Maintenance” tab in Link Admin Utility
2. On the Link tab, in the Edition box select the “Standard” option
3. Click “Save” button. Changes will be applied once all service restarts
4. Open Link Client. Go to **Help-> About**. Link Edition should be displayed as **Standard**

## Change Link User Mode

By default, Link is installed in Simple User Mode which means the Link Client automatically connects to the Link Server without the user needing to enter a username or password. If the facility/site requires basic security with Link, then enable Legacy User Mode.

Location of the User Mode setting is shown below.



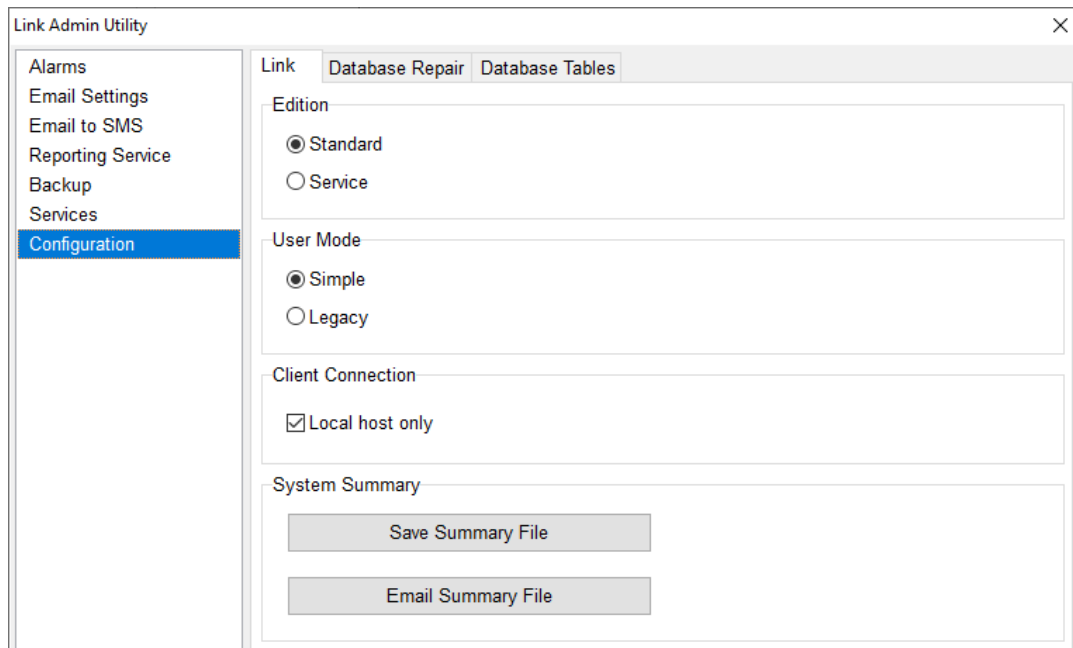
Change User Mode:

1. Close all Link Clients
2. Click on "Configuration" tab in Link Admin Utility
3. Select User Mode
4. Click on "Save"

## Save System Summary

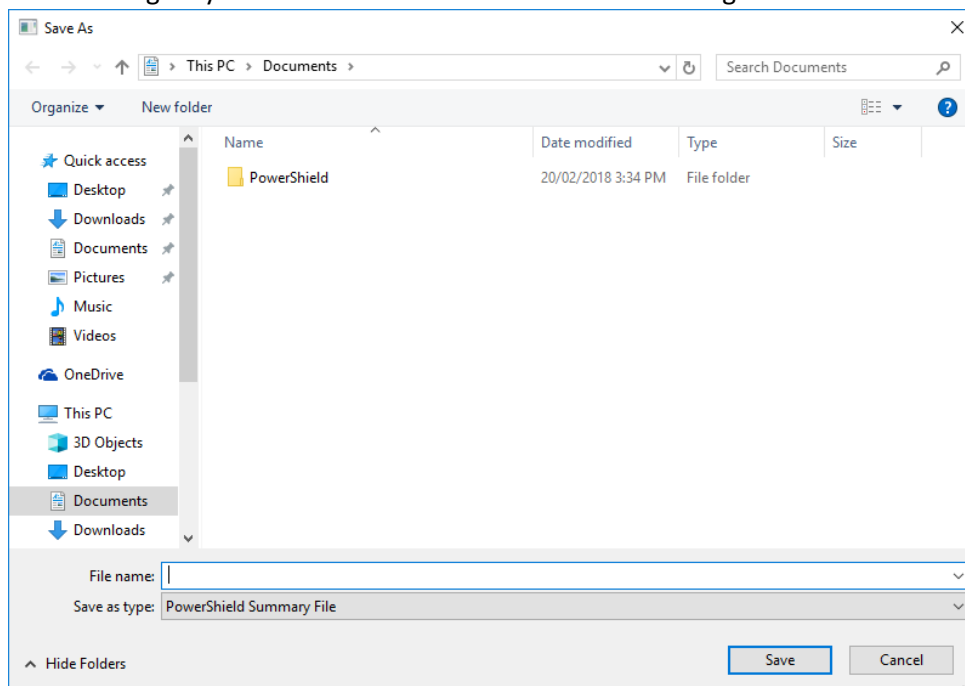
The System Summary file contains information about the computer and the Link configuration, the file is for Tech Support purposes only and maybe requested by a PowerShield partner or PowerShield.

1. Click on “Configuration” tab in Link Admin Utility
2. Click “Save Summary File” button



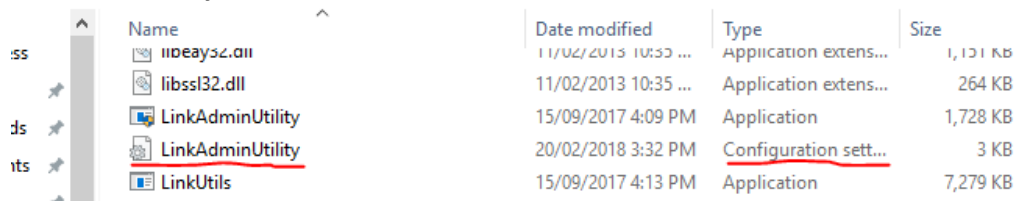
3. Choose **directory** to save summary file and enter in **filename** then click “Save” button .pws file will be generated in selected directory

**Note:** Saving may take several minutes if database size is large



## Email System Summary

1. Go to Link Server Directory (*C:\Program Files (x86)\PowerShield\Link Server*) and open **LinkAdminUtility.ini**

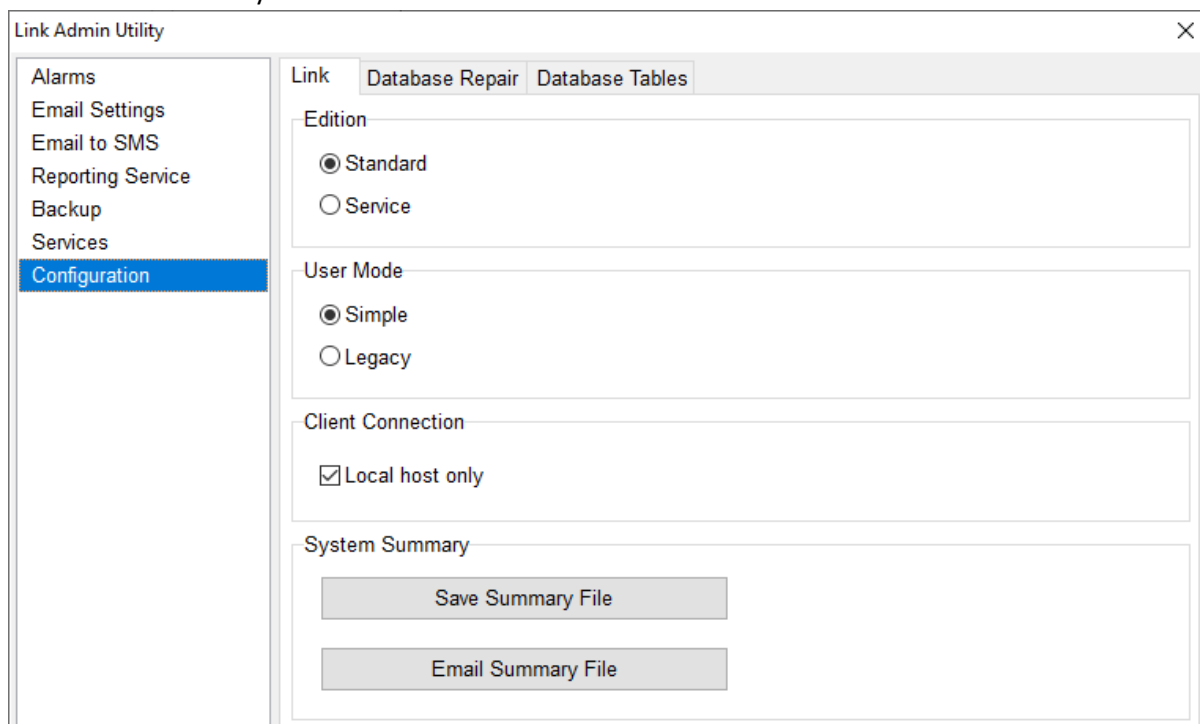


Name	Date modified	Type	Size
libeay32.dll	11/02/2013 10:32 ...	Application extens...	1,101 KB
libssl32.dll	11/02/2013 10:35 ...	Application extens...	264 KB
LinkAdminUtility	15/09/2017 4:09 PM	Application	1,728 KB
<u>LinkAdminUtility.ini</u>	20/02/2018 3:32 PM	<u>Configuration sett...</u>	3 KB
LinkUtils	15/09/2017 4:13 PM	Application	7,279 KB

2. Enter Email address to receive system summary file under Maintenance tab  
e.g. [Email=someone@gmail.com](mailto:someone@gmail.com)

```
[Maintenance]
Path=C:\Program Files (x86)\PowerShield\Link Server\Maintenance
DumpTables=1,27,28,12,13,14,15,16,29,55,77,74,75,78
Logs=C:\Program Files (x86)\PowerShield\Link Server\LOG
Email=email service
Gfix=C:\Program Files\Firebird\Firebird_2_5\gfix.exe
```

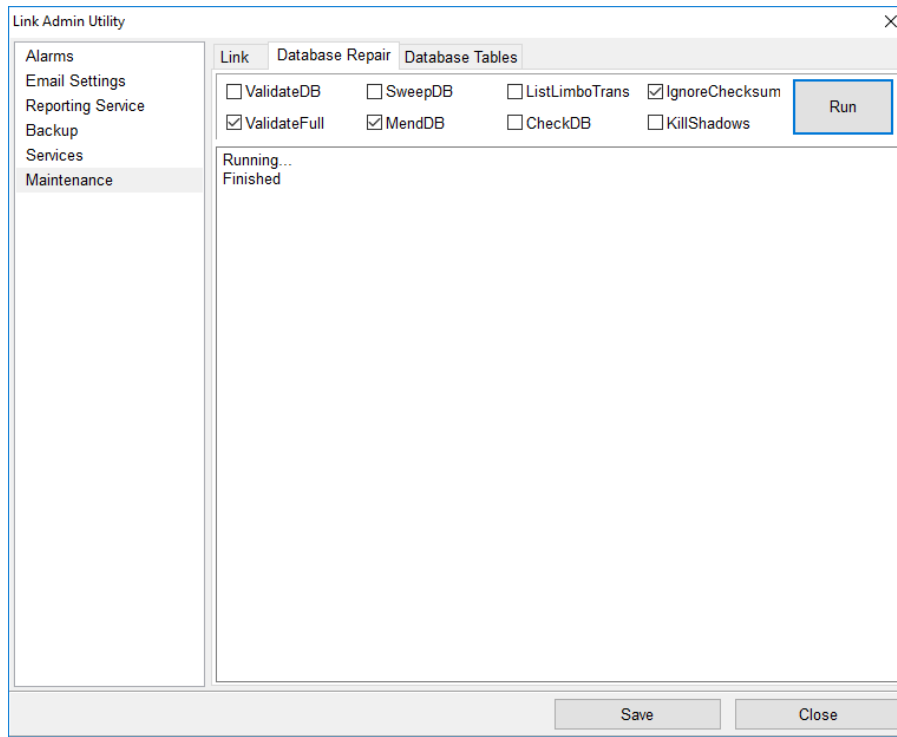
3. Open LinkAdminUtility.exe file and click “Configuration” tab
4. Click “Email Summary File” button



5. Email should be sent to email address listed in Step 2

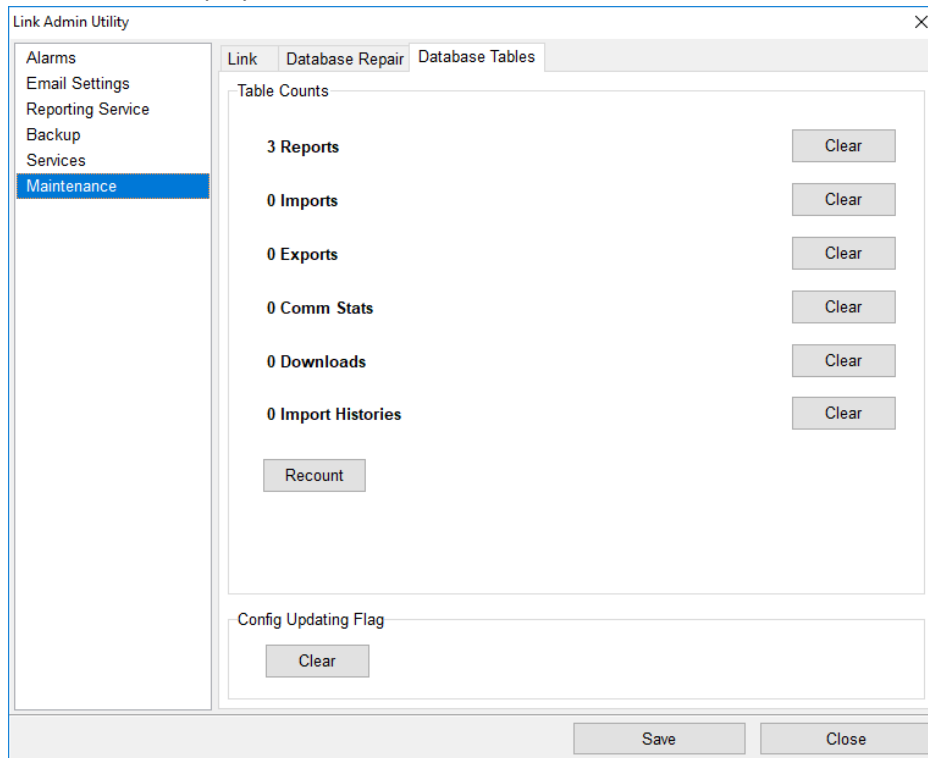
## Database Repair

1. Click "Database Repair" tab in "Maintenance" Screen
2. Click "Run" button
3. If there are any errors in database, it will be fixed



## Database Tables

1. Click "Database Tables" tab in "Maintenance" Screen
2. Table Counts displays number of entries in database table



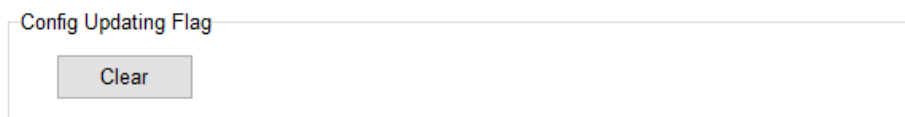
3. Click "Clear" button to remove certain types of entries in database table



4. Click "Recount" button to reload entry counts in database table



5. Click "Clear" button to clear "Config Updating Flag"





## Link Remote Client Setup

For installations that require Link Clients on other computer(s), the Link Server must be enabled to allow client connections other than local only. This scenario also requires the user mode to be “Legacy” as the Link Client(s) need to be configured to connect with the Link Server.

1. Close all Link Clients
2. Go to the ‘Configuration’ tabs

Link Admin Utility

Alarms  
Email Settings  
Email to SMS  
Reporting Service  
Backup  
Services  
Configuration

Link Database Repair Database Tables

Edition

Standard  
 Service

User Mode

Simple  
 Legacy

Client Connection

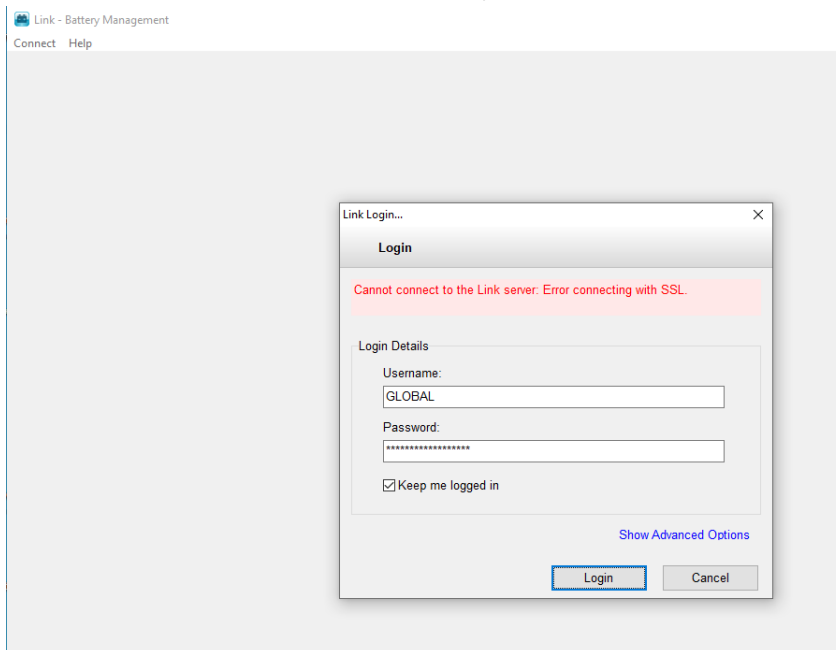
Local host only

3. Set User Mode to “Legacy”
4. Untick “Local host only” under “Client Connection”
5. Click “Save”, changes will be actioned once all services have restarted
6. Modify Windows Firewall to allow incoming connections on TCP port 14000 (see Microsoft Windows Firewall documentation)

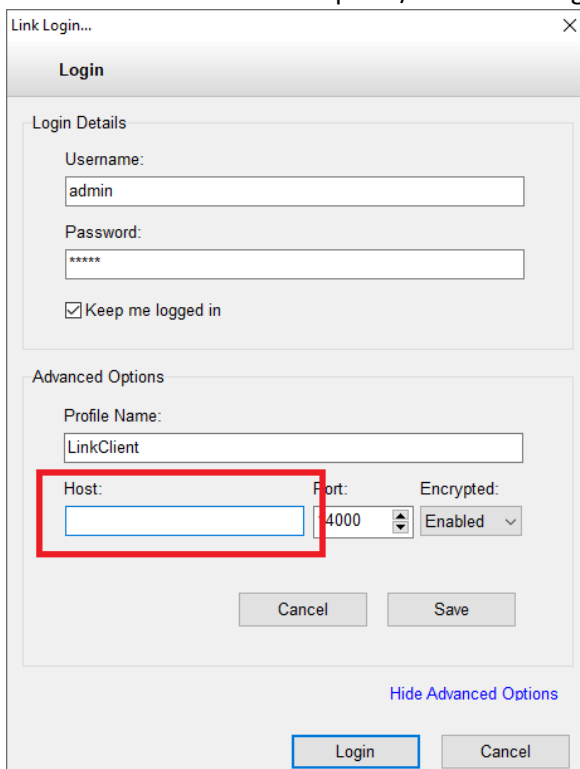
To setup a computer to use Link Client only, run the Link Setup and select Link Client only installation. By default Link Client is configured to connect to localhost and the following steps outline how to configure Link Client to connect to Link Server on a different computer.

## Configuring a remote Link Client

1. Run Link Client and it will fail to connect, see below



2. Change the "Username" to *admin* and the "Password" to *ADMIN*. Then Click on "Show Advanced Options" and click "Edit", then set the "Host" IP address. This is the IP address of the computer/server running the Link Server software



3. Click "Save" and "Login"