

PC Software operating Manual

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1. About the Application.

Smart Scan web-based application is designed to enable the user monitor the system data loggers from central location. User can access the Application in local LAN from web browser. The data is automatically pushed to application via Ethernet or Serial communication. User can view the retrieved data in Tabular & Graphical format, can print the Graphs directly on the printer, and can export the data in PDF, MS Excel or CSV format. Using this software, user can perform following functions on the retrieved data:

- View data in Numerical Tabular format
- View graph of the selected date & Time
- Print graph for selected period
- Edit the Logger settings

2. Hardware and software requirement.

The Centralized PC is main Work Station in this complete system. This machine should have minimum following specifications:

- Intel core i5 or i7 Processor
- Windows 10 and above.
- Minimum 8 GB RAM
- Minimum 1 TB Hard Disk
- Suitable TFT Display, Keyboard, Mouse
- Industrial grade SMPS for 24x7 operation
- Suitable UPS (Optional)

OR

Server grade machine with minimum above-mentioned specifications

This software works satisfactorily with chrome web browser on any operating.

3. Software Installation Procedure

Connect the provided pen drive in the PC or download the software version from the link which will provided on the mail.

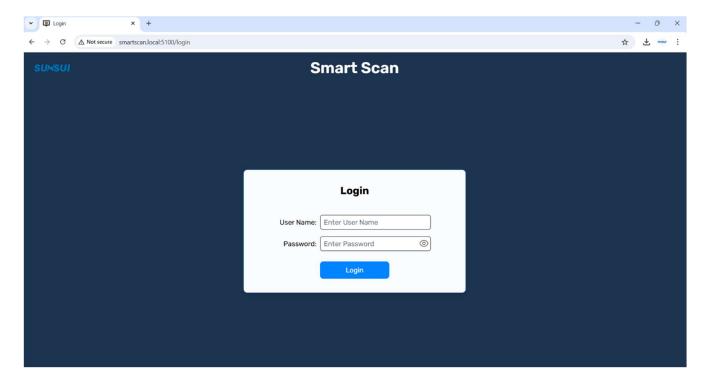
- 1) Install the software version by double click on it.
- 2) After installation completed shortcut automatically created on the desktop
- 3) copy the license file in C/program files (X86)/Smartscan folder.

4. Operational Procedure

All the loggers are connected to Smart Scan-SE software over Ethernet. To access the application use web address provided by the installation team during installation.

4.1 User Login

Login screen will appear when user browses the application through web as below.



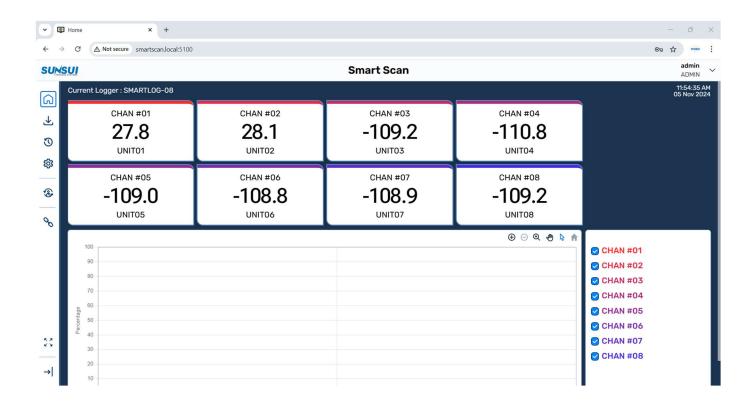
User need to enter valid username & password to access application. Based on user privileges/permissions access will be provided to loggers and the features. The user will not be able to login under following conditions.

- Invalid User Name or Password
- User is deactivated.
- Password is expired.

When user login first time then it will ask to change the password. So user can change the password.

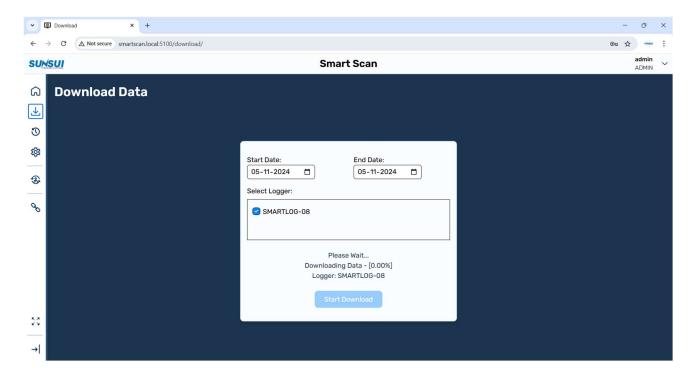
4.2 Home Screen / Dashboard

Once logged in user will be navigated to Home page. To view data for any logger user have select the Logger. Dropdown box will be visible as below. User can able to access the loggers for which he/she has the access. User can view the live readings and live graph under this view.



4.3 Download

User can download the data stored inside the data logger through this mode. User has to select the correct date for which the logging has occurred and data is present as well as select the logger. User can download data for multiple days by selecting the start date & end date. After selecting the start date and end date click on the "start download". The download progress shown in percentage and "success" message will show after download completed.

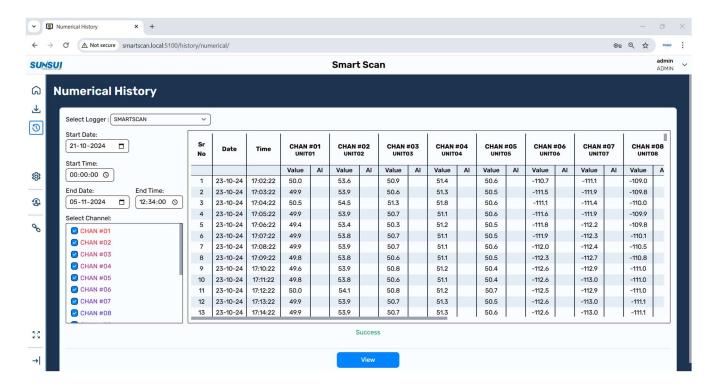


4.4 History

User can view all the historical data in history mode. History mode offers methods to view the data in either graphical or Numerical format. Also, user can generate reports through this mode.

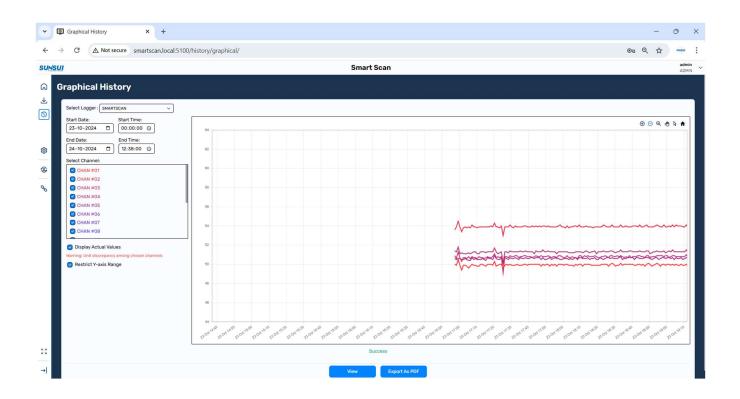
4.4.1 Numerical History

To access Numeric history view, Expand History Menu and Click on Numeric history tab. In numerical format, user can view the data for the selected Logger for selected date in tabular format. User can view the Process value and alarm condition with respect to date and time. Select the logger, enter start date & time and end date & time and click on "view"



4.4.2 Graphical History

To access Plain Graph view, Expand History Menu and Click on Graphical History tab. In graphical format, user can view the data for Selected Logger in the form of Trend on a standard plain graph. Select start and end date time and click on view to generate graphical report. Graphical report is representation of process values Vs Time. Graphical View mode facilitates the user to analyze the data more deeply. User can save the Graph in PDF by clicking on "Export As PDF".



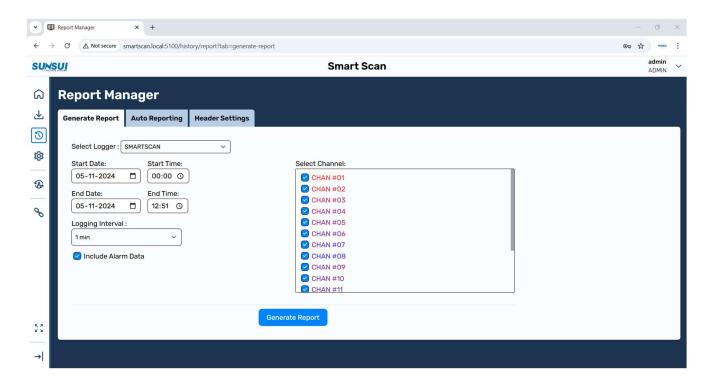
4.4.3 Report Manager

User can generate a report of the selected Logger for selected date and time in the PDF, Excel or CSV format. Also, user can do the auto reporting setting and Header setting of each logger.

4.4.3.1 Generate Report

User can generate the report by selecting the start and end date & time for the selected logger and channels. User can change the log interval while generating the report.

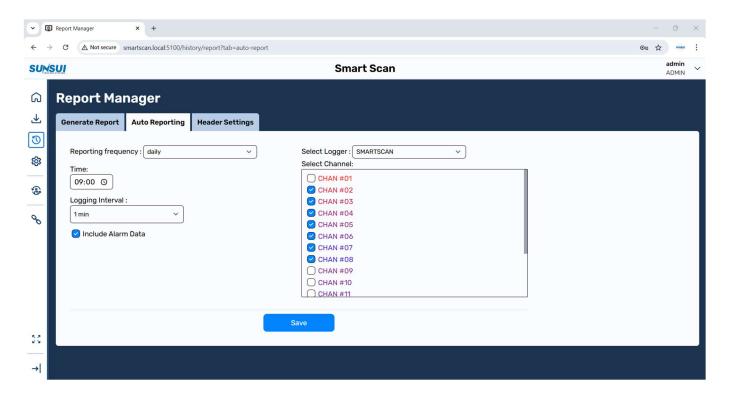
After above selections click on the "Generate Report" so report will be downloaded in the download folder of the PC.



4.4.3.2 Auto Reporting

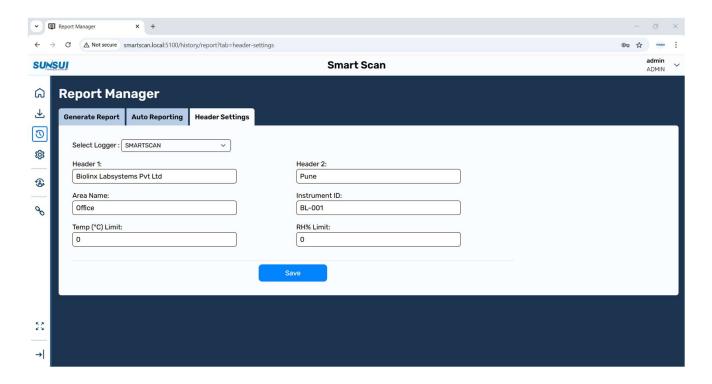
Report will be automatically generated after specific interval. User directly get the PDF file. In this auto reporting user need to select the reporting frequency i.e Daily, weekly or monthly. After that select the time that when user want the report i.e daily 09:00 am. Select the logging interval as well channels for generated report. After all above selection click on the "save".

The auto reports will generate on the software installed PC only. On the Web user need to generate the report.



4.4.3.3 Header Setting

User can set the headers of the generated reports. First select the logger, in header 1 & 2 user can add company name and address. User can set Area name and Instrument ID of the selected logger. Also, user can add the Temperature and Humidity limits. After all above selection click on the "save".



4.5 Settings

Through the Settings Mode, user can configure and can calibrate the data logger. Initially, when the communication between the PC software and the data logger is established, the PC software reads all the settings from the logger. These settings can be altered through the settings mode.

There are two types of setting model

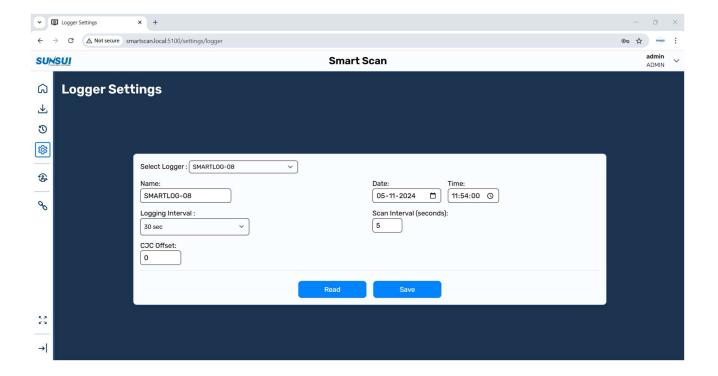
- Logger setting
- Channel setting

4.5.1 Logger Setting

Through the logger setting user can change the logger's name, log interval, date & time and scan interval.

Log Interval- Log interval means the interval between two numerical records. In dropdown list there are some prespecified intervals like 1s, 5s, 15s, 30s, 1min, 5min, 10min, 15min, 30min, 1Hr & 2 Hr. The data will be records as per these log intervals.

When user press the "Read" then software read all the logger setting from the logger and when user press "Save" then all the logger setting saved in the logger from software.



4.5.2 Channel Setting

User can read or write the channel configuration from logger or to logger. User need to select the logger before making any configurations. Channel setting has 7 different configurations available as below,

- Channel settings
- Calibration setting
- Alarm Setting
- Relay Setting
- Graph Setting

4.5.2.1 Channel Setting

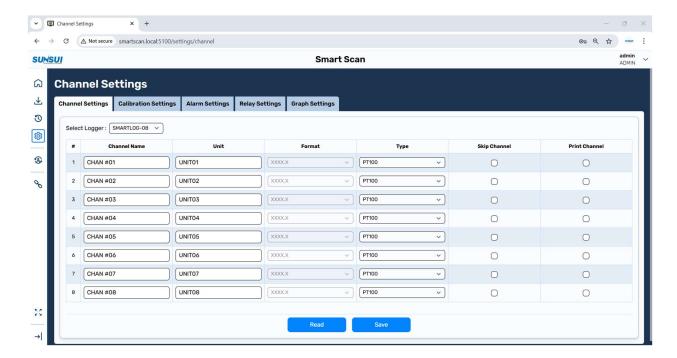
Select the desired logger before changes. User can set the below parameters from the channel setting. When you press the "Save" all setting will be applied in the selected data logger.

Channel name: user can give the channel name as per the requirement. Maximum character limit is 8.

Unit: User can give the unit's name as per the sensor connected to channel. i.e °C, Deg C, Bar, psi etc. Maximum character limit is 6.

Format: Format is nothing but the decimal point position. User can change the format as per the requirement. For PT100 format is fixed.

Type: user need to set the type of sensor which is actually connected to logger. There are some pre settable types- PT100, Th-J, Th-K, Th-R, Th-S, 0-20mA, 4-20mA, 0-250mV, 0-500mV, 0-1V, 0-2V, 0-5V, 0-10V



4.5.2.2 Calibration Setting

Select the desired logger before changes. Connected sensor range is set from this setting. Below parameters will be set from this setting.

Low value - Sensor low value.

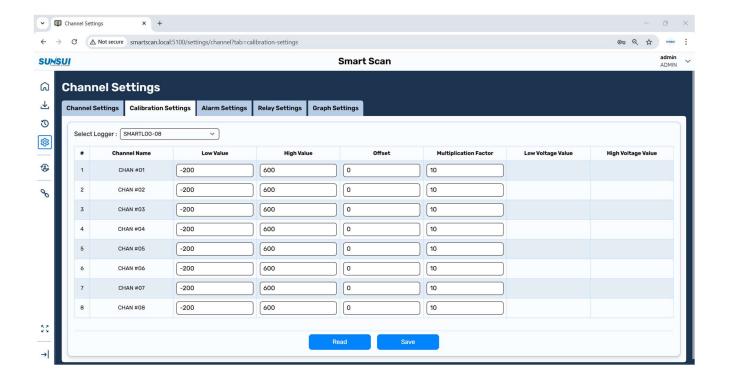
High value - Sensor high value.

Offset-value correction as per the standard.

Multiplication Factor – Multiply the current value. It should be always 1.

In case of Voltage channel type, High Volt Range and Low Volt Range settings are provided.

For Channel Type: 0-250mV, Voltage Range is 0-250 mV For Channel Type: 0-500mV, Voltage Range is 0-500 mV For Channel Type: 0-1V, Voltage Range is 0-1000 mV For Channel Type: 0-2V, Voltage Range is 0.0-2.0 V



4.5.2.3 Alarm Setting

Select the desired logger before changes. Alarm can be set through this setting to each individual channel. Alarm setting included following parameters.

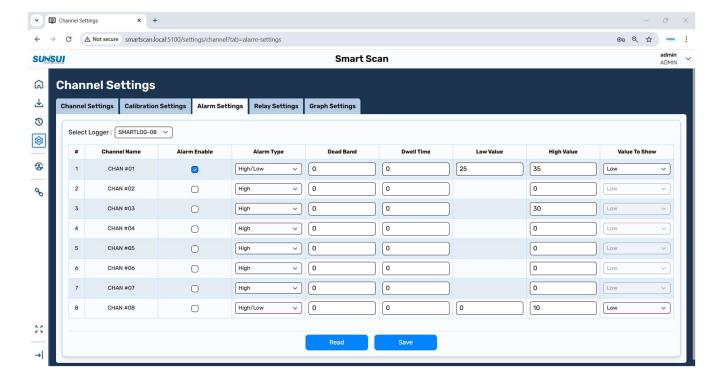
Alarm Enable: For each channel user need to enable the alarm.

Alarm Type: There are three alarm types- High, Low & High/low

Dead Band: Range from 0.0 to 5.0

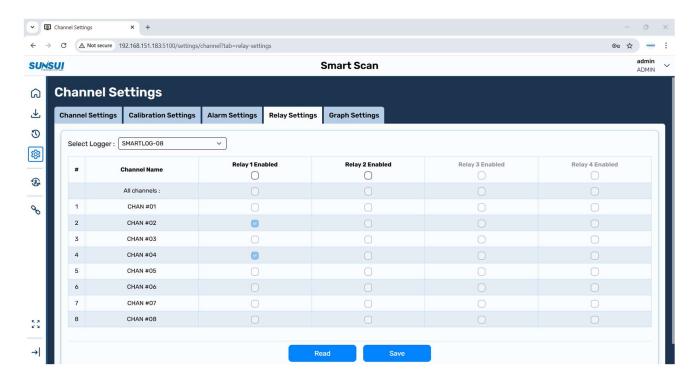
Dwell Time: Range from 0 second to 999 seconds

Alarm Low value and high value.



4.5.2.4 Relay Setting

Select the desired logger before changes. User can assign the two relays through Relay Settings. Each relay can be assigned to multiple channels i.e. the relay will be Turned ON if any of the assigned channel limit crosses the set point value. After setting click on the "save".

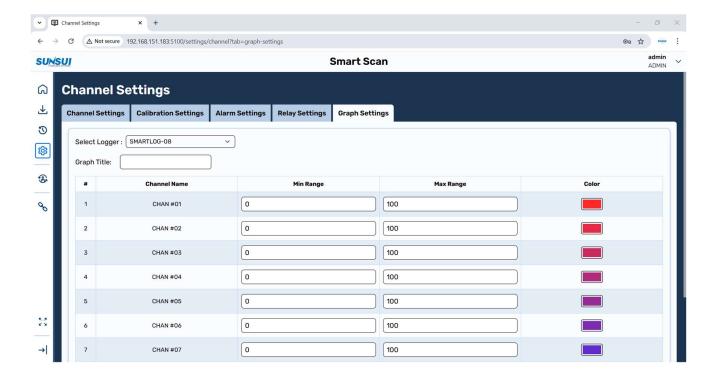


4.5.2.5 Graph Setting

Select the desired logger before changes. Graph settings include some settings for all channels as follows,

- Min range
- Max Range
- Plotting Color
- Graph Title

Graph title also can set from here. This setting is common for Runtime Graph Plotting and History Mode Graph.



4.6 Administration

Under administration section user who have necessary access rights can add new user groups, new users, application privileges and Logger privileges. All the users can use change password menu to update his/her existing password.

4.6.1 Administrator Right

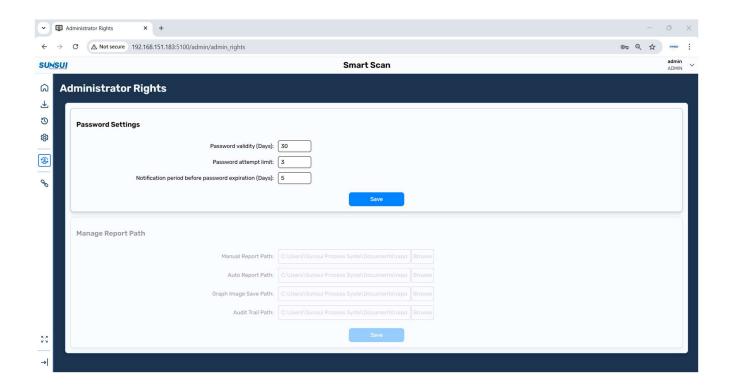
Administrator right contains two options 1) password setting 2) Manage report path. Password setting includes;

Password validity (Days)— Every user has some expiry days for their password. This limit can be set here.

Password attempt limit— This setting is used for protect unauthorized login to the application. If user tries to login in the application for wrong user name or password, user will get blocked post number of attempts number set here.

Notice period before password expiration (Days)— Using this setting application will warn currently logged in user about user's password expiry date. For Ex. If 5 days set and password validity is 90 days then after 84 days message will popup that user password will expire in 5 days.

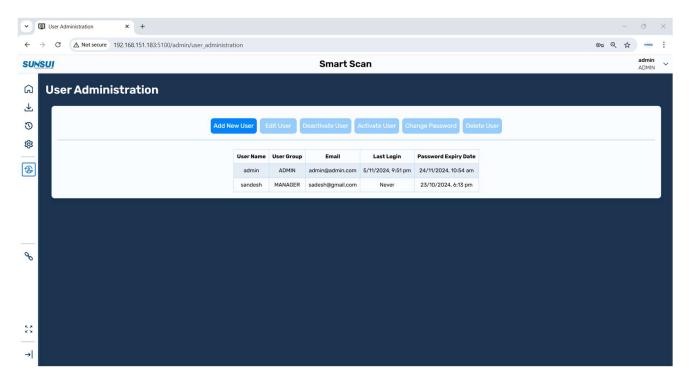
Manage report path—generated report like manual report, auto reports, graph reports & audit trail paths will be managed in this option.



4.6.2 User Administration

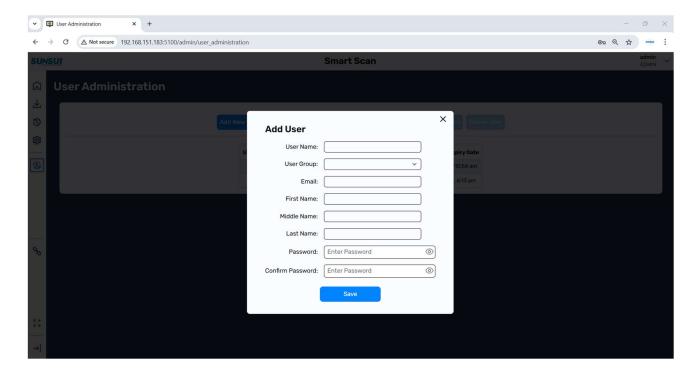
This section gives you details for all the users with their group details and password expiration dates. In this section the user with access rights can execute following actions.

- Add New User
- Edit User
- Deactivate user
- Activate User
- Change password
- Delete user



To add new user, click on Add New User button. Every new user added should have unique user name and always in lower case. Following are required field to add new user.

- User name
- User Group
- User Email ID
- First name, Middle name & Last Name
- Password & Confirm password—password should contain one upper case, one lower case, one special character and one number. Password character limit is 8 to 16 character.



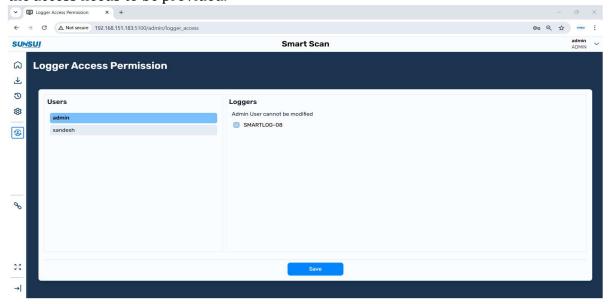
To edit user, select the user and click on edit user button. User can edit all the parameters except User name which are mentioned in add new user case.

To deactivate the user, select the user and click on the "deactivate user" button.

To delete user, click on delete user button.

4.6.3 Logger Access

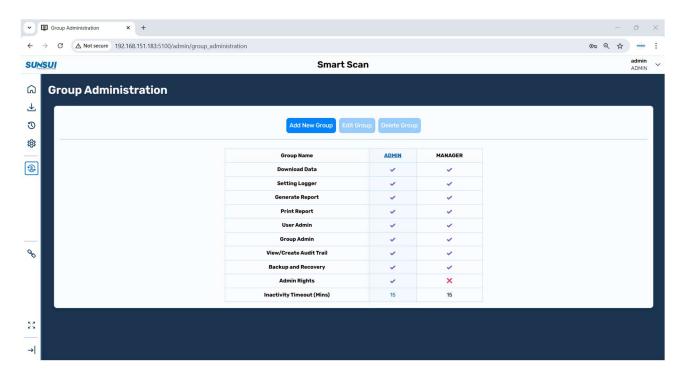
As this is central monitoring application all the data loggers in the plan will be connected central application. User can set access to specific Logger in the menu. To provide the access privileges to logger selected the user's name and the check the boxes for the logger for which the access needs to be provided.



4.6.4 Group Administration

User with necessary access rights can create multiple groups as needed. Every group name shall be unique. In this section the user with access rights can execute following actions.

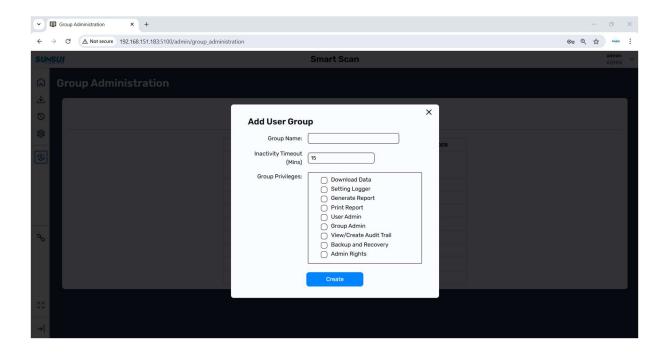
- Add New Group
- Edit Group
- Delete Group



To create new group, click on the add new group and enter the group name.

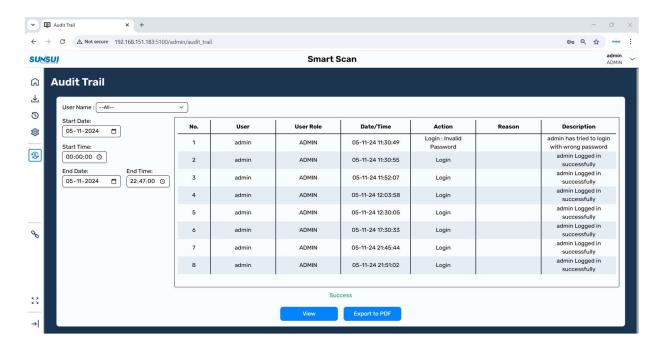
In activity timeout (Mins)-- This is time in minute post which user will be automatically logged out in case inactivity.

Group Privileges-- In this section user can selected the application privileges for the user group. Selected privileges will be applied to all the users in the group. To provide necessary access rights select the Group name and check or select the functionalities for which access to be provided. Uncheck or deselect the functionalities for which access need to be removed.



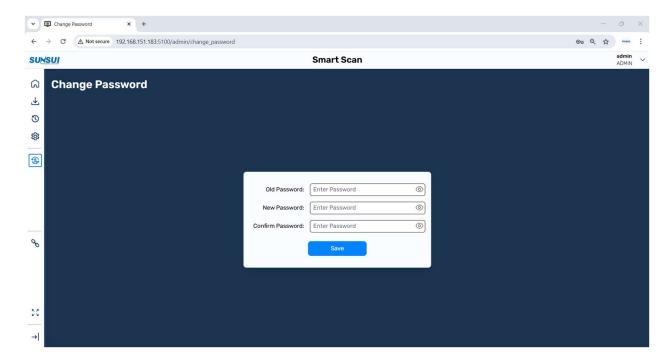
4.6.5 Audit Trail

This application is 21 CFR compliant. Application keeps record for all the details starting from login till logout. User need to provide the reason for making any changes in setting or report generation. Audit report shows the changes along with user who made the changes and reason for change. Audit report also keeps track of changed value and old value for setting. User can export the audit report in PDF format. Existing reports can be found under Open Report Folder. User need to select the start and end date & time.



4.6.6 Change Password

In this section every user can change the password before expiring it. To change the password user, need to enter the old password first.



4.7 Communication

In this section the setting will be done to communicate the loggers to software.

There are two types of communication modes

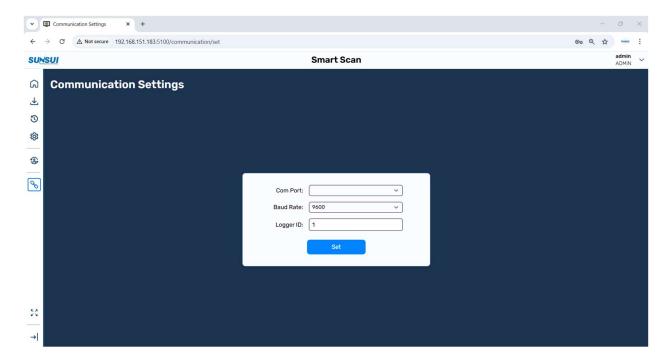
Serial communication:

In this user need to set the following parameters.

Com port – comport will be appear when the any serial to USB converter connected to the PC or by default COM1 is serial port is available.

Baud Rate—serial baud rate in the data logger and software should be same.

Logger ID—Logger ID in the logger and software should be same.



Ethernet Communication

In this the data logger connected to ethernet gateway and data logger and software communication done through the gateway IP address. User need to

4.8 Backup & Restore

Admin / Authorized user can take back-up of all the data in database. To back- up the database click on Backup button and save the file in the selected folder in the PC. User can restore the backed-up data by clicking on restore button in below the backup data.

To restore the downloaded backup files, click on the restore menu and import the backup file from the desired folder.

