

TRIWAVE SYSTEMS

Akriveia Beacon

User Manual Administrator

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1. Joining Akriveia Network

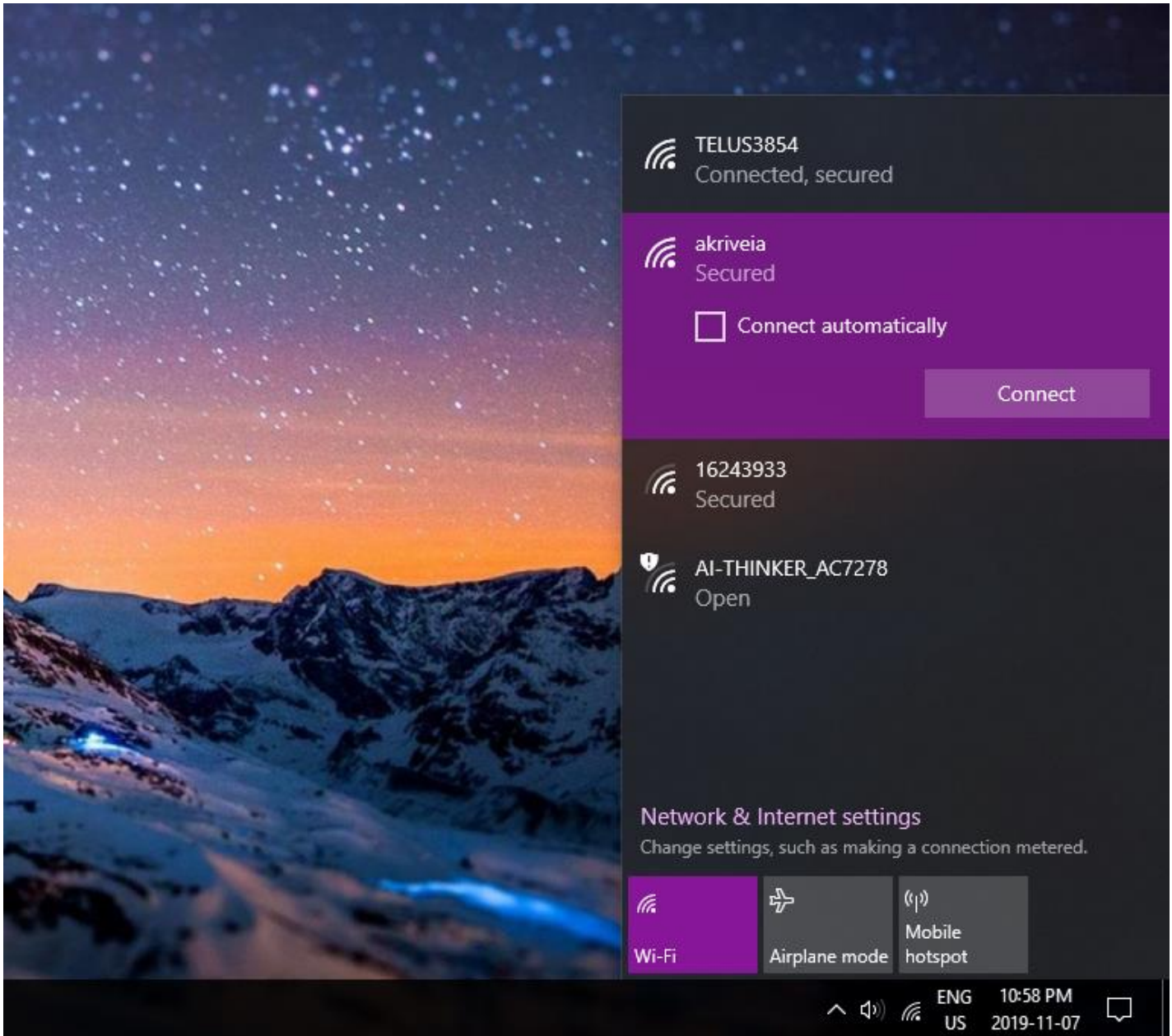


Figure 1: Joining Akriveia Access point

- 1) Connect Laptop or tablet device to Akriveia Access point (SSID: **akriveia**).



Figure 2: Default Akriveia Server IP & Port

- 2) Enter Server Host IP and port into web browser URL (Default IP: **10.0.0.2:8080**).



View Map

Status

LOGIN

FIRST RESPONDER

Start Tracking

End Tracking

View Map

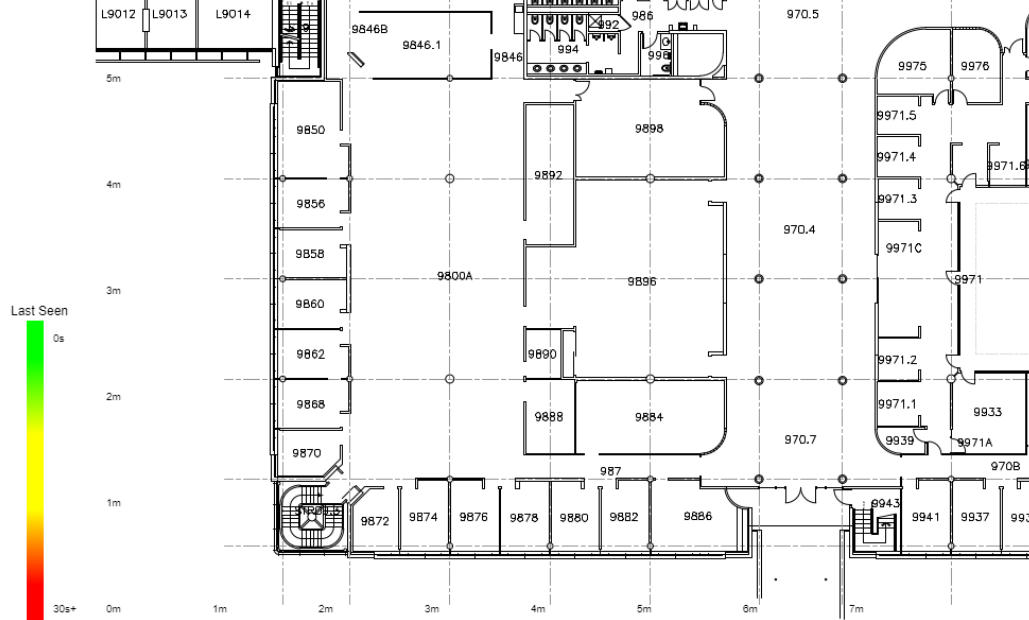
ASB-8000

ASB-9000

Show Gridlines

Legend

Tag



User Status

Address Name Last Seen

Figure 3: First Responder Map View

- 1) The First Responder map view will be shown similar to image above.

Last Seen Time Bar

Last Seen



- 1) Used to indicate last seen time.
- 2) Ranges from 0 to 30+ seconds.
- 3) The **greener** the icon the more recent the location.
- 4) The **redder** the icon the less recent the location.

Figure 4: Last Seen Time Bar

2. Administrator Configuration

2.1 Admin Login

A green rectangular button with the word "LOGIN" in white, uppercase letters.**FIRST RESPONDER**

Figure 5: Admin Login Button

- 1) Select **green Login** Button next to FIRST RESPONDER label

The logo for TriWave Systems, featuring the word "TRI" in black, a red stylized "A" with a white triangle inside, "WAVE" in black, and "SYSTEMS" in black below it.**LOGIN****CANCEL**

Figure 6: Admin Login Screen

- 2) Enter username and password (default user: **admin**, default password: **admin**).
- 3) Click the **Login** button to access administrator configurations pages.
- 4) Or click CANCEL to return to first responder views

2.2 Add Beacon

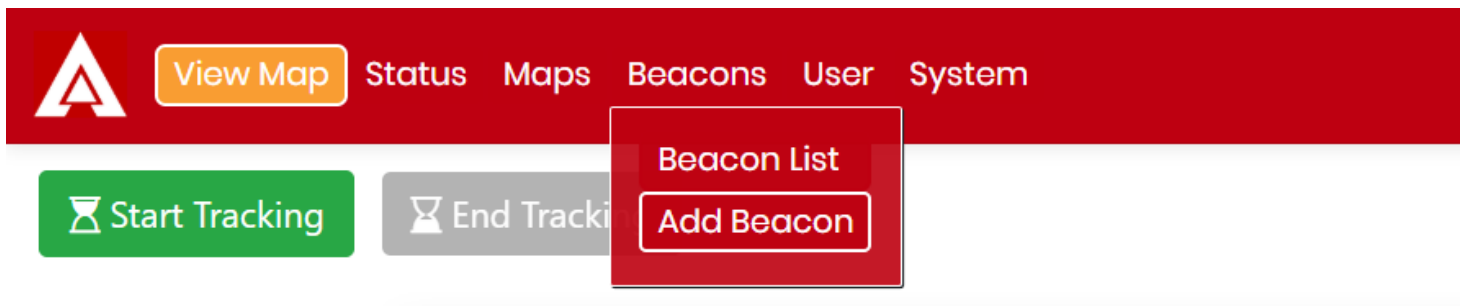


Figure 7: Add Beacon Dropdown Button

- 1) From top navigation bar select **Beacons** and select **Add Beacon** from dropdown menu

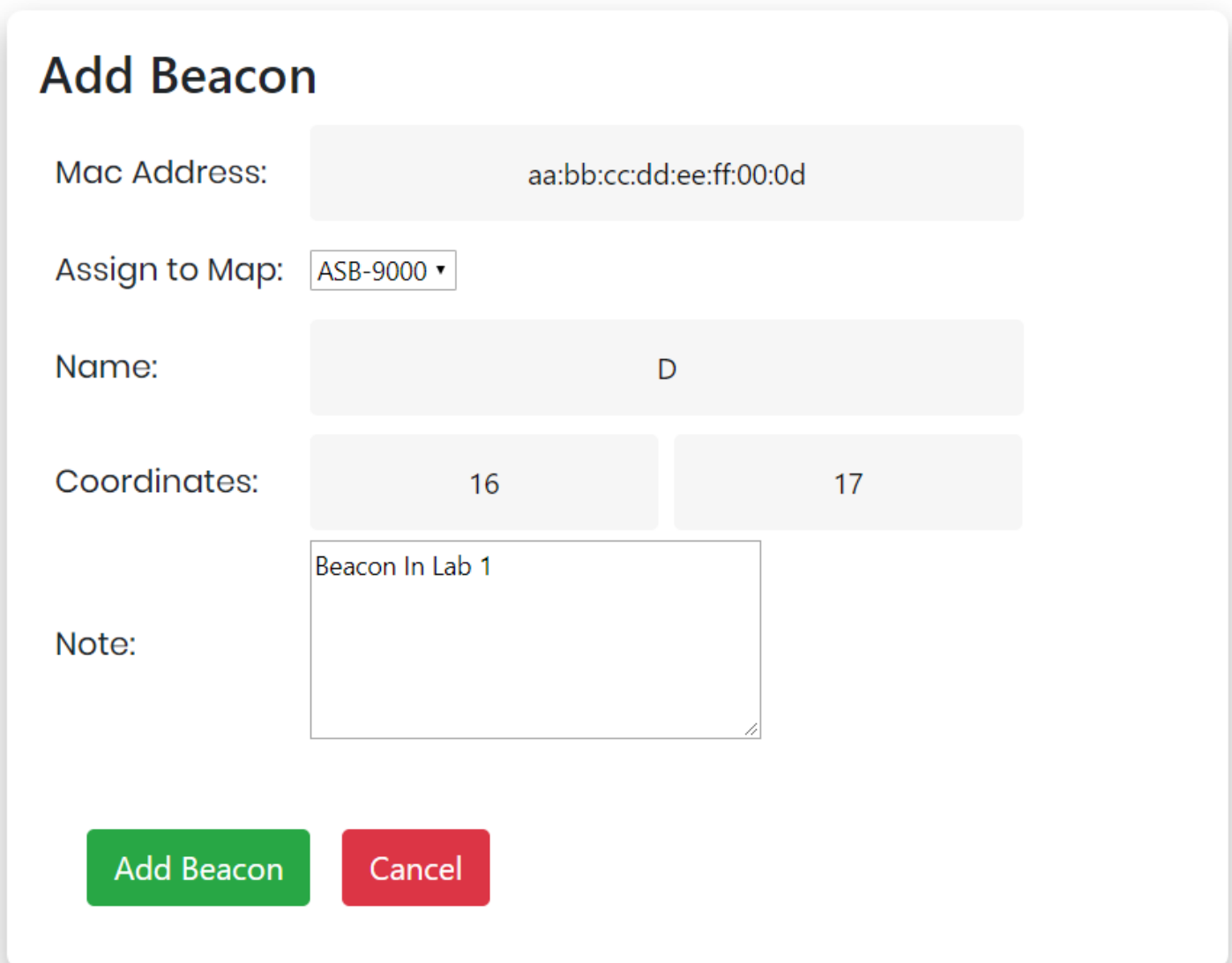
The image shows a white form titled 'Add Beacon' with a shadow. It contains several input fields: 'Mac Address' with the value 'aa:bb:cc:dd:ee:ff:00:0d', 'Assign to Map' with a dropdown menu showing 'ASB-9000', 'Name' with the value 'D', and 'Coordinates' with two input boxes containing '16' and '17'. Below these is a text area for 'Note' containing the text 'Beacon In Lab 1'. At the bottom of the form are two buttons: a green 'Add Beacon' button and a red 'Cancel' button.

Figure 8: Add Beacon Form

- 2) Fill in information such as **MAC address**, **floor**, **name** and any additional **notes** related to beacon configuration.
- 3) Click **Add Beacon** button to add beacons to list of existing beacons

Beacon Fields	Description
Mac Address	Required. The unique Mac Address of the beacon. Address must be a valid hexadecimal encoded 8 byte address in the form 00:00:00:00:00:00:00:00.
Floor Name	Required. Choose the floor the beacon will be located on.
Name	Required. The name of the beacon. This string must be unique across all beacons.
Coordinates	Required. The coordinates of the beacon, relative to the location <0, 0> (bottom left corner) on the chosen map, in meters.
Notes	Optional Notes for Emergency Responders to view during an emergency.

Beacon List

ADD BEACON

Mac	Coordinates	Floor	Name	Note	Actions
aa:bb:cc:dd:ee:ff:00:0d	4.7,2.16	ASB-9000	D	Beacon near Lab1	Edit Delete Ping Reboot
aa:bb:cc:dd:ee:ff:00:0a	3,2.21	ASB-9000	a		Edit Delete Ping Reboot
aa:bb:cc:dd:ee:ff:00:0b	4.72,3.11	ASB-9000	b		Edit Delete Ping Reboot
aa:bb:cc:dd:ee:ff:00:0c	3.02,3.99	ASB-9000	c		Edit Delete Ping Reboot

Figure 9: Updated Beacon List

- 4) New beacon added will appear under list of beacons (Top Navigation Bar->Beacons).
- 5) To add more beacons, select the **Add Beacon** button

2.3 Add User

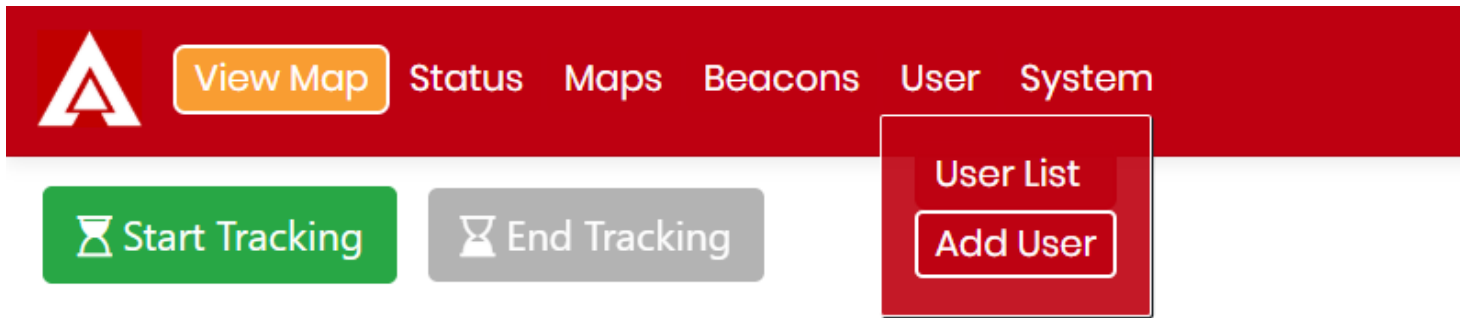


Figure 10: Add User Dropdown Button

- 1) From top navigation bar mouse over **User** and select **Add User** from drop down menu.

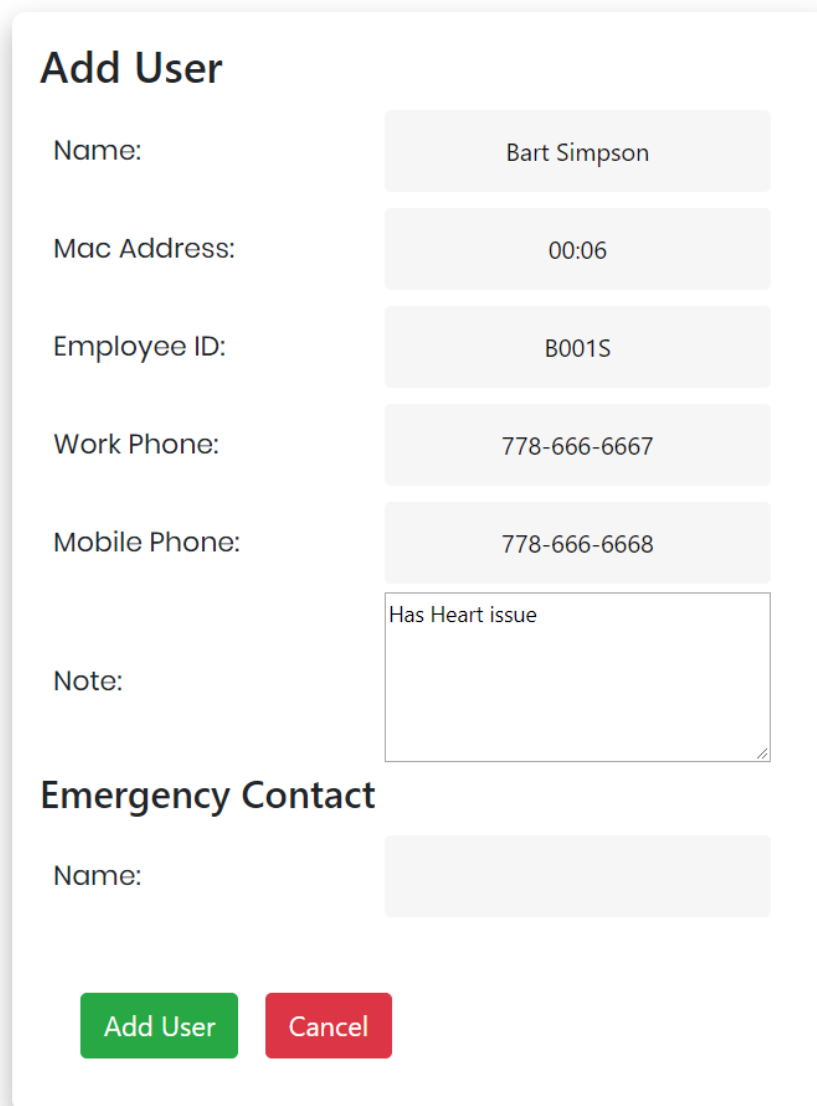
The image shows a 'Add User' form. At the top, the title 'Add User' is in bold. Below it are several input fields with labels to their left: 'Name:' with the value 'Bart Simpson', 'Mac Address:' with '00:06', 'Employee ID:' with 'B001S', 'Work Phone:' with '778-666-6667', and 'Mobile Phone:' with '778-666-6668'. Below these is a 'Note:' label followed by a text area containing 'Has Heart issue'. Underneath the note is a section titled 'Emergency Contact' in bold. Below this title is a 'Name:' label and an empty input field. At the bottom of the form are two buttons: a green 'Add User' button and a red 'Cancel' button.

Figure 11: Add User Form

- 2) In add user page, fill in information such as user name, MAC, employee ID, phone numbers, notes.
- 3) While optional, it is highly recommended to add an emergency contact for the user.
- 4) To edit the emergency contact, type into the contacts name and the associated fields
- 5) Click the **Add User** button to add user to list of existing users.

User Fields	Description
Name	Required. The name of the employee.
Mac Address	Required. The unique address of the ID Tag the employee will be wearing. The address must be a valid hexadecimal encoded 2 byte address of the form 00:00,
Employee ID	Optional. The internal company id of the employee if applicable.
Work Phone	Required. The phone number of the employee.
Mobile Phone	Required. The phone number of the employee.
Notes	Optional Notes for Emergency Responders to view during an emergency.

Emergency Contact Fields	Description
Name	Required. The name of the contact.
Employee ID	Optional. The internal company id of the employee if applicable.
Work Phone	Required. The phone number of the employee.
Mobile Phone	Required. The phone number of the employee.
Notes	Optional Notes for Emergency Responders to view during an emergency.

User List

ADD USER

Name	Coordinates	Mac	Employee ID	Last Active	Work Phone	Mobile Phone	Actions
Amy Santiago	0.000,0.000	00:03	C123D	Wed Dec 31 16:00:00 1969	778-000-0001	778-000-0002	Edit Delete
Bart Simpson	0.000,0.000	00:06	B001S	Wed Dec 31 16:00:00 1969	778-666-6667	778-666-6668	Edit Delete
Bill Dium	0.000,0.000	00:02	D156S	Wed Dec 31 16:00:00 1969	778-444-4445	778-444-4446	Edit Delete
Helen Mirren	0.000,0.000	00:01	B111C	Wed Dec 31 16:00:00 1969	778-111-1111	778-111-1112	Edit Delete
John Ham	0.000,0.000	00:05	D555D	Wed Dec 31 16:00:00 1969	778-555-5556	778-555-5557	Edit Delete
John Wick	0.000,0.000	00:00	A123B	Wed Dec 31 16:00:00 1969	778-222-2222	778-222-2223	Edit Delete

Figure 12: Updated User List

- New users will appear under list of beacons (Top Navigation->User).
- To add more users, click the green **Add User** button.

2.4 Add Map

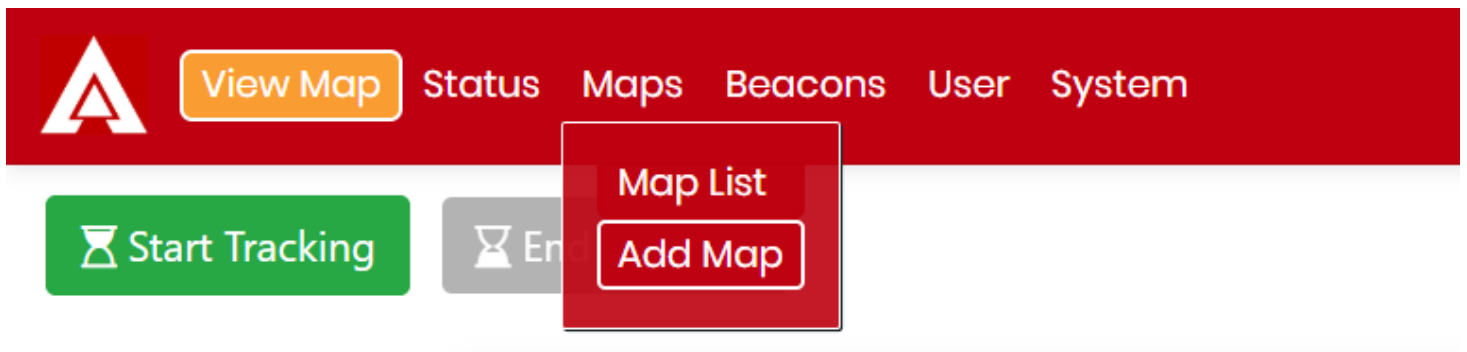


Figure 13: Add Map Dropdown Menu Button

- 1) From top navigation bar mouse over **Maps** and select **Add Map** from drop down menu.

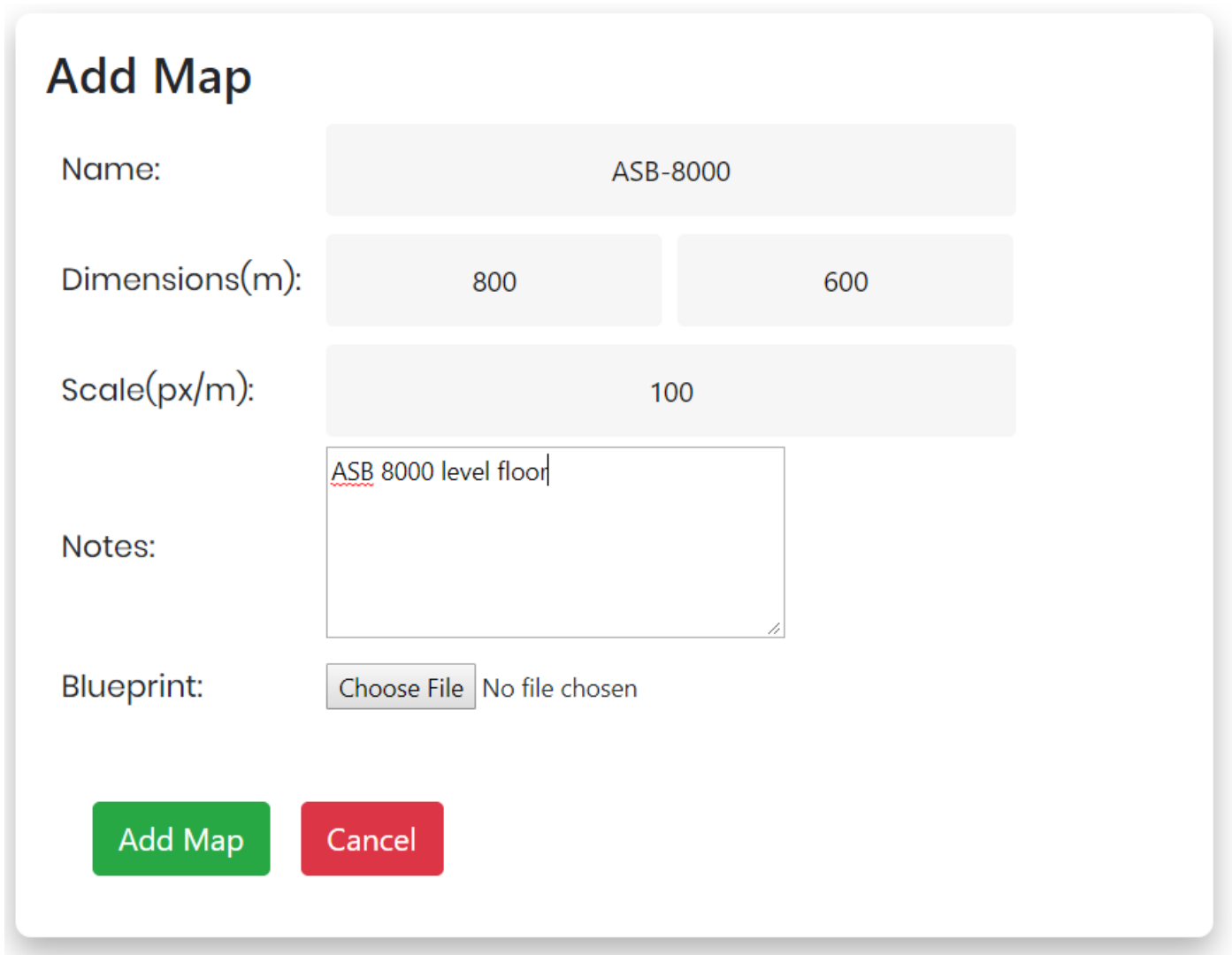
The image shows a modal form titled 'Add Map'. It contains several input fields: 'Name:' with the value 'ASB-8000', 'Dimensions(m):' with two input boxes containing '800' and '600', 'Scale(px/m):' with the value '100', 'Notes:' with a text area containing 'ASB 8000 level floor', and 'Blueprint:' with a file selection button labeled 'Choose File' and the text 'No file chosen'. At the bottom, there are two buttons: 'Add Map' (green) and 'Cancel' (red).

Figure 14: Add Map Form

- 2) Enter the **Name** of the map, the **Dimensions** of the image to be uploaded, a **scaling factor** for pixels per meter, and any additional **notes**.

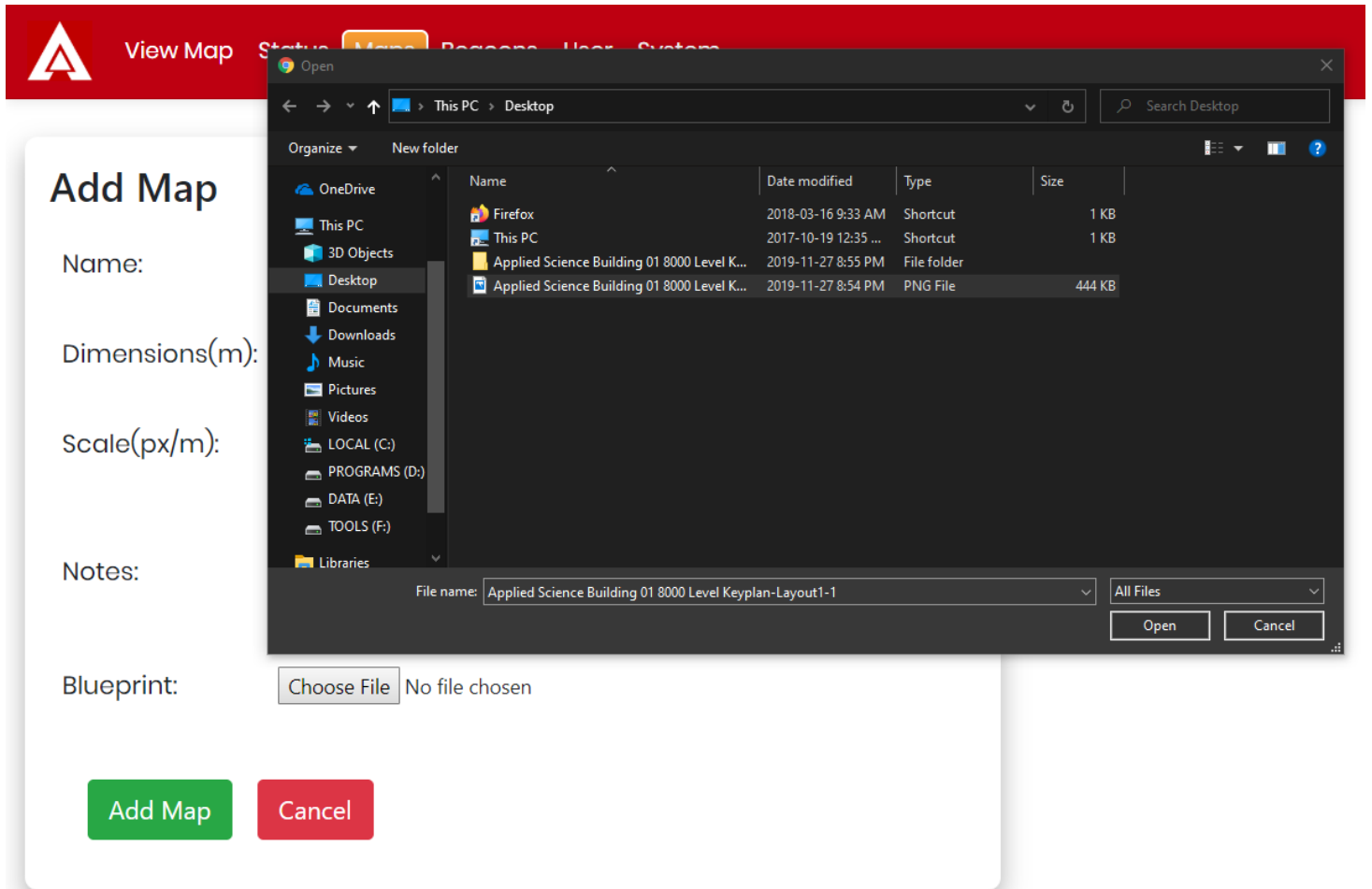


Figure 15: Select Blue Print Image

3) Click **Choose File** button and select an image file containing the blueprints or floor plans of the map to be added.

Map Fields	Description
Name	Required. The name of the map.
Bounds	Required. The pixel width and height of the map image.
Scale	Required. The pixel per meter ratio for the map image. Used to convert coordinates in meters to a location on the image.
Notes	Optional. Notes for Emergency Responders to view during an emergency.

Map List

ADD MAP

Name	Bounds	Scale	Note	Actions
ASB-8000	800,600	100	ASB-8000 Level Floorplan	<div><div>Edit</div><div>Delete</div><div>View</div></div>
ASB-9000	800,600	100	ASB-9000 level floor plan	<div><div>Edit</div><div>Delete</div><div>View</div></div>

Figure 16: Map List

- 4) New Map will appear under list of Maps (Top Navigation->Maps).
- 5) To add more maps, select the green **Add Maps** button
- 6) To view Maps added select matching **View** button from the list

2.5 Assign Beacons Placement on Map

Beacon Placement

Name Location

a	3	2.21
b	4.72	3.11
c	3.02	3.99
D	4.7	4.7

Actions

Save	Toggle Placement	Detach
Save	Toggle Placement	Detach
Save	Toggle Placement	Detach
Attach		

Figure 17: Beacon Placement Form

- 1) If beacons are assigned to map (steps in 2.2 Figure.8) they will be shown similar to beacon a, b, and c above.
- 2) Unassigned beacon will have the option **Attach** to attach beacon to map

Name	Location
------	----------

a	4.72	2.18	Save	Toggle Placement	Detach
b	3.04	2.22	Save	Toggle Placement	Detach
c	3.02	3.99	Save	Toggle Placement	Detach
D	4.72	3.99	Save	Toggle Placement	Detach

Cancel

- 3) Click **Toggle Placement** on beacon to be assigned and click on desired location on map.
- 4) Once beacon placement is complete click **save**.
- 5) Once All beacon placement is complete click update map to save configurations.

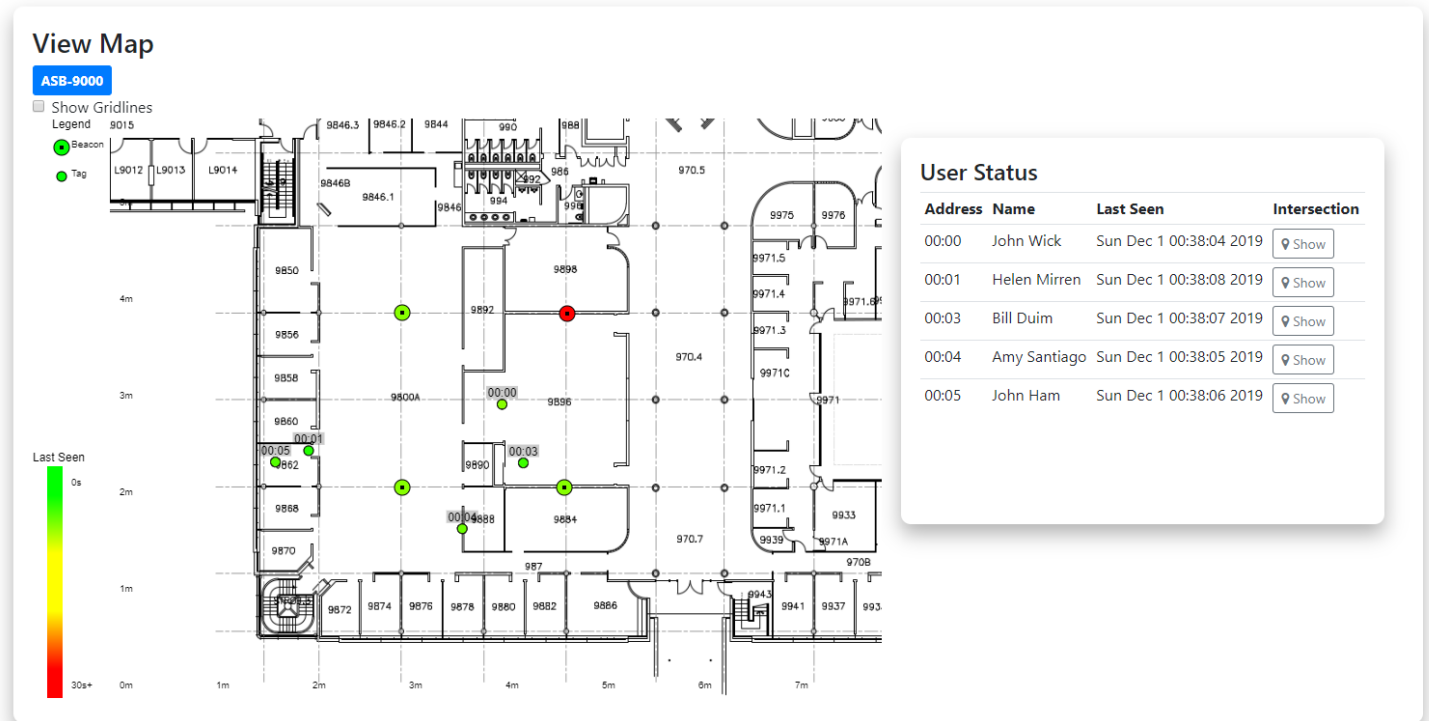



Figure 19: Updated Beacon Placement on Map

- 6) To view new beacon placement, go to Navigation Bar-> View Maps and click on the map that was updated.
- 7) Start Tracking to see new beacon placement locations
- 8) New beacon placement should be updated and shown.

3. Admin Commands

3.1 Beacon Commands


[View Map](#)
[Status](#)
[Maps](#)
[Beacons](#)
[User](#)
[System](#)

[LOGOUT](#)
ADMIN

[Start Tracking](#)
[End Tracking](#)

Beacon Status

Name	State	Last Active	Coordinates	Floor	Mac	Note	Actions
c	Active	Sun Dec 1 00:39:39 2019	4.710,2.180	ASB-9000	aa:bb:cc:dd:ee:ff:00:0c		Details Map Ping Reboot
d	Unknown	Wed Dec 31 16:00:00 1969	4.740,3.980	ASB-9000	aa:bb:cc:dd:ee:ff:00:0d		Details Map Ping Reboot
a	Active	Sun Dec 1 00:39:39 2019	3.030,3.990	ASB-9000	aa:bb:cc:dd:ee:ff:00:0a		Details Map Ping Reboot
b	Active	Sun Dec 1 00:39:39 2019	3.030,2.180	ASB-9000	aa:bb:cc:dd:ee:ff:00:0b		Details Map Ping Reboot

Figure 20: Beacon Status Page With Commands

1) To access Beacon Commands, go to either Beacon List or Beacon Status from Top Navigation Bar

Ping

2) Click **Ping** to send ping command to each beacon.

Reboot

3) Click **Reboot** to restart the Core MCU and Wi-Fi module of the Beacon. (This is a Hardware Reset)

3.2 Server Commands

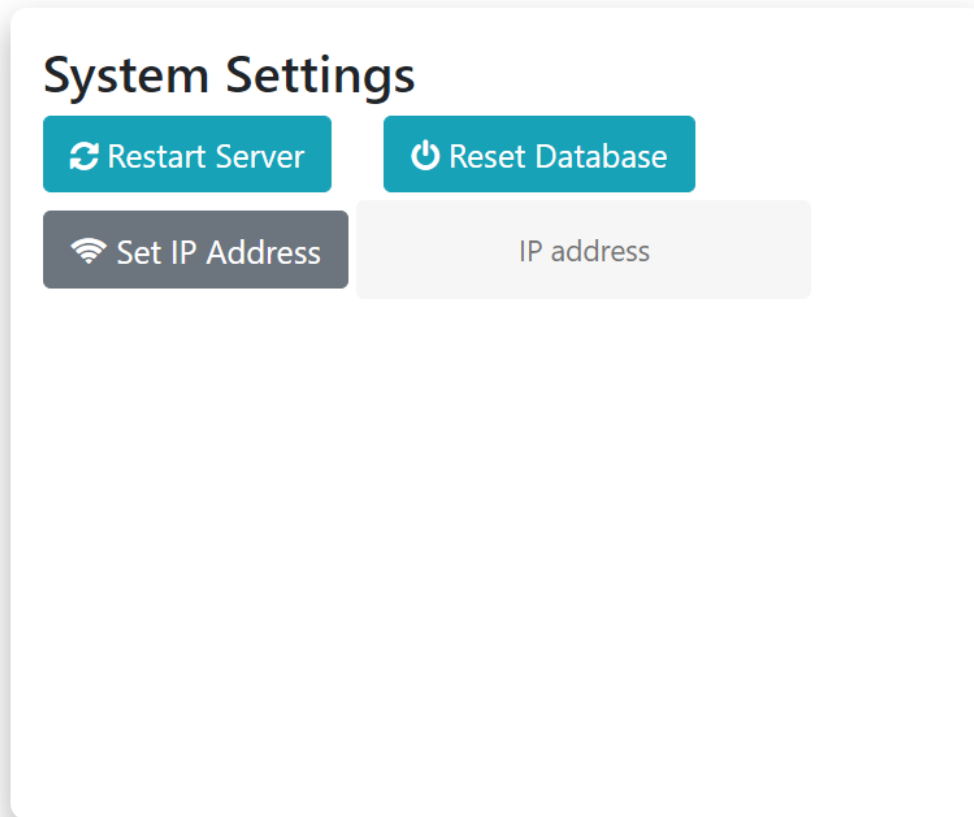


Figure 21: System Setting Dropdown Menu

1) To access Server Commands, go to **System Settings** from **System** dropdown menu

Restart Server

- 1) To restart the Akriveia Web Server, go to **System Setting** Click **Restart Server**.
- 2) This will restart the process for the Akriveia Web Server.
- 3) Refresh web page to load web server after restart.

Reset Database

- 1) To reset the Akriveia Web Server database, go to **System Setting** and click **Reset Database** button.
- 2) This will remove all data including maps, beacons, and users

Set Beacon Host IP

```

snow@bt-7274:~$ ifconfig
docker0: flags=4099<UP,BROADCAST,MULTICAST> mtu 1500
    inet 172.17.0.1 netmask 255.255.0.0 broadcast 172.17.255.255
    ether 02:42:83:a1:4d:17 txqueuelen 0 (Ethernet)
    RX packets 0 bytes 0 (0.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 0 bytes 0 (0.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

enp3s0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.0.0.2 netmask 255.255.255.0 broadcast 10.0.0.255
    inet6 fe80::f66d:4ff:fea2:ec10 prefixlen 64 scopeid 0x20<link>
    ether f4:6d:04:a2:ec:10 txqueuelen 1000 (Ethernet)
    RX packets 321 bytes 22080 (22.0 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 739 bytes 57706 (57.7 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 145553 bytes 55421339 (55.4 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 145553 bytes 55421339 (55.4 MB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

wlp4s0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.1.100 netmask 255.255.255.0 broadcast 192.168.1.255
    inet6 fe80::ef4f:62f2:835d:863c prefixlen 64 scopeid 0x20<link>
    inet6 2001:569:7f13:2500:4a5d:60ff:fee8:d77b prefixlen 64 scopeid 0x0<global>
    inet6 2001:569:7f13:2500:34b2:2753:d7e6:d3b2 prefixlen 64 scopeid 0x0<global>
    ether 48:5d:60:e8:d7:7b txqueuelen 1000 (Ethernet)
    RX packets 109119 bytes 35996906 (35.9 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 30503 bytes 10785772 (10.7 MB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

snow@bt-7274:~$ █

```

Figure 22: ifconfig Example

- 1) To set host IP for beacons enter local IP assigned by Akriveia AP
- 2) Local IP can be obtained by running **ipconfig** on Windows and **ifconfig** on Linux command terminal.
- 2) Enter local IP in IP address text field and click Set IP Address to send the set IP command to beacons.
- 3) Beacons should be sending data to new IP set