



Wireless Comes To Light

Wireless Distributed Lighting Control
System



- Overview
- Radio Technology
- Mesh Network
- System Security
- Facility / Areas / Zones / Groups
- System Components
- HLI Fixtures with wiHUBB Components
- The Access Point
- Commissioning a System
- Troubleshooting
- HBA Technical Service



A wireless distributed lighting control system consisting of a secure peer-to-peer, self organizing and self healing mesh network of actuators and system inputs designed specifically for indoor and outdoor lighting applications.

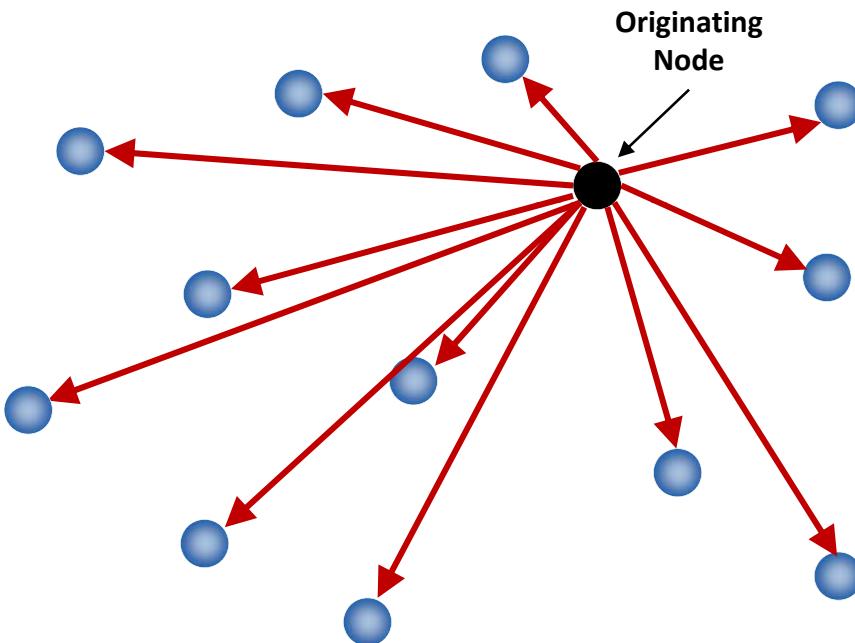
- Actuators: in-fixture, on-fixture and circuit control modules with ON/OFF and 0-10VDC full range dimming capabilities
- System Inputs: occupancy/vacancy sensors, daylight sensors and switches



- RF Frequency: 902 – 928 MHz (ISM Band)
 - Least affected by signal losses due to penetration through obstacles, reflection and diffraction
- Supported Range Between Wireless Devices: 100 Meters (328 Feet)
- System Utilizes Spread Spectrum Frequency Hopping

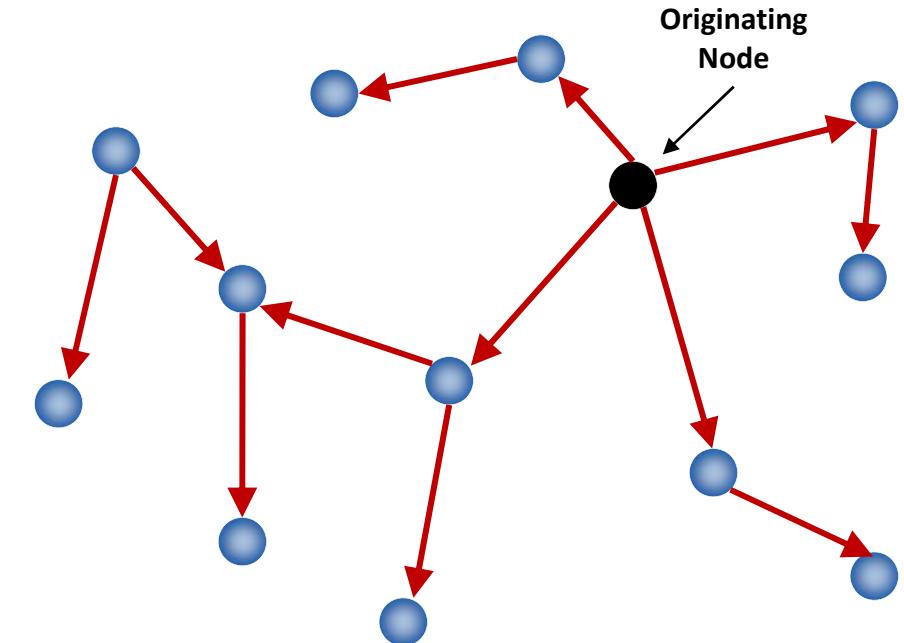
Wireless Ad Hoc Mesh Networks vs. Other Types of Wireless Networks

Non Mesh P2P (Peer to Peer) Network



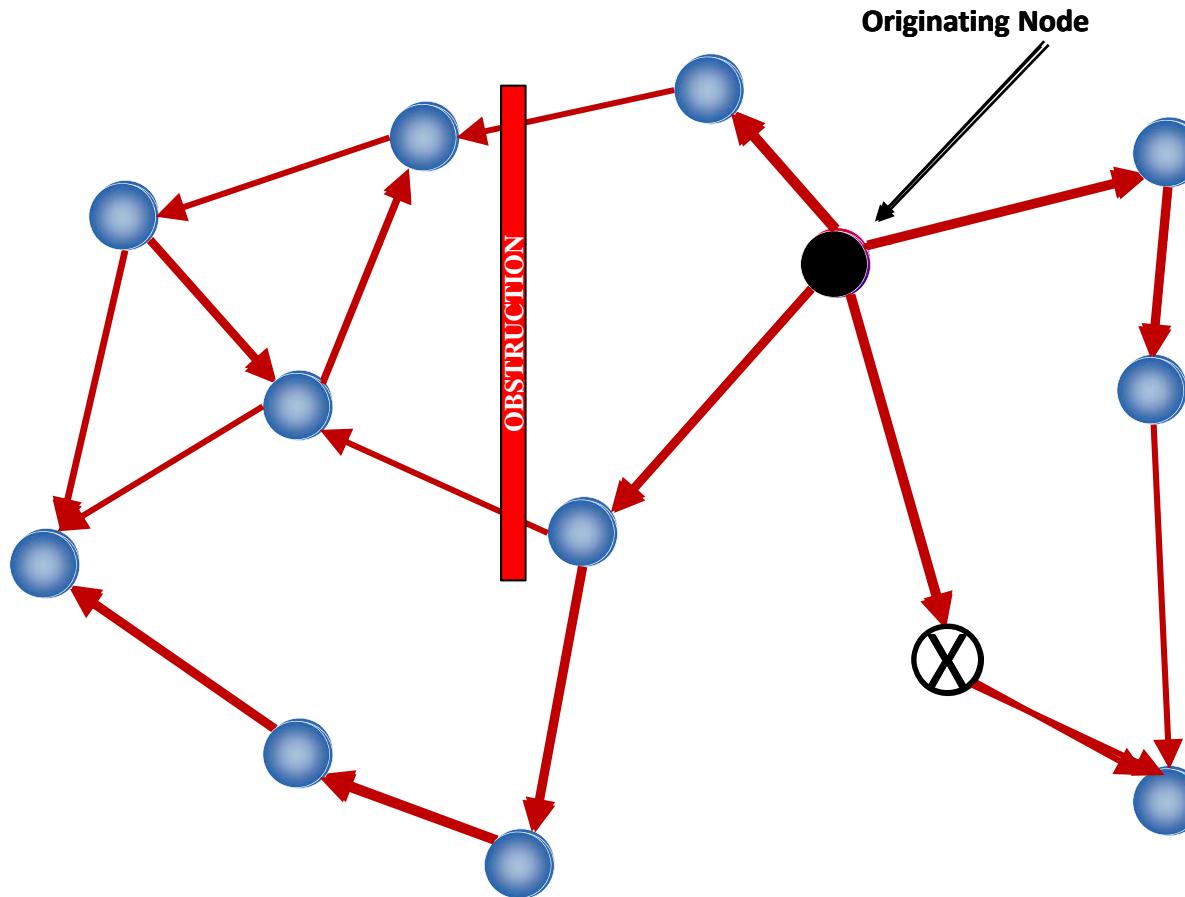
In a **P2P** network all nodes must be within radio range of each other – If a node cannot be reach by the transmitting node the system fails

Mesh Network



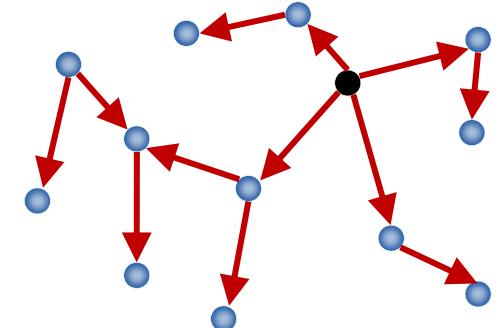
In a **Mesh** network nodes act as repeater forwarding messages not for them on to nodes that may be out of range of the node the sent the message

Self Organizing / Self Healing Mesh



SNAP – Synapse Network Appliance Protocol

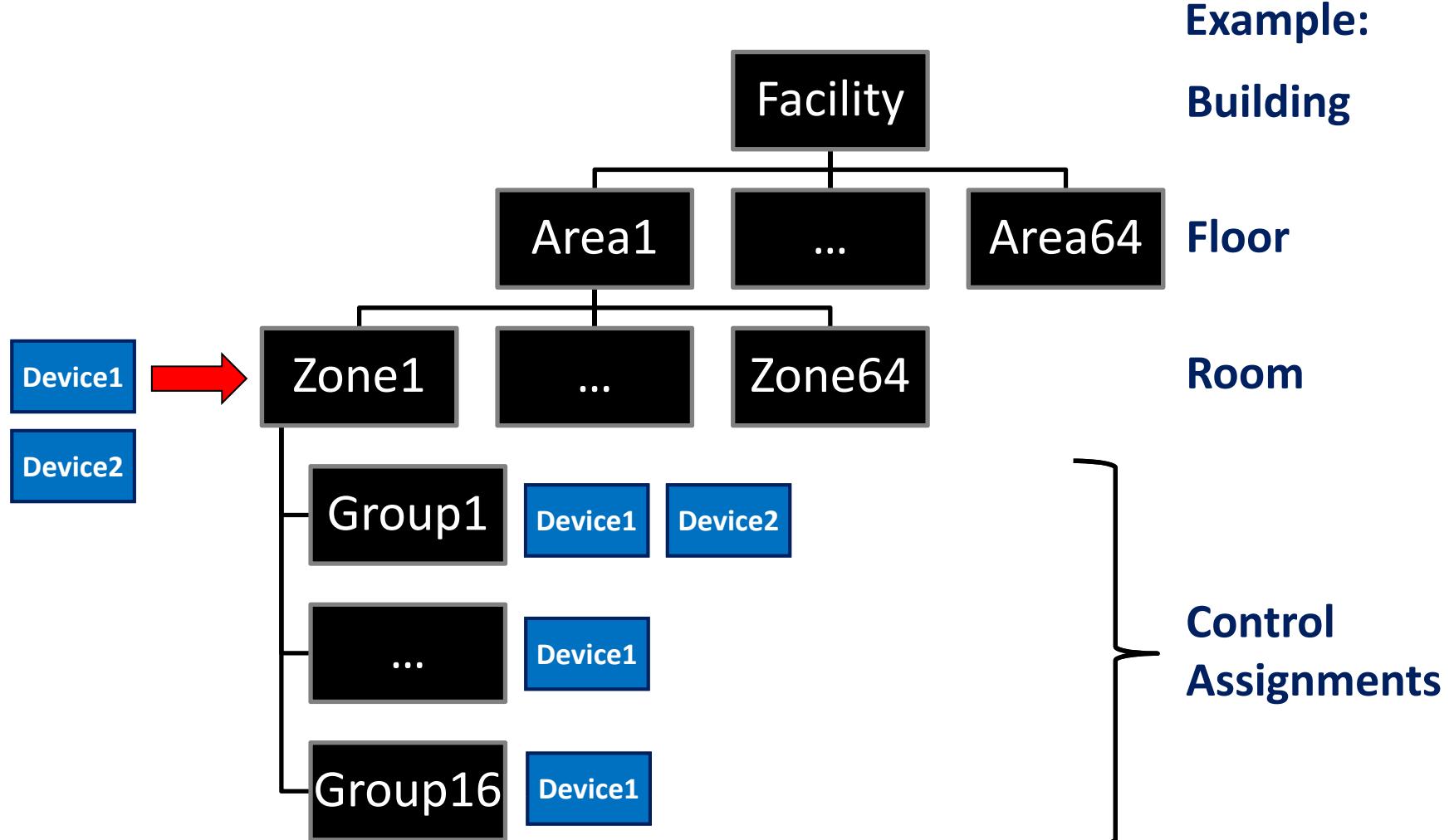
- Provides the peer-to-peer, self organizing and self healing mesh network infrastructure
- SNAP Mesh is auto forming
- No Single Point of Failure
- All Nodes are peers, they communicate with each other
- Instant-ON support
 - Enables devices to communicate within milliseconds of power up
 - No “join” phase to get on the network – low latency system built for speed!
- Supports full mesh with sleeping (low power) modes
- Provides for a virtually unlimited network size





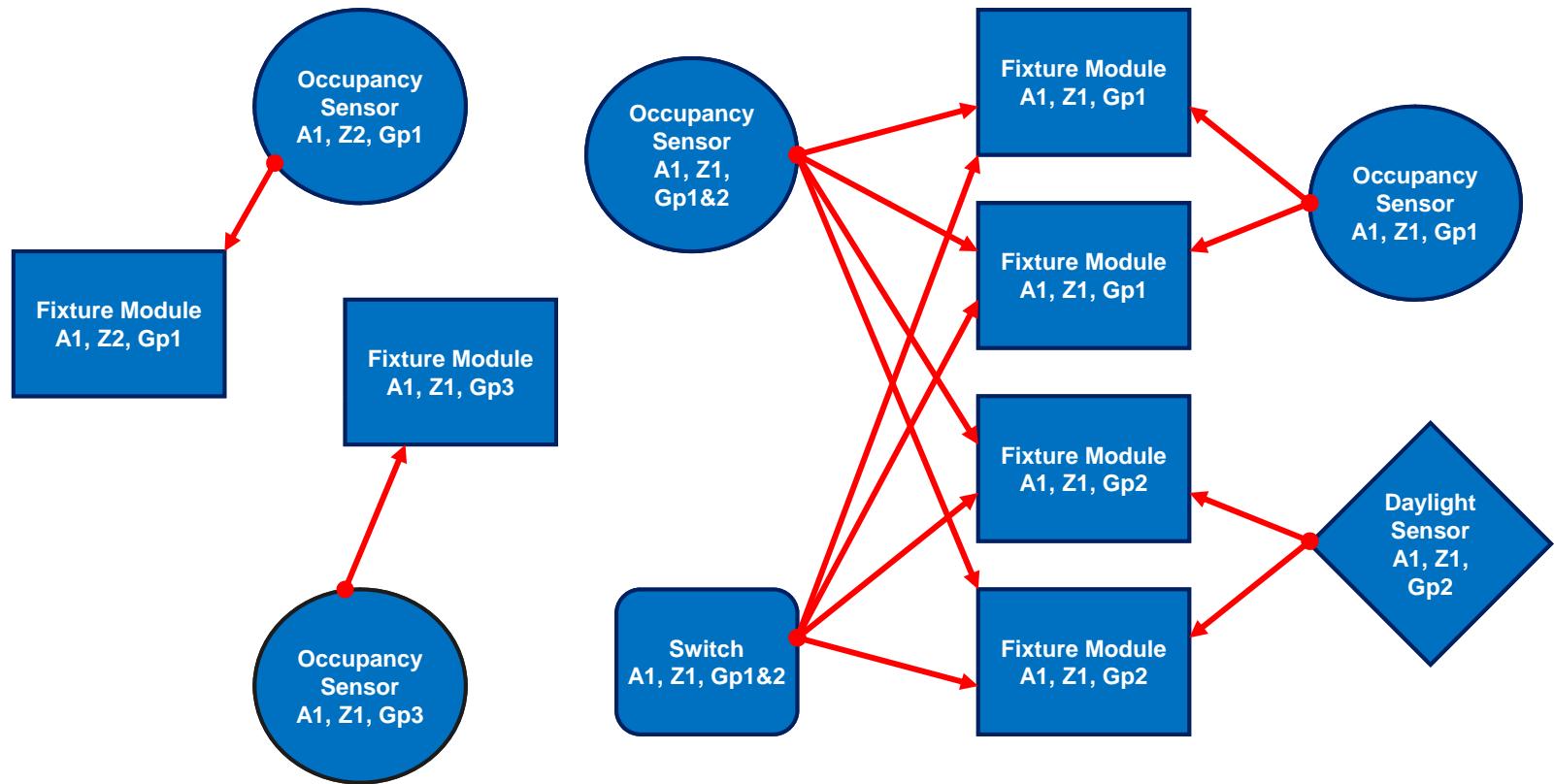
Wireless and Wired Security

- **Facility ID**
 - Keeps one wiHUBB network separate from another wiHUBB network
- **Spread Spectrum Frequency Hopping**
 - Prevents unauthorized interception of messages over the air
 - Complies with FCC requirement
- **wiHUBB uses AES-128 (Advanced Encryption Standard)**
 - Very powerful and secure encryption method used in many data security applications
 - Used by the U.S. Government for secure transmissions
- **wiHUBB Access Point – HTTPS/SSL Web Security**
 - HTTPS/SSL Hypertext Transfer Protocol Secure which is a combination of the Hypertext Transfer Protocol with the SSL/TLS protocol to provide encrypted communications between a client and server
 - HTTPS connections are often used for payment transactions on the Internet and for sensitive transactions in corporate information



- Each device is programmed to participate in an Area and Zone
- Each device may belong to 1 or all of the 16 groups within a Zone

Facility / Areas / Zones & Groups Control Assignments





System Components



In-Fixture Module:

- Single or dual relay versions for On/Off or High/Low control
- 0-10VDC interface for full range dimming



On-Fixture Module:

- On/Off outdoor lighting control
- Replaces standard Twist Lock Photo Sensors
- Integrated daylight sensor
- Perfect Retrofit solution



Smart Pack:

- Single or dual relay versions for On/Off or High/Low control
- 0-10VDC interface for full range dimming capabilities
- SmartPORT Plug and play support for wiHUBB occupancy sensors, daylight sensors and switches



Switch Stations:

- Multiple switch options available: On/Off, Gen-A/V, High/Low/Off, On/Raise/Lower/Off, Raise/Lower, Timed On, 4-Button Preset
- All switches mount to standard single or multi-gang wall boxes
- SmartPORT Plug and Play integration with wiHUBB Smart Pack



Occupancy / Vacancy:

- IR, Ultrasonic, Acoustic & Dual Tech Sensors
- IntelliDAPT® self-adaptive technology – no manual adjustment required
- All-digital dual technology (ultrasonic [US] and passive infrared [PIR]) sensor
- Non-volatile memory for sensor settings
- SmartPORT Plug and Play integration with wiHUBB Smart Pack



Daylight Harvesting:

- Open loop operation
- Mounts vertically or horizontally
- Architecturally attractive design
- SmartPORT Plug and Play integration with wiHUBB Smart Pack



- Single or Dual Relay Versions for On/Off or High/Low Control
- Input: 120-277VAC, 10A Max, 60hz
- Output:
 - 10A Tungsten (120VAC Only)
 - 10A Magnetic Ballast
 - 5A Electronic Ballast (Max Each Relay)
 - ¼ H.P. Motor (120 & 277VAC)
 - NOTE: For (2) Relay Models, Maximum Combined Output Of Both Relays: 10A
- Two (2) Bundled Antenna Options
 - Fixed Antenna With 24" Cable (4" Ground Plane Required)
 - Articulating Antenna (No Ground Plane Required)
- Dimming Output (Optional)
 - 0-10VDC, 30mA.
 - For low voltage , two-wire dimming ballast and LED drivers.
- Ambient Operating Temperature: -40°C to +90°C
- Plenum Rated
- Optional J-box Mounting Adapter (Sold Separately)
- Non-volatile Memory Holds Device Settings:
 - Facility ID and Encryption Key
 - Area / Zone / Group Information
 - Device Settings
 - Presets And Schedules
- Future Proof Design – Firmware Updateable



WIH-IM



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In-Fixture Module Mounting

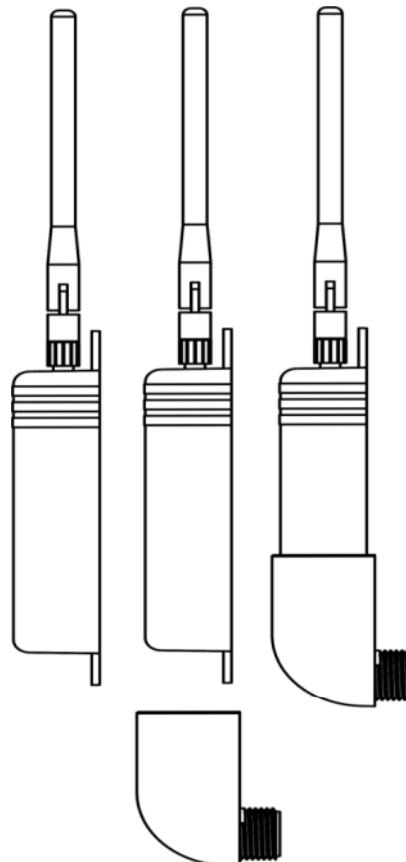
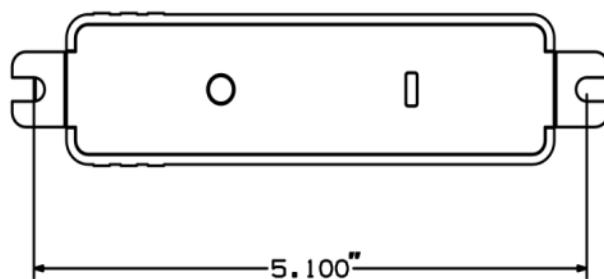
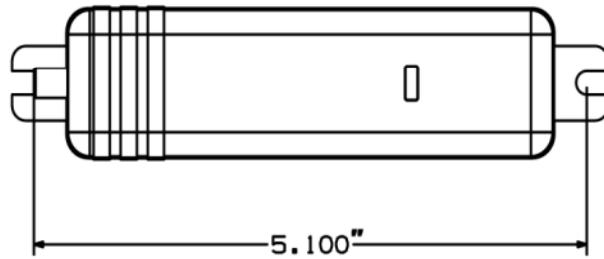


Fig. 1: Use 6x32 or 8x32 pan head screws

Fig. 2: Inserting IFM into J-Box Mounting Adapter

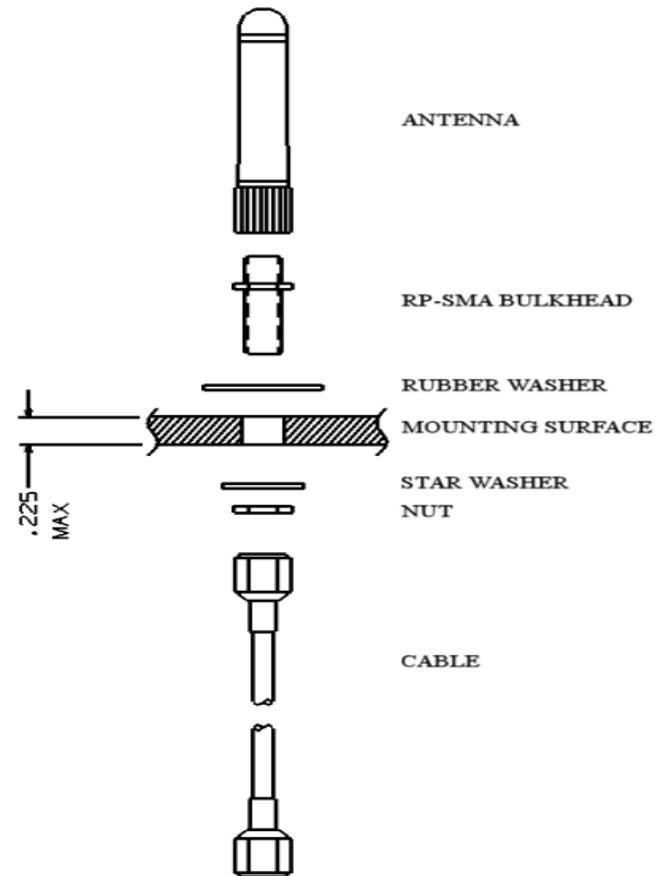
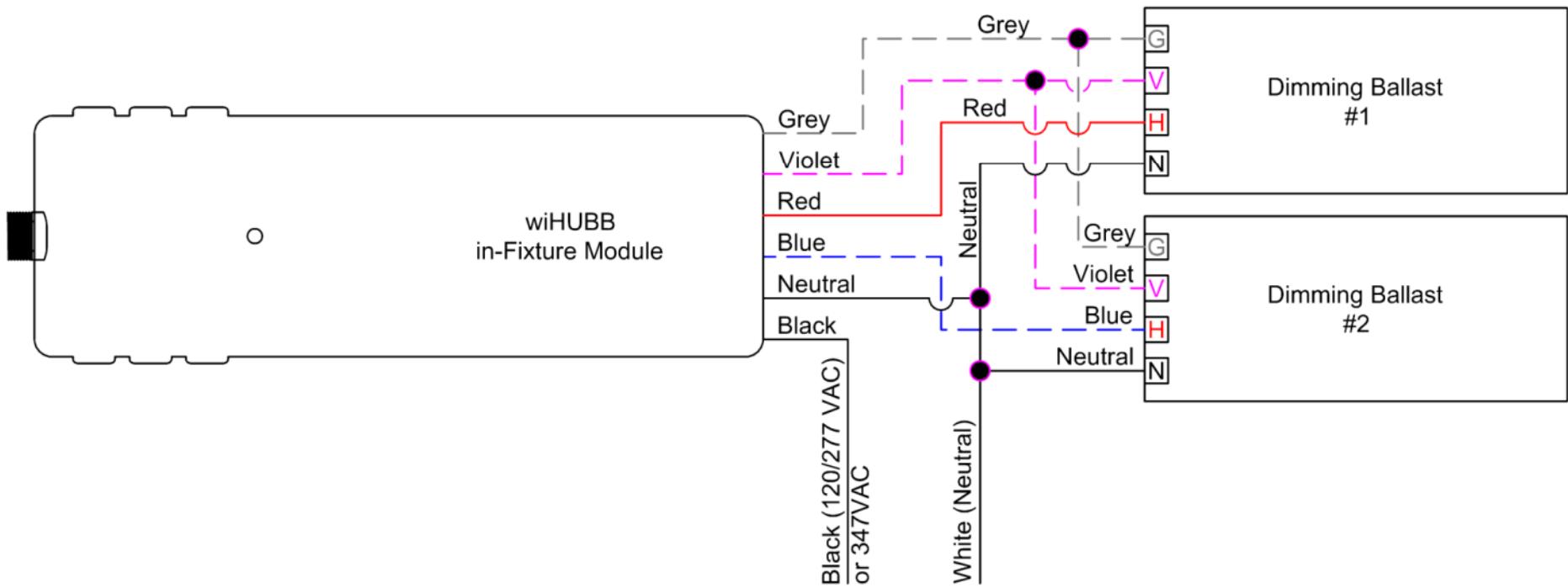


Fig. 3: Fixed antenna cable mounting



In-Fixture Module Wiring Diagram



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wiHUBB On-Fixture Module

- On/Off Outdoor Lighting Control
- Input: 120-347VAC, 20A Max, 60Hz
- Output:
 - 20A Tungsten
 - 20A Magnetic Ballast
 - 20A Electronic Ballast
- Compatible With All Lighting Loads Including LED
- Ambient Operating Temperature: -40°C to +90°C
- Replaces Standard Twist-lock Photo Sensors
- Integrated Daylight Sensor
 - Default Value: Xx FC
- Non-volatile Memory Holds Device Settings:
 - Facility ID and Encryption Key
 - Area / Zone / Group Information
 - Device Settings
 - Presets And Schedules
- Future Proof Design – Firmware Updateable



WIH-OM



- Single or Dual Relay Versions for On/Off or High/Low Control
- Input: 120/277VAC, 50/60Hz, 20A Max
- Output:
 - 20A Tungsten (120VAC Only)
 - 20A Magnetic Ballast
 - 16A Electronic Ballast
 - 1 H.P. @ 120VAC, ¾ H.P. @ 277VAC
 - NOTE: For (2) Relay Models, Maximum Combined Output Of Both Relays: 20A
- Low Voltage Ports (Class 2):
 - 24VDC, 150mA Max (All Outputs Combined)
- Dimming Output (Optional)
 - 0-10VDC, 30mA.
 - For low voltage , two-wire dimming ballast and LED drivers.
- Plug And Play Support for wiHUBB Occupancy Sensors, Daylight Sensors And Switches
- Non-volatile Memory Holds Device Settings:
 - Facility ID and Encryption Key
 - Area / Zone / Group Information
 - Device Settings
 - Presets And Schedules
- Future Proof Design – Firmware Updateable



WIH-SP



- Attractive, architecturally pleasing decorator style design
- Multiple switch options available:
 - On/Off (WIH-SW-OO)
 - On/Raise/Lower/Off (WIH-SW-ORLO)
 - Preset (WIH-SW-PRESET)
 - High/Low/Off (WIH-SW-HLO)
 - Raise/Lower (WIH-SW-RL)
 - General / Audio Visual (WIH-SW-GAV)
 - Timed On (WIH-SW-TO)
- All switches mount to standard single or multi-gang wall boxes
- Plug and play integration with wiHUBB Smart Pack
- CFT Notes:
 - wiHUBB cable for Switches (Blue) – 50' and 100' lengths available
 - Switches can use standard CAT5 cable with RJ45 connectors on both ends
 - Each switch counts as (1) Smart Pack device load
 - Switches can be daisy chained together
 - Switches try to maintain their assigned MAC address. Plugging into a different Smart Pack port will cause switch to receive a new address.



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wiHUBB Switch Configurations and Commands

Model	No. of Buttons	Button Label(s)	Function*
WIH-SW-OO	2	ON OFF	ON: Transmits Relay 1 ON / 2 ON command OFF: Transmits Relay 1 OFF / 2 OFF command
WIH-SW-GAV	2	GEN A/V	GEN: Transmits Relay 1 ON / 2 OFF command A/V: Transmits Relay 1 OFF / 2 ON command
WIH-SW-HLO	3	HIGH LOW OFF	HIGH: Transmits Relay 1 ON / 2 ON command LOW: Transmits Relay 1 ON / 2 OFF command OFF: Transmits Relay 1 OFF / 2 OFF command
WIH-SW-ORLO	4	ON Up Arrow Down Arrow OFF	ON: Transmits Relay 1 ON / 2 ON command Up Arrow: Transmits RAISE command Down Arrow: Transmits LOWER command OFF: Transmits Relay 1 OFF / 2 OFF command
WIH-SW-RL	2	Up Arrow Down Arrow	Up Arrow: Transmits RAISE command Down Arrow: Transmits LOWER command
WIH-SW-TO	1	ON	ON: Transmits Relay 1 ON / 2 ON command (LED on). After TIMED ON period, transmits Relay 1 OFF / 2 OFF command (LED off). When pressed momentarily during TIMED ON period, TIMED ON duration will be reset (LED remains on). To cancel TIMED ON and turn lighting off, press and hold button for 5 seconds.
WIH-SW-PRESET	4	PRESET 1 PRESET 2 PRESET 3 PRESET 4	PRESET n: Transmits: DO PRESET n command

*NOTE: Each command is transmitted to the switch's assigned Area/Zone/Group



- IntelliDAPT® self-adaptive technology – no manual adjustments required
- All-digital passive infrared, ultrasonic, acoustic and dual technology models
- Non-volatile memory for sensor settings
- Coverage range: 500 – 2,000 sq. ft. (based on model)
- Optional Form C relay with NO/NC outputs
- Plug and play integration with wiHUBB Smart Pack
- CFT Notes:
 - Requires wiHUBB cable for Occupancy Sensors (White) – 50' and 100' lengths available
 - wiHUBB cable is CAT5 cable with standard RJ45 connector on one end and QTI connector on other end
 - Each sensor counts as (4) Smart Pack device loads
 - Multiple sensors connected to a Smart Pack operate as one sensor



WIH-OS-OMDT2



WIH-OS-LODT



- Open loop operation
- Mounts vertically or horizontally
- Architecturally attractive design
- Plug and play integration with wiHUBB Smart Pack
- CFT Notes:
 - Requires wiHUBB cable for Daylight Sensor (Green) – 50' and 100' lengths available
 - wiHUBB cable is CAT5 cable with standard RJ45 connector on one end and QTI connector on other end
 - Each sensor counts as (1) Smart Pack device load
 - Only one daylight sensor should be connected to a Smart Pack
 - Up to (6) rows of control can be defined with on/off, stepped dimmed or full range dimming per row.



WIH-DS

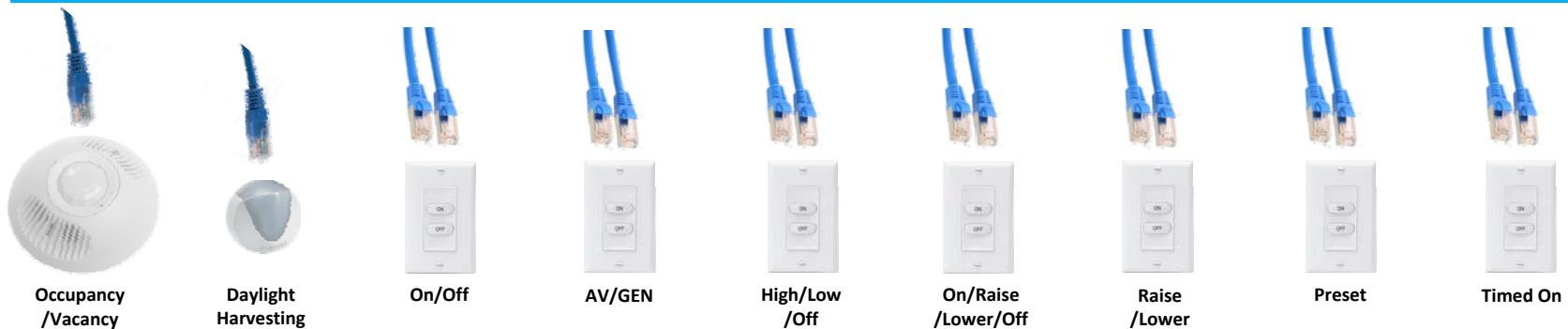


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SmartPORT:

- Plug & Play Device Bus
- 300 Feet of cable per Port – 1200 feet total
- 8 Nodes per port – 24 Nodes total
 - *Occupancy Sensor counts as 4 Nodes
all others count as one node*



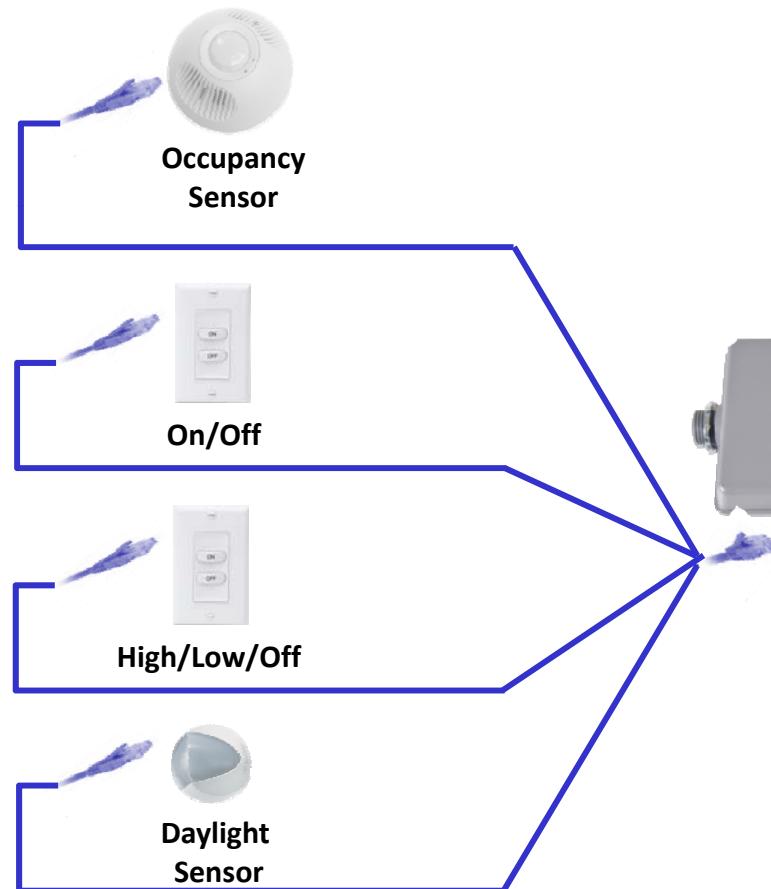
SmartPORT:

- Is a “Plug & Play” Device Bus that allows devices to be added or taken away from the network at anytime
- Whenever a device is added or taken away SmartPORT automatically reconfigures the control system to the most user friendly energy wise configuration automatically no user input required



wiHUBB "SmartPORT" Auto Configuration

SmartPORT Auto-Configuration



Occupancy Auto On / Off

**Vacancy Manual On /
Automatic Off**

**Automatic On to Low Level
with Automatic Off**

**Vacancy Manual On /
Automatic Off w/Daylight
Harvesting or Vacancy Sensor**



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STATE	DS – “OO”		DS – “HLO”			DS – “RL”		OS	
R1-R2-DIM-(DM or MM)	On	Off	High	Low	Off	Raise	Lower	Occ	Un Occ
X-X-D-DM	O-O-D-DM	X-X-D-DM	O-O-D-DM	O-X-D-DM	X-X-D-DM	X-X- D -DM	X-X- D -DM	O-O-D-DM	X-X-D-DM
O-X-D-DM	O-O-D-DM	X-X-D-DM	O-O-D-DM	O-X-D-DM	X-X-D-DM	O-X- D -DM	O-X- D -DM	O-O-D-DM	X-X-D-DM
X-O-D-DM	O-O-D-DM	X-X-D-DM	O-O-D-DM	O-X-D-DM	X-X-D-DM	X-O- D -DM	X-O- D -DM	O-O-D-DM	X-X-D-DM
O-O-D-DM	O-O-D-DM	X-X-D-DM	O-O-D-DM	O-X-D-DM	X-X-D-DM	O-O- D -DM	O-O- D -DM	O-O-D-DM	X-X-D-DM
X-X-D-MM	X-X-D-MM	X-X-D-MM	X-X-D-MM	X-X-D-MM	X-X-D-MM	X-X-D-MM	X-X-D-MM	O-O-D-DM	X-X-D-MM
O-X-D-MM	O-X-D-MM	O-X-D-MM	O-X-D-MM	O-X-D-MM	O-X-D-MM	O-X-D-MM	O-X-D-MM	O-O-D-DM	X-X-D-MM
X-O-D-MM	X-O-D-MM	X-O-D-MM	X-O-D-MM	X-O-D-MM	X-O-D-MM	X-O-D-MM	X-O-D-MM	O-O-D-DM	X-X-D-MM
O-O-D-MM	O-O-D-MM	O-O-D-MM	O-O-D-MM	O-O-D-MM	O-O-D-MM	O-O-D-MM	O-O-D-MM	O-O-D-DM	X-X-D-MM

X = Relay Off

O = Relay On

DM = Daylighting Mode

MM = Manual Override Mode



Auto Configuration State Table Switch Stations

STATE	SW-OO		SW-HLO			SW-ORLO				
R1-R2-DIM-(DM or MM)	On	Off	High	Low	Off	On	Raise	Lower	Off	
X-X-D-DM	O-O-D-DM	X-X-D-MM	O-O-D-DM	O-X-D-MM	X-X-D-MM	O-O-D-DM	X-X-D-MM	X-X-D-MM	X-X-D-MM	
O-X-D-DM	O-O-D-DM	X-X-D-MM	O-O-D-DM	O-X-D-MM	X-X-D-MM	O-O-D-DM	O-X-D-MM	O-X-D-MM	X-X-D-MM	
X-O-D-DM	O-O-D-DM	X-X-D-MM	O-O-D-DM	O-X-D-MM	X-X-D-MM	O-O-D-DM	X-O-D-MM	X-O-D-MM	X-X-D-MM	
O-O-D-DM	O-O-D-DM	X-X-D-MM	O-O-D-DM	O-X-D-MM	X-X-D-MM	O-O-D-DM	O-O-D-MM	O-O-D-MM	X-X-D-MM	
X-X-D-MM	O-O-D-DM	X-X-D-MM	O-O-D-DM	O-X-D-MM	X-X-D-MM	O-O-D-DM	X-X-D-MM	X-X-D-MM	X-X-D-MM	
O-X-D-MM	O-O-D-DM	X-X-D-MM	O-O-D-DM	O-X-D-MM	X-X-D-MM	O-O-D-DM	O-X-D-MM	O-X-D-MM	X-X-D-MM	
X-O-D-MM	O-O-D-DM	X-X-D-MM	O-O-D-DM	O-X-D-MM	X-X-D-MM	O-O-D-DM	X-O-D-MM	X-O-D-MM	X-X-D-MM	
O-O-D-MM	O-O-D-DM	X-X-D-MM	O-O-D-DM	O-X-D-MM	X-X-D-MM	O-O-D-DM	O-O-D-MM	O-O-D-MM	X-X-D-MM	

X = Relay Off

O = Relay On

DM = Daylighting Mode

MM = Manual Override Mode



STATE	SW-PRESET				SW-RL		SW-GAV		SW-TO
R1-R2-DIM-(DM or MM)	Preset 1	Preset 2	Preset 3	Preset 4	Raise	Lower	Gen	A/V	On
X-X-D-DM	*-*-*-MM	*-*-*-MM	*-*-*-MM	*-*-*-MM	X-X-D-DM	X-X-D-DM	O-X-D-DM	O-X-D-MM	O-O-D-DM
O-X-D-DM	*-*-*-MM	*-*-*-MM	*-*-*-MM	*-*-*-MM	O-X-D-DM	O-X-D-DM	O-X-D-DM	O-X-D-MM	O-O-D-DM
X-O-D-DM	*-*-*-MM	*-*-*-MM	*-*-*-MM	*-*-*-MM	X-O-D-DM	X-O-D-DM	O-X-D-DM	O-X-D-MM	O-O-D-DM
O-O-D-DM	*-*-*-MM	*-*-*-MM	*-*-*-MM	*-*-*-MM	O-O-D-DM	O-O-D-DM	O-X-D-DM	O-X-D-MM	O-O-D-DM
X-X-D-MM	*-*-*-MM	*-*-*-MM	*-*-*-MM	*-*-*-MM	X-X-D-MM	X-X-D-MM	O-X-D-DM	O-X-D-MM	O-O-D-DM
O-X-D-MM	*-*-*-MM	*-*-*-MM	*-*-*-MM	*-*-*-MM	O-X-D-DM	O-X-D-DM	O-X-D-DM	O-X-D-MM	O-O-D-DM
X-O-D-MM	*-*-*-MM	*-*-*-MM	*-*-*-MM	*-*-*-MM	X-O-D-DM	X-O-D-DM	O-X-D-DM	O-X-D-MM	O-O-D-DM
O-O-D-MM	*-*-*-MM	*-*-*-MM	*-*-*-MM	*-*-*-MM	O-O-D-DM	O-O-D-DM	O-X-D-DM	O-X-D-MM	O-O-D-DM

X = Relay Off

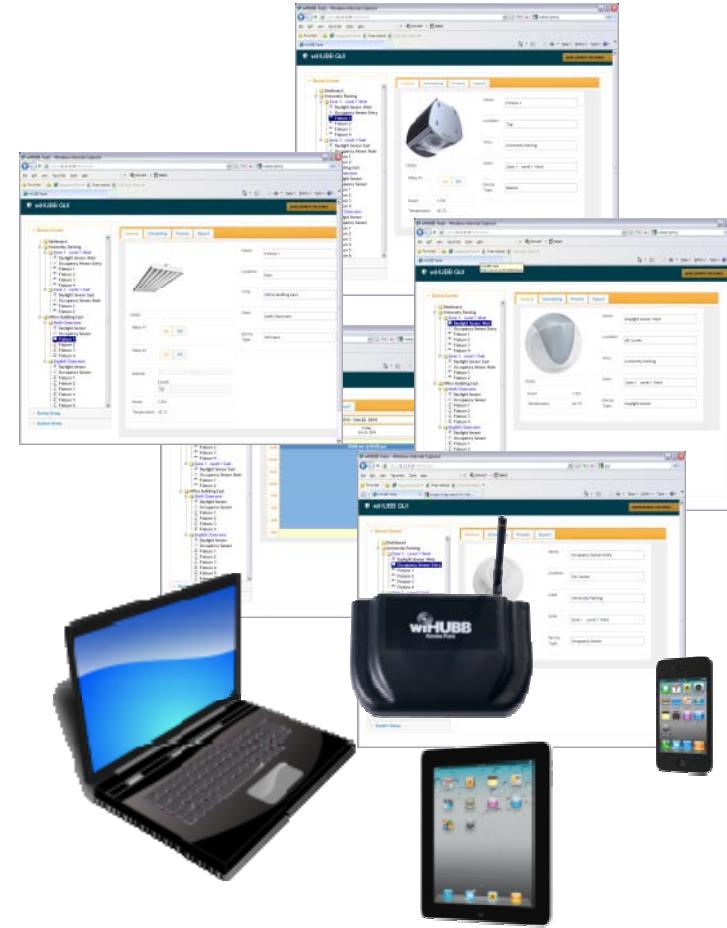
O = Relay On

DM = Daylighting Mode

MM = Manual Override Mode



- Web-based commissioning and monitoring of the wiHUBB lighting control system
- Integrated web server provides connection via standard browsers
- Easy system access from local network or Internet
- Intuitive and easy to use Graphical User Interface (GUI)
- Ability to schedule wiHUBB-enabled devices or groups of devices
- Provides On/Off and dimming control of wiHUBB-enabled devices
- View power consumption and temperature information from each device
- Robust and reliable 900Mhz wireless self-organizing and self-healing mesh network
- Future proof design – firmware updateable





- HLI Brands Providing “wiHUBB Enabled” Fixtures
 - Columbia, Alera, HLO&I, Prescolite, Kim and AAL
- Fixtures Incorporating In-Fixture Module
 - Will apply MAC address label to fixture
 - Remaining labels to be packaged with antenna and/or fixture documentation
 - When commissioning verify antenna has been attached by electrician
- Access Point And Other Devices Provided By HBA



Completed	September	November	Jan-12	Q1/2012		Q2/2012
COL. EPC	Cimarron LED	COL. ST8	COL. EMX	AAL UCM	KIM WARP 9	Cimarron eHID
COL. TRA	Laredo LMC	COL. 4PS	COL. P4D	AAL UCL	KIM Archetype	Presc. A4/A6
COL. STE	Laredo LCC	COL. EMI	Alera PLK, PPLS	AAL PROV	KIM Wall Dir.	
COL. EMSE	Fresno Bollard	COL. 4VS	Alera NVS, NPLS	AAL PROL	KIM Structural	
COL. STEL	Tempe Bollard	Alera CVSL, CVPL	Alera SLS, ALS	AAL SLVT	KIM PGL7 LED	
Alera M, MM		Alera CVSL, CVPL	Alera HEDI	AAL FH	KIM Curvilinear	
Alera MR, MMR		Alera CVL	Presc. Retroficient	AAL PRMN	KIM ERA LED	
Alera MR STG			Presc. D4/D6 LED	AAL PRMS	KIM ERA Bell LED	
Presc. liteFrame				AAL PRMD	KIM ERA Acorn LED	
Presc. Architektur				AAL PKWM	KIM Bounce LED	
				Presc. D2 LED	KIM Solitaire LED	
					KIM Matrix LED	
					KIM Entablature LED	

September Launch Status - Pilot run in C'burg is scheduled this month. Launch now scheduled for October.

KIM & AAL launches on hold awaiting corrective action on Life Shield.



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The Access Point



A – Make sure that your PC is powered off and disconnect any Ethernet network cables currently attached to the PC.

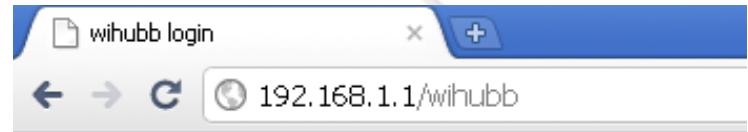
B – Connect the antenna to the Access Point. Orient the antenna upward for the best possible range.

C – Connect one end of the Ethernet network cable to the Network port located on the back of the Access Point and the other end to the Ethernet port on your PC.

D – Connect the AC Power Adapter to the 15V-42V DC Power port and the other end into an electrical outlet. Make sure the Power LED lights up.

E – Power on the PC.

F – Open your web browser. Enter **192.168.1.1/wihubb** in the address field. Press the Enter key.



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A screenshot of a web browser window titled "WiHubb Setup Wizard". The address bar shows the URL "192.168.1.1/setup_wizard". The main content area displays five steps in a horizontal navigation bar: "Step #1 Welcome-to WIHubb" (highlighted in orange), "Step #2 Identify&Secure Your Facility", "Step #3 DHCP Configuration", "Step #4 Static IP Configuration", and "Step #5 Initial Area and Zone". Below this, a large central panel is titled "Welcome" with the sub-instruction "Welcome to WIHubb! You will only have to do this setup once." At the bottom of the panel are three buttons: "Previous", "Next", and "Finish".

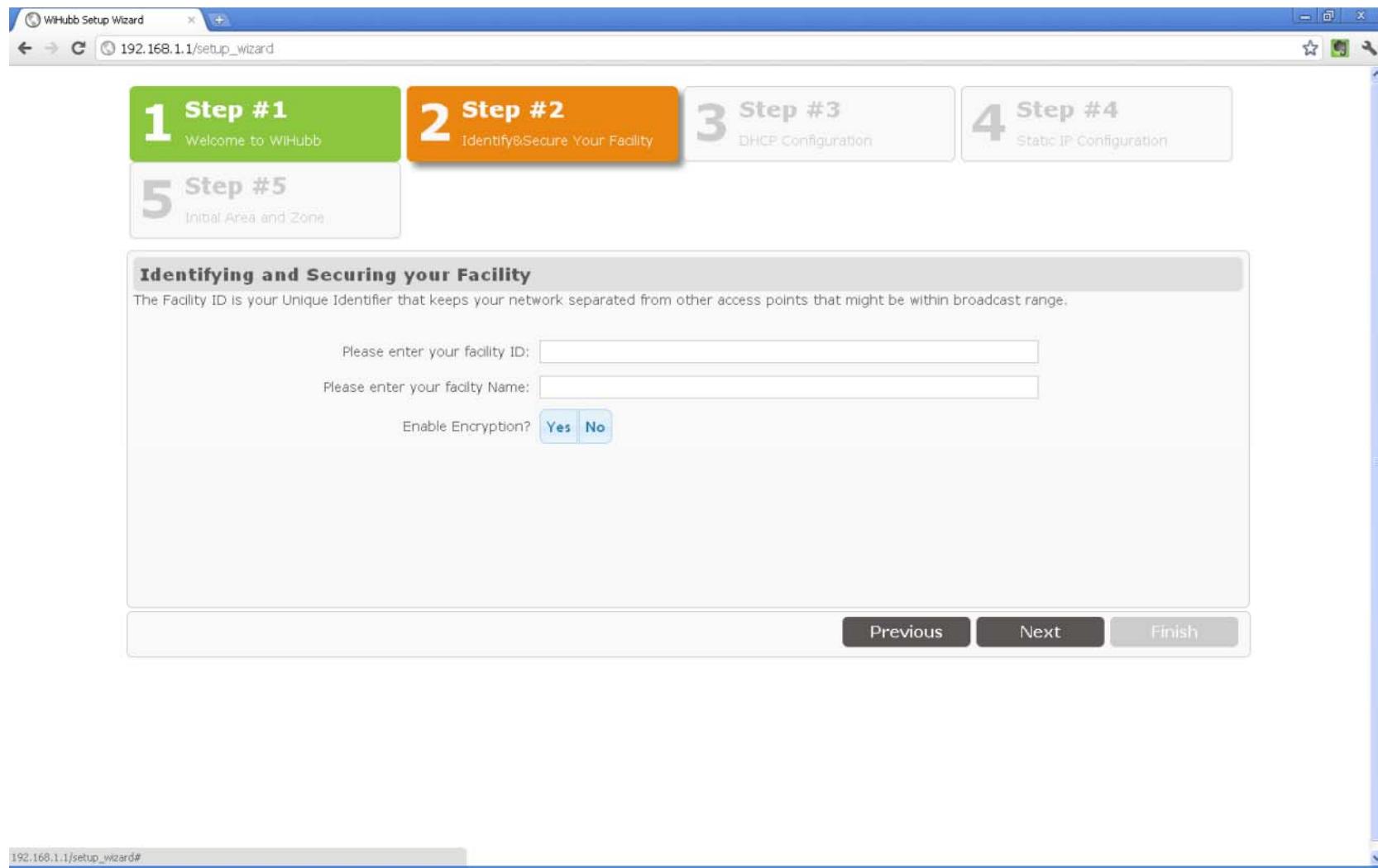


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Access Point Setup Wizard

Step 2 – Identify & Secure Facility



WiHubb Setup Wizard

192.168.1.1/setup_wizard

1 Step #1
Welcome to WiHubb

2 Step #2
Identify & Secure Your Facility

3 Step #3
DHCP Configuration

4 Step #4
Static IP Configuration

5 Step #5
Initial Area and Zone

Identifying and Securing your Facility

The Facility ID is your Unique Identifier that keeps your network separated from other access points that might be within broadcast range.

Please enter your facility ID:

Please enter your facility Name:

Enable Encryption? Yes No

Previous Next Finish

192.168.1.1/setup_wizard#



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Access Point Setup Wizard

Step 2 – Identify & Secure Facility (Example)

WiHubb Setup Wizard 192.168.1.1/setup_wizard

1 Step #1
Welcome to WiHubb

2 Step #2
Identify & Secure Your Facility

3 Step #3
DHCP Configuration

4 Step #4
Static IP Configuration

5 Step #5
Initial Area and Zone

Identifying and Securing your Facility

The Facility ID is your Unique Identifier that keeps your network separated from other access points that might be within broadcast range.

Please enter your facility ID:

Please enter your facility Name:

Enable Encryption?

Previous **Next** **Finish**

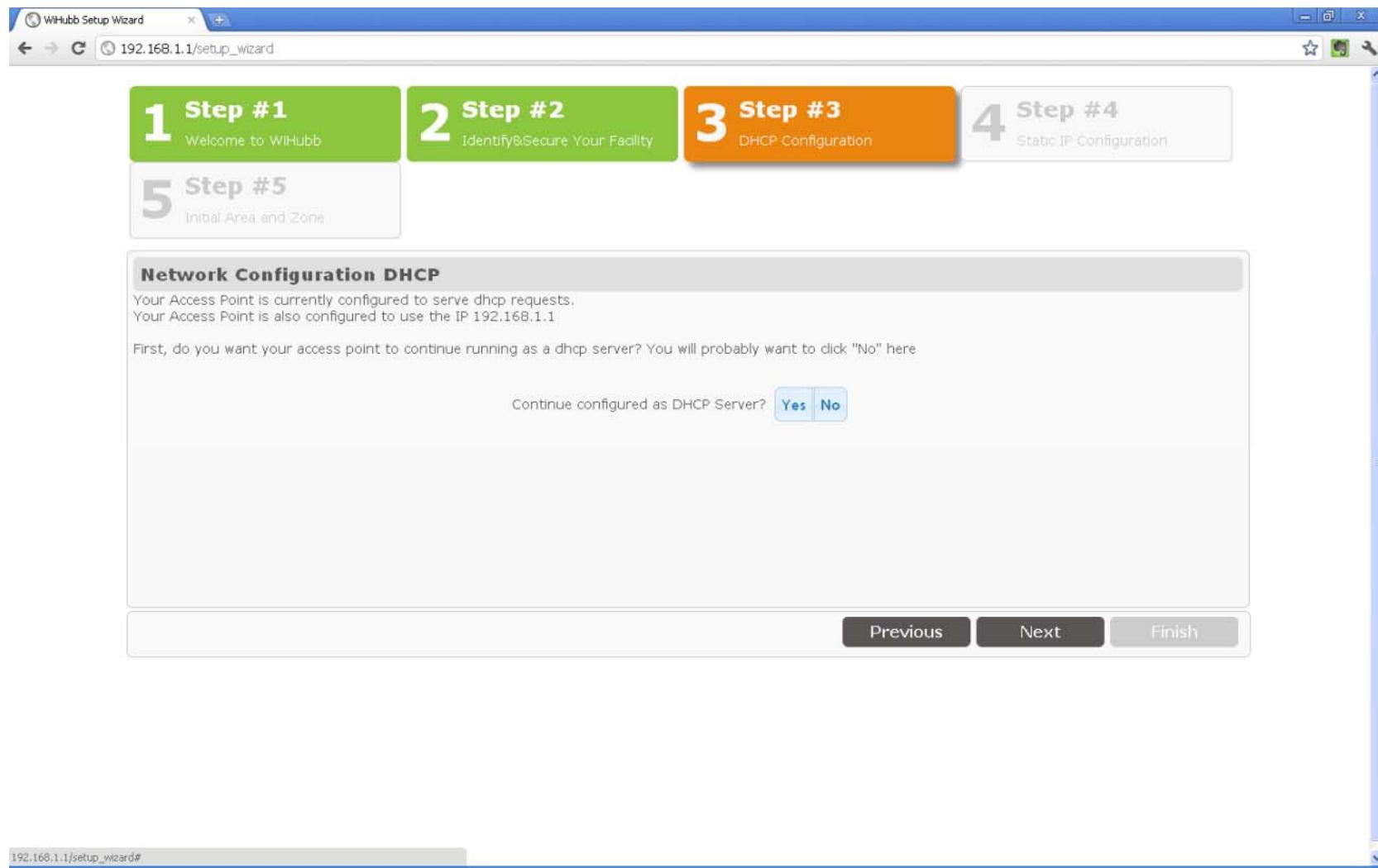


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Access Point Setup Wizard

Step 3 – DHCP Configuration



WiHubb Setup Wizard

192.168.1.1/setup_wizard

Step #1 Welcome to WiHubb **Step #2** Identify & Secure Your Facility **Step #3** DHCP Configuration **Step #4** Static IP Configuration

Step #5 Initial Area and Zone

Network Configuration DHCP

Your Access Point is currently configured to serve dhcp requests.
Your Access Point is also configured to use the IP 192.168.1.1

First, do you want your access point to continue running as a dhcp server? You will probably want to click "No" here

Continue configured as DHCP Server?

Previous Next Finish

192.168.1.1/setup_wizard#



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A screenshot of a web browser window titled "WiHubb Setup Wizard" showing step 4 of the setup process. The URL in the address bar is "192.168.1.1/setup_wizard". The page has five numbered steps: Step 1 (Welcome to WiHubb), Step 2 (Identify & Secure Your Facility), Step 3 (DHCP Configuration), Step 4 (Static IP Configuration, highlighted in orange), and Step 5 (Initial Area and Zone). A sub-section titled "Static IP" asks if the access point should get its IP dynamically or statically, with "Dynamic" selected. Navigation buttons at the bottom include "Previous", "Next", and "Finish".

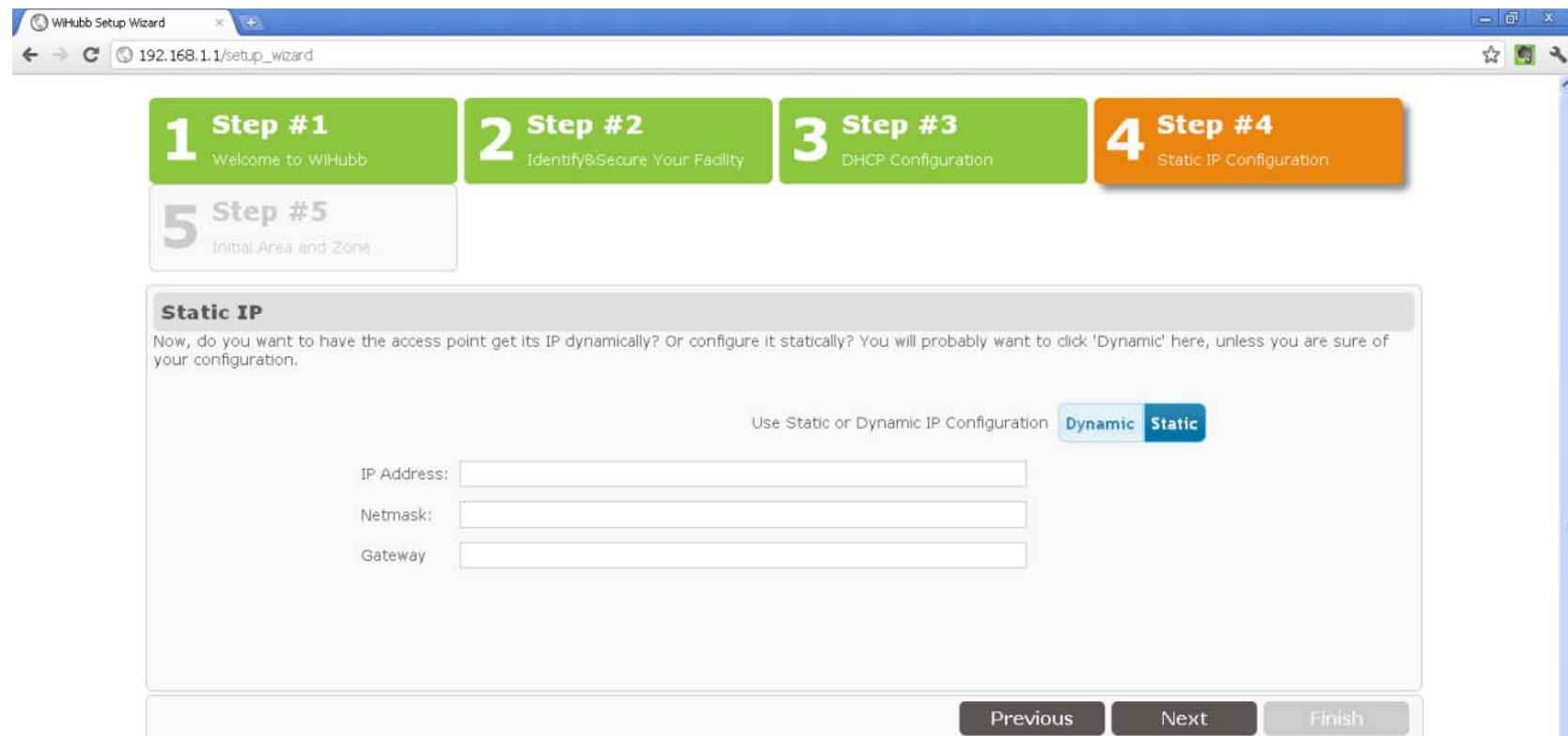


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Access Point Setup Wizard

Step 4 – Static IP Configuration



WiHubb Setup Wizard

192.168.1.1/setup_wizard

1 Step #1
Welcome to WiHubb

2 Step #2
Identify & Secure Your Facility

3 Step #3
DHCP Configuration

4 Step #4
Static IP Configuration

5 Step #5
Initial Area and Zone

Static IP

Now, do you want to have the access point get its IP dynamically? Or configure it statically? You will probably want to click 'Dynamic' here, unless you are sure of your configuration.

Use Static or Dynamic IP Configuration Dynamic Static

IP Address:

Netmask:

Gateway:

Previous Next Finish

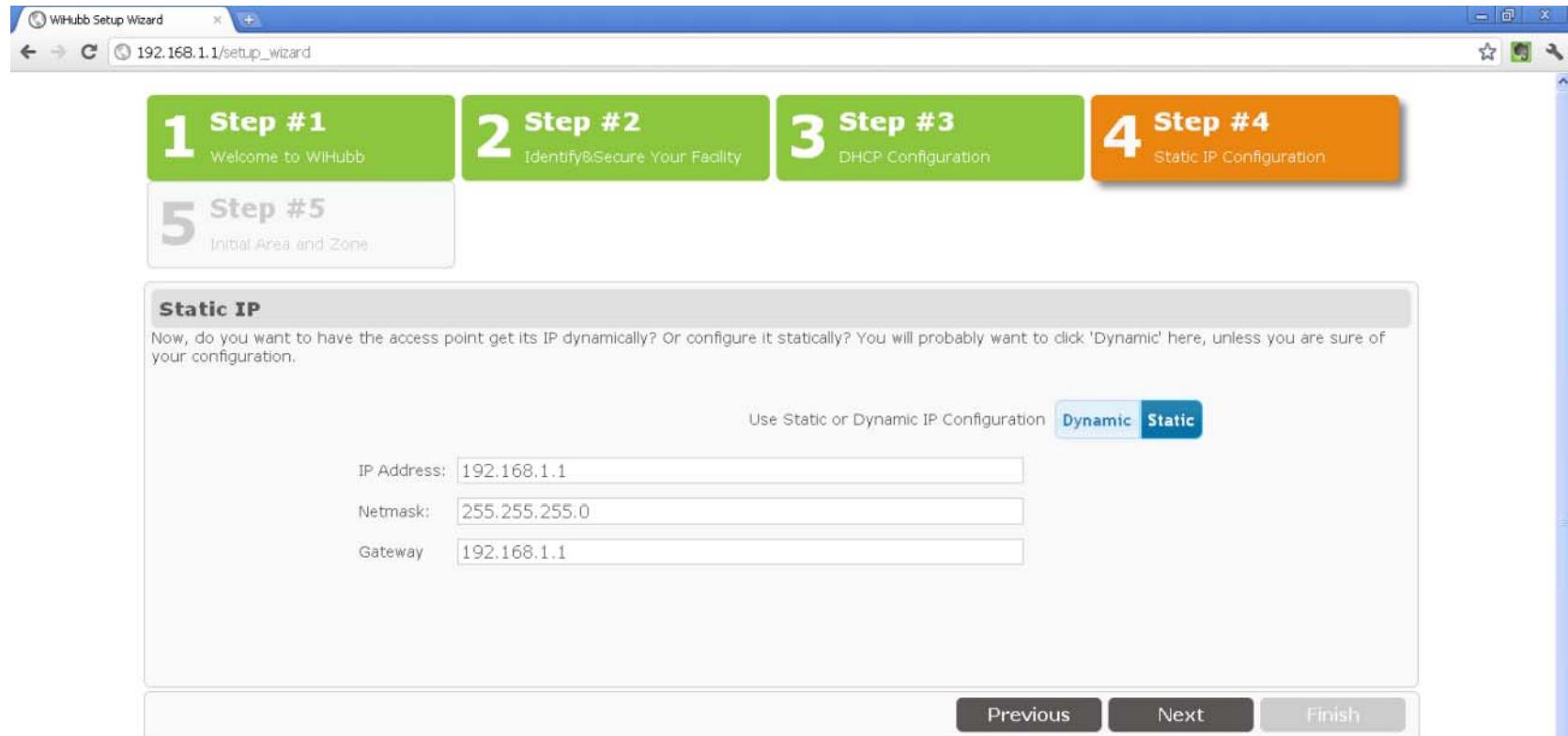


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Access Point Setup Wizard

Step 4 – Static IP Configuration (Example)



WiHubb Setup Wizard

192.168.1.1/setup_wizard

1 Step #1
Welcome to WiHubb

2 Step #2
Identify & Secure Your Facility

3 Step #3
DHCP Configuration

4 Step #4
Static IP Configuration

5 Step #5
Initial Area and Zone

Static IP

Now, do you want to have the access point get its IP dynamically? Or configure it statically? You will probably want to click 'Dynamic' here, unless you are sure of your configuration.

Use Static or Dynamic IP Configuration Dynamic Static

IP Address:

Netmask:

Gateway:

Previous Next Finish

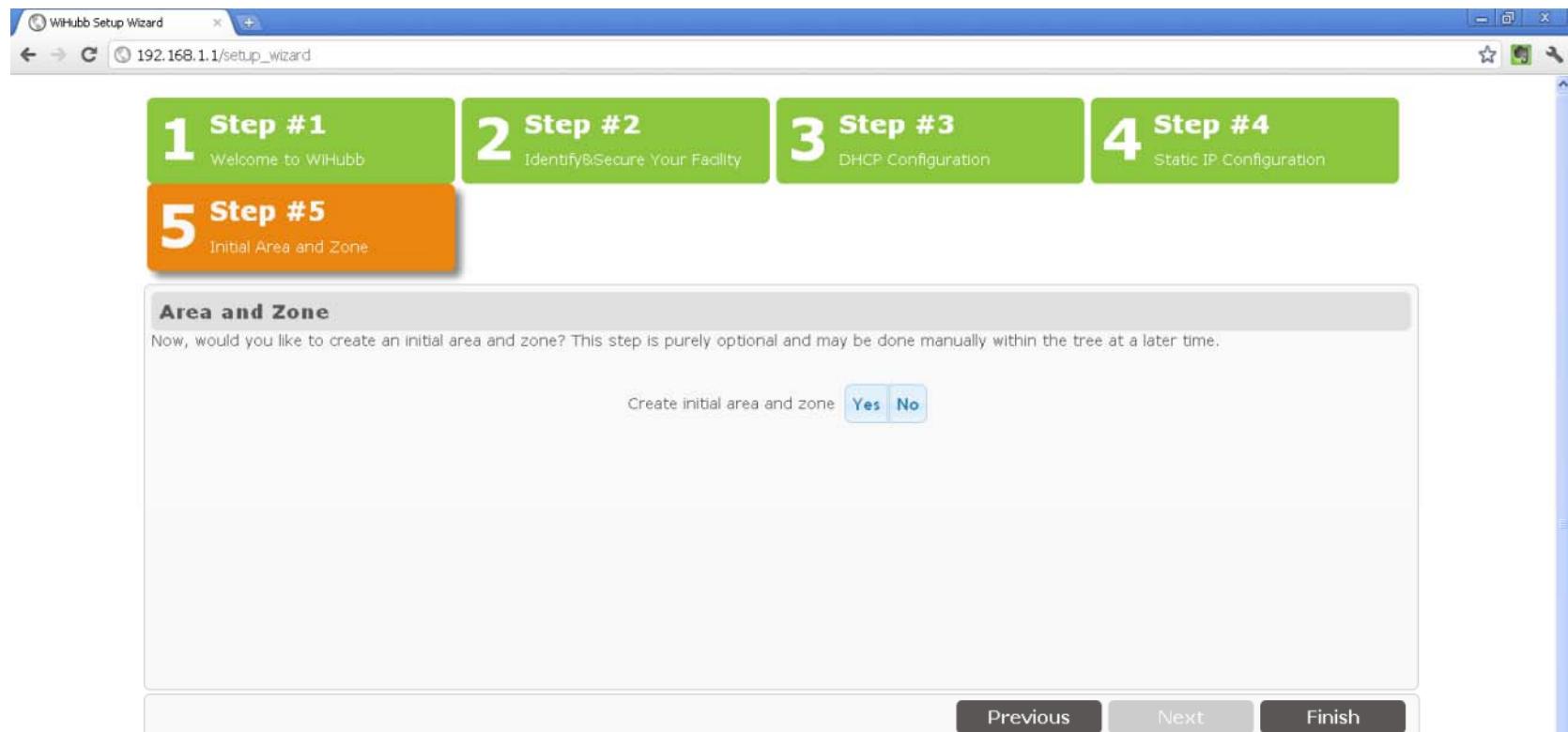


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Access Point Setup Wizard

Step 5 – Initial Area and Zone Creation



WiHubb Setup Wizard

192.168.1.1/setup_wizard

1 Step #1
Welcome to WiHubb

2 Step #2
Identify & Secure Your Facility

3 Step #3
DHCP Configuration

4 Step #4
Static IP Configuration

5 Step #5
Initial Area and Zone

Area and Zone

Now, would you like to create an initial area and zone? This step is purely optional and may be done manually within the tree at a later time.

Create initial area and zone

Previous Next Finish

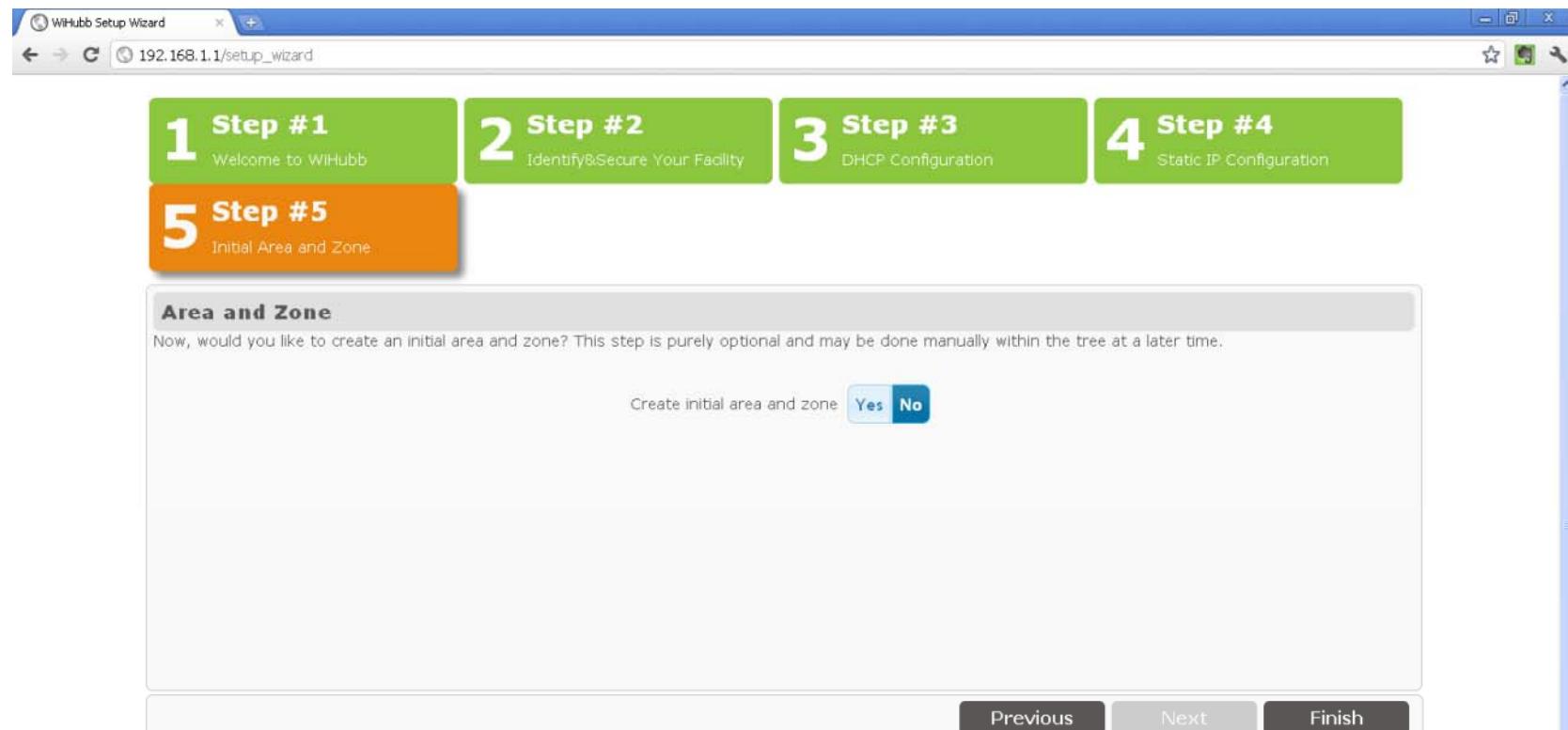


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Access Point Setup Wizard

Step 5 – Initial Area and Zone Creation (Example)

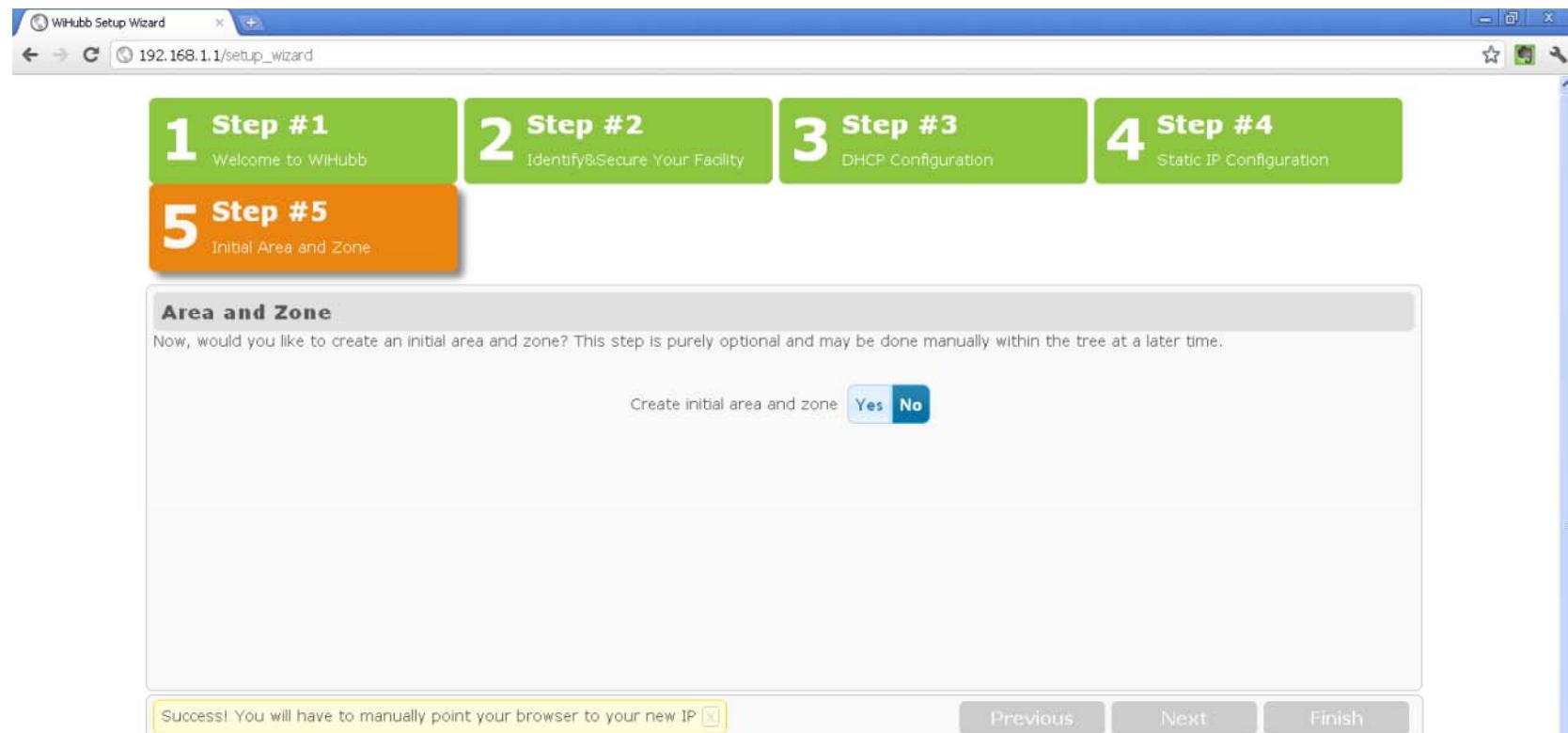


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Access Point Setup Wizard

Step 5 – Finish and Success!



WiHubb Setup Wizard

192.168.1.1/setup_wizard

1 Step #1
Welcome to WiHubb

2 Step #2
Identify & Secure Your Facility

3 Step #3
DHCP Configuration

4 Step #4
Static IP Configuration

5 Step #5
Initial Area and Zone

Area and Zone

Now, would you like to create an initial area and zone? This step is purely optional and may be done manually within the tree at a later time.

Create initial area and zone

Success! You will have to manually point your browser to your new IP



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A screenshot of a web browser window showing the WiHUBB login page. The URL in the address bar is 192.168.1.1/users/login. The page itself has a large WiHUBB logo at the top, followed by the tagline "Wireless comes to light". Below this are two input fields for "Username" and "Password", both currently empty. Underneath the password field is a link "Forgot username or password?". At the bottom center is a "Login" button.

wihubb login

192.168.1.1/users/login

wihubb

Wireless comes to light

Username

Password

[Forgot username or password?](#)



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Access Point Facility Settings - Identification

The screenshot shows the wiHUBB web interface for managing access points. The left sidebar has a tree view with 'My wiHUBB' at the top, followed by 'System Setup' which is expanded to show 'Facility Settings' (selected), 'Users' (with 'admin' listed), 'General Settings', 'Network Settings', and 'Logout'. The main content area has tabs for 'Identification' (selected) and 'Test Device'. Under 'Identification', there's a 'Facility' section with 'Facility ID' set to '1234' and 'Facility Name' set to 'Facility'. A 'Set Facility ID' button is visible. Below that is a 'Defaults' section with 'Default Facility ID' set to '9601', a 'Set Default Facility ID to:' dropdown containing '7212' and '9601', and a scroll bar on the right side.



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wiHUBB
Wireless Comes to Light

Access Point Facility Settings – Test Device

My wiHUBB Identification Test Device

Saturday 11/26/2011 11:33 AM

Device Tester

MAC:

Query Device Configuration

Device Type:

Facility ID:

Fixture Controls

Relay #1

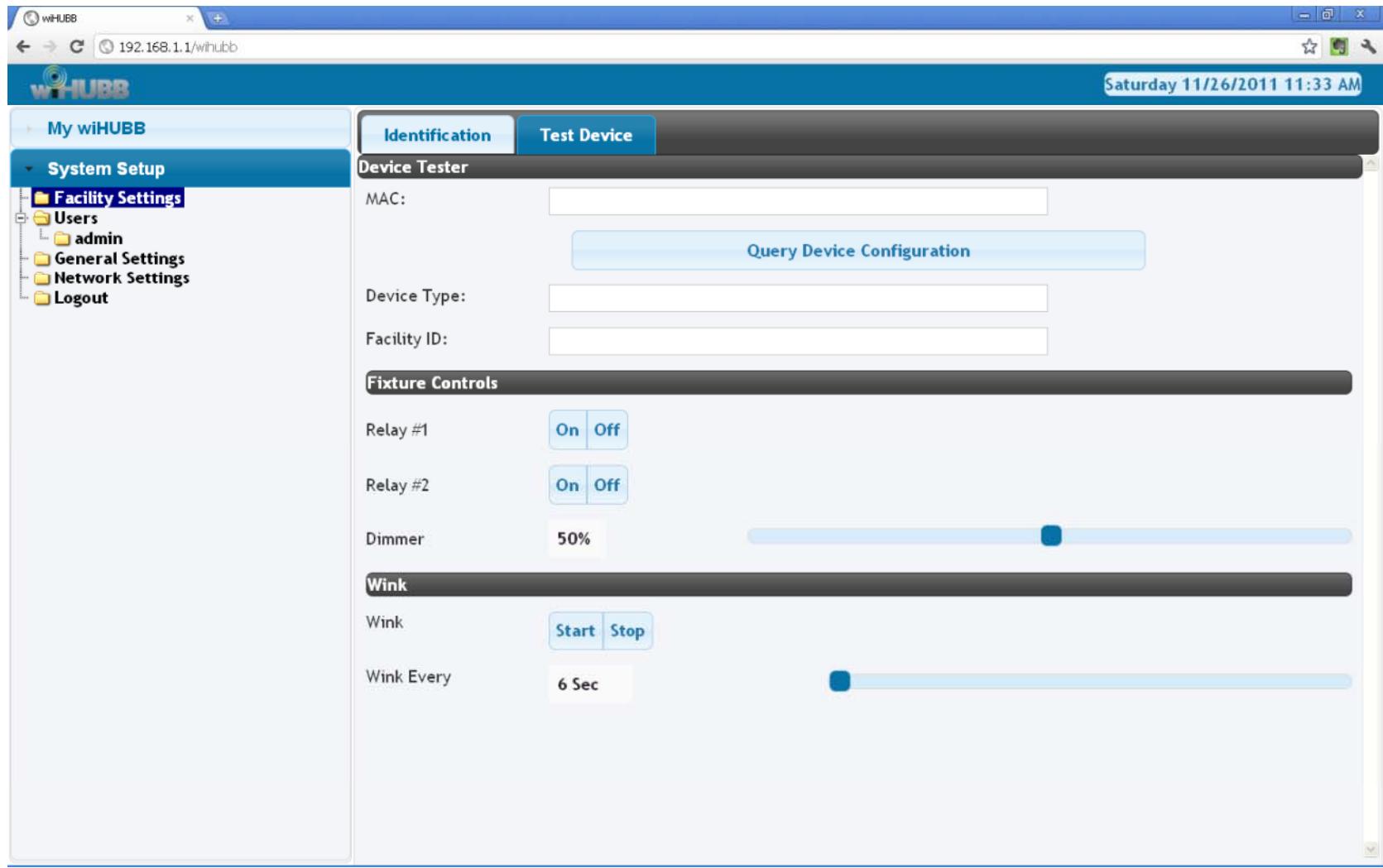
Relay #2

Dimmer 50%

Wink

Wink

Wink Every 6 Sec



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wiHUBB 192.168.1.1/wihubb Saturday 11/26/2011 11:34 AM

wiHUBB

My wiHUBB

System Setup

- Facility Settings
- Users
- admin
- General Settings
- Network Settings
- Logout

User Information

Username: admin

Password: 0% Enter your password

Re-enter Password: Re-enter your password

Accept

A screenshot of a web browser window displaying the wiHUBB administrative interface. The URL in the address bar is 192.168.1.1/wihubb. The page title is "wiHUBB". On the left, a sidebar menu shows "My wiHUBB" and "System Setup" expanded, with "admin" selected under "Users". The main content area is titled "User Information" and contains fields for "Username" (set to "admin"), "Password" (a placeholder field with "0%" completion and the instruction "Enter your password"), and "Re-enter Password" (an empty field with the placeholder "Re-enter your password"). A blue "Accept" button is at the bottom right of the form.

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Access Point General Settings – Date and Time

wiHUBB 192.168.1.1/wihubb Saturday 11/26/2011 11:35 AM

Date & Time **Holidays** **Miscellaneous** **Data Management** **Update** **About**

Time and Date

Current: 11:35 AM 11/26/2011 Set Time and Date

Timezone (UTC-6) Central Set Timezone

Operational Hours

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Holidays
Start:							
End:							

Set Operational Hours

Open/Close Times

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Holidays
Open:							
Close:							

Set Open/Close Times

My wiHUBB

System Setup

- Facility Settings
- Users
- admin
- General Settings**
- Network Settings
- Logout



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Wireless Comes to Light

Access Point

General Settings – Date & Time – Select Time

My wiHUBB

System Setup

- Facility Settings
- Users
 - admin
- General Settings
- Network Settings
- Logout

Date & Time Holidays Miscellaneous Data Management Update About

Saturday 11/26/2011 11:35 AM

Time and Date

Current: 11:35 AM 11/26/2011

Select a Time

Hour	Minute
12am	0 0
1am	1 1
2am	2 2
3am	3 3
4am	4 4
5am	5 5
6am	6 6
7am	7 7
8am	8 8
9am	9 9
10am	10 10
11am	11 11

Set Time and Date Set Timezone

Operational Hours

Sunday

Start: [] End: []

Set Operational Hours

Open/Close Times

Sunday

Open: [] Close: []

Accept

Set Open/Close Times



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Wireless Comes to Light

Access Point

General Settings – Date & Time – Select Date

wiHUBB 192.168.1.1/wihubb Saturday 11/26/2011 11:35 AM

My wiHUBB

System Setup

- Facility Settings
- Users
- admin
- General Settings
- Network Settings
- Logout

Date & Time Holidays Miscellaneous Data Management Update About

Time and Date

Current: 11:35 AM 11/26/2011

Timezone: (UTC-6) Central

Select a Date

Year: 2010 2011 2012

Month: Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Day: Friday Saturday Holidays

Set Time and Date Set Timezone

Operational Hours

Sunday Monday Tuesday

Start: [] [] []

End: [] [] []

Day: Friday Saturday Holidays

Set Operational Hours

Open/Close Times

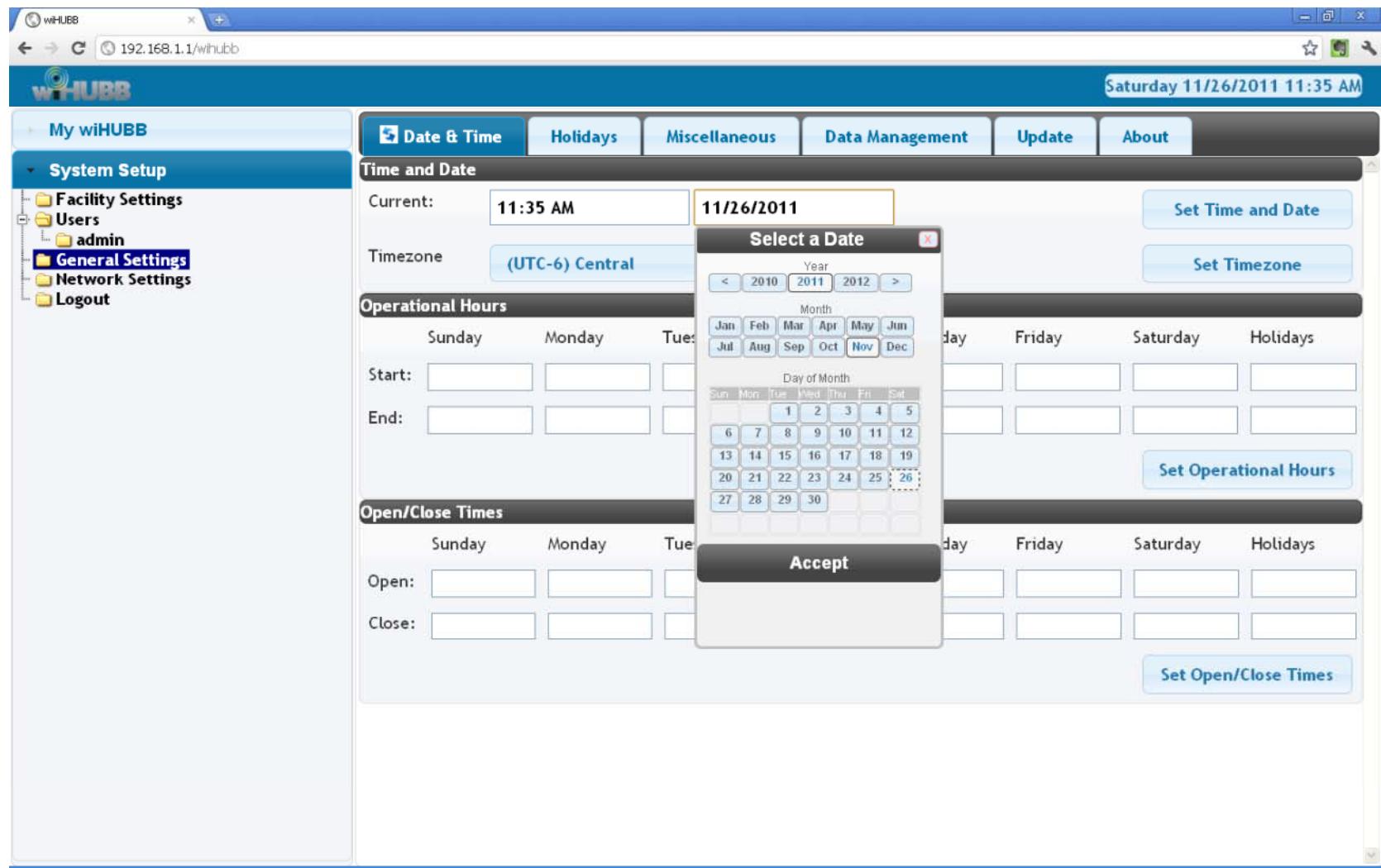
Sunday Monday Tuesday

Open: [] [] []

Close: [] [] []

Day: Friday Saturday Holidays

Set Open/Close Times



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Access Point

General Settings – Date & Time – Set Time and Date

wiHUBB 192.168.1.1/wihubb Saturday 11/26/2011 11:36 AM

Date & Time **Holidays** **Miscellaneous** **Data Management** **Update** **About**

Time and Date

Current: 11:35 AM 11/26/2011 **Set Time and Date**

Timezone: (UTC-6) Central **Set Timezone**

Operational Hours

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Holidays
Start:							
End:							

Set Operational Hours

Open/Close Times

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Holidays
Open:							
Close:							

Set Open/Close Times

Logout



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wiHUBB 192.168.1.1/wihubb Saturday 11/26/2011 11:36 AM

Date & Time **Holidays** **Miscellaneous** **Data Management** **Update** **About**

Time and Date

Current: 11:35 AM 11/26/2011 Set Time and Date

Timezone (UTC-6) Central Set Timezone

Operational Hours

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Holidays
Start:							
End:							

Set Operational Hours

Open/Close Times

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Holidays
Open:							
Close:							

Set Open/Close Times

192.168.1.1/wihubb#



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Access Point

General Settings – Date & Time – Select Timezone

192.168.1.1/wihubb

Saturday 11/26/2011 11:36 AM

My wiHUBB

System Setup

- Facility Settings
- Users
- admin
- General Settings**
- Network Settings
- Logout

Date & Time Holidays Miscellaneous Data Management Update About

Time and Date

Current: 11:35 AM 11/26/2011 Set Time and Date

Timezone: (UTC-6) Central Set Timezone

Operational Hours

Sunday Start: [] End: []

(UTC-5) Eastern
(UTC-6) Central
(UTC-7) Mountain
(UTC-7) Arizona
(UTC-8) Pacific
(UTC-9) Alaska
(UTC-10) Hawaii

Open/Close Times

Sunday Open: [] Close: []

Set Operational Hours

Thursday Friday Saturday Holidays

Set Open/Close Times

Thursday Friday Saturday Holidays

192.168.1.1/wihubb#



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Wireless Comes to Light

Access Point

General Settings – Date & Time – Set Timezone

My wiHUBB Date & Time Holidays Miscellaneous Data Management Update About

Saturday 11/26/2011 11:36 AM

Time and Date

Current: 11:35 AM 11/26/2011 Set Time and Date

Timezone: (UTC-6) Central Set Timezone

Operational Hours

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Holidays
Start:	<input type="text"/>							
End:	<input type="text"/>							

Set Operational Hours

Open/Close Times

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Holidays
Open:	<input type="text"/>							
Close:	<input type="text"/>							

Set Open/Close Times



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Wireless Comes to Light

Access Point

General Settings – Date & Time – Set Timezone

wiHUBB 192.168.1.1/wihubb Saturday 11/26/2011 11:36 AM

My wiHUBB

System Setup

- Facility Settings
- Users
- admin
- General Settings**
- Network Settings
- Logout

Date & Time Holidays Miscellaneous Data Management Update About

Time and Date

Current: 11:35 AM 11/26/2011 Set Time and Date

Timezone (UTC-6) Central Set Timezone

Operational Hours

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Holidays
Start:							
End:							

Set Operational Hours

Open/Close Times

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Holidays
Open:							
Close:							

Set Open/Close Times



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Access Point General Settings – Date & Time – Set Start Time

wiHUBB 192.168.1.1/wihubb Saturday 11/26/2011 11:39 AM

My wiHUBB

System Setup

- Facility Settings
- Users
- admin
- General Settings
- Network Settings
- Logout

Date & Time Holidays Miscellaneous Data Management Update About

Time and Date

Current: 11:35 AM 11/26/2011 Set Time and Date

Timezone (UTC-6) Central Set Timezone

Operational Hours

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Holidays
Start: 06:00 AM							
End:	Select a Time						
Open/C	Hour Minute						
Open:	12am 12pm 1am 1pm 2am 2pm 3am 3pm 4am 4pm 5am 5pm 6am 6pm 7am 7pm 8am 8pm 9am 9pm 10am 10pm 11am 11pm	0 0 1 1 2 2 3 3 4 4 5 5 6 6 7 7 8 8 9 9 10 10 11 11					
Close:							

Set Operational Hours

Open/C Close Times

Accept

Tuesday Wednesday Thursday Friday Saturday Holidays

Set Open/Close Times



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Wireless Comes to Light

Access Point

General Settings – Date & Time – Set End Time

wiHUBB 192.168.1.1/wihubb Saturday 11/26/2011 11:40 AM

My wiHUBB

System Setup

- Facility Settings
- Users
- admin
- General Settings
- Network Settings
- Logout

Date & Time Holidays Miscellaneous Data Management Update About

Time and Date

Current: 11:35 AM 11/26/2011 Set Time and Date

Timezone (UTC-6) Central Set Timezone

Operational Hours

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Holidays
Start: 06:00 AM							
End: 09:00 PM							

Select a Time

Hour	Minute
12am	12pm
1am	1pm
2am	2pm
3am	3pm
4am	4pm
5am	5pm
6am	6pm
7am	7pm
8am	8pm
9am	9pm
10am	10pm
11am	11pm

Accept

Open/Closed

Open: Close:

Tuesday	Wednesday	Thursday	Friday	Saturday	Holidays

Set Operational Hours

Set Open/Close Times



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Wireless Comes to Light

Access Point General Settings – Date & Time – Set Operational Hours

wiHUBB 192.168.1.1/wihubb Saturday 11/26/2011 11:40 AM

My wiHUBB

System Setup

- Facility Settings
- Users
- admin
- General Settings
- Network Settings
- Logout

Date & Time Holidays Miscellaneous Data Management Update About

Time and Date

Current: 11:35 AM 11/26/2011 Set Time and Date

Timezone (UTC-6) Central Set Timezone

Operational Hours

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Holidays
Start: 06:00 AM							
End: 09:00 PM							

Set Operational Hours

Open/Close Times

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Holidays
Open:							
Close:							

Set Open/Close Times

Set Time and Date

Set Timezone

Set Operational Hours

Set Open/Close Times



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Access Point

General Settings – Date & Time – Set Open Time

wiHUBB 192.168.1.1/wihubb Saturday 11/26/2011 11:41 AM

My wiHUBB

System Setup

- Facility Settings
- Users
- admin
- General Settings**
- Network Settings
- Logout

Date & Time Holidays Miscellaneous Data Management Update About

Time and Date

Current: 11:35 AM 11/26/2011 Set Time and Date

Timezone Set Timezone

Select a Time

Hour	Minute
12am	12pm
1am	1pm
2am	2pm
3am	3pm
4am	4pm
5am	5pm
6am	6pm
7am	7pm
8am	8pm
9am	9pm
10am	10pm
11am	11pm

Accept

Operational Hours

Tuesday Wednesday Thursday Friday Saturday Holidays

Start: End:

Set Operational Hours

Open/Closed

Open: 09:00 AM Tuesday Wednesday Thursday Friday Saturday Holidays

Close: Tuesday Wednesday Thursday Friday Saturday Holidays

Set Open/Close Times



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Access Point General Settings – Date & Time – Set Close Time

wiHUBB 192.168.1.1/wihubb Saturday 11/26/2011 11:41 AM

My wiHUBB

System Setup

- Facility Settings
- Users
- admin
- General Settings
- Network Settings
- Logout

Date & Time Holidays Miscellaneous Data Management Update About

Time and Date

Current: 11:35 AM 11/26/2011 Set Time and Date

Timezone (UTC -5 Central) Set Timezone

Select a Time

Hour	Minute
12am	12pm
1am	1pm
2am	2pm
3am	3pm
4am	4pm
5am	5pm
6am	6pm
7am	7pm
8am	8pm
9am	9pm
10am	10pm
11am	11pm

Accept

Start: End:

Open/Clo

Open: 05:00 PM Accept

Close: 05:00 PM

Tuesday Wednesday Thursday Friday Saturday Holidays

Tuesday Wednesday Thursday Friday Saturday Holidays

Set Operational Hours

Set Open/Close Times



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Wireless Comes to Light

Access Point General Settings – Date & Time – Set Close/Close Times

wiHUBB 192.168.1.1/wihubb Saturday 11/26/2011 11:42 AM

Date & Time **Holidays** **Miscellaneous** **Data Management** **Update** **About**

Time and Date

Current: 11:35 AM 11/26/2011 Set Time and Date

Timezone (UTC-6) Central Set Timezone

Operational Hours

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Holidays
Start: 06:00 AM							
End: 09:00 PM							

Set Operational Hours

Open/Close Times

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Holidays
Open: 09:00 AM							
Close: 05:00 PM							

Set Open/Close Times

My wiHUBB

System Setup

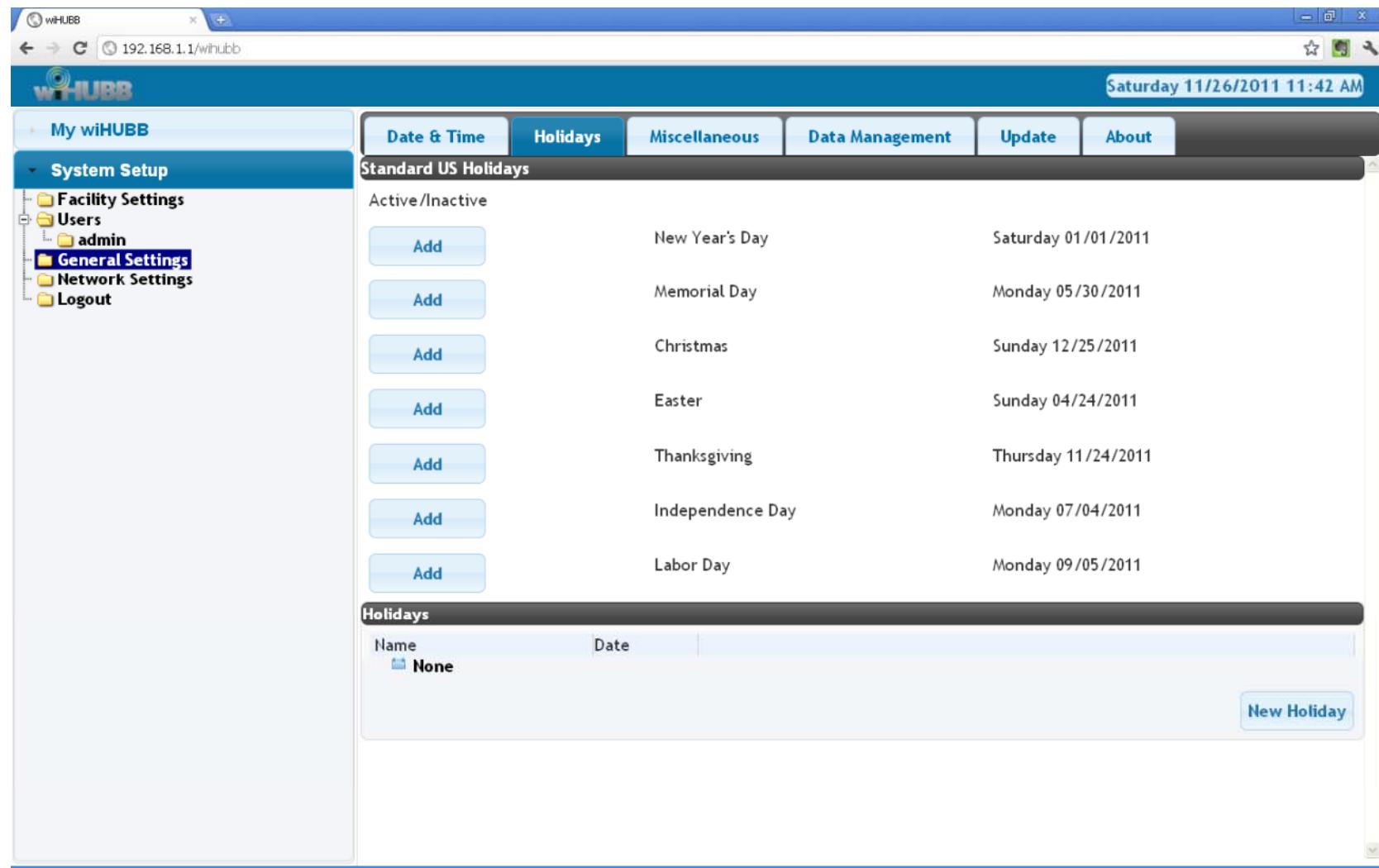
- Facility Settings
- Users
- admin
- General Settings
- Network Settings
- Logout



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Access Point General Settings – Holidays



My wiHUBB

System Setup

Date & Time Holidays Miscellaneous Data Management Update About

Saturday 11/26/2011 11:42 AM

Standard US Holidays

Active /Inactive		
Add	New Year's Day	Saturday 01/01/2011
Add	Memorial Day	Monday 05/30/2011
Add	Christmas	Sunday 12/25/2011
Add	Easter	Sunday 04/24/2011
Add	Thanksgiving	Thursday 11/24/2011
Add	Independence Day	Monday 07/04/2011
Add	Labor Day	Monday 09/05/2011

Holidays

Name	Date
None	

New Holiday

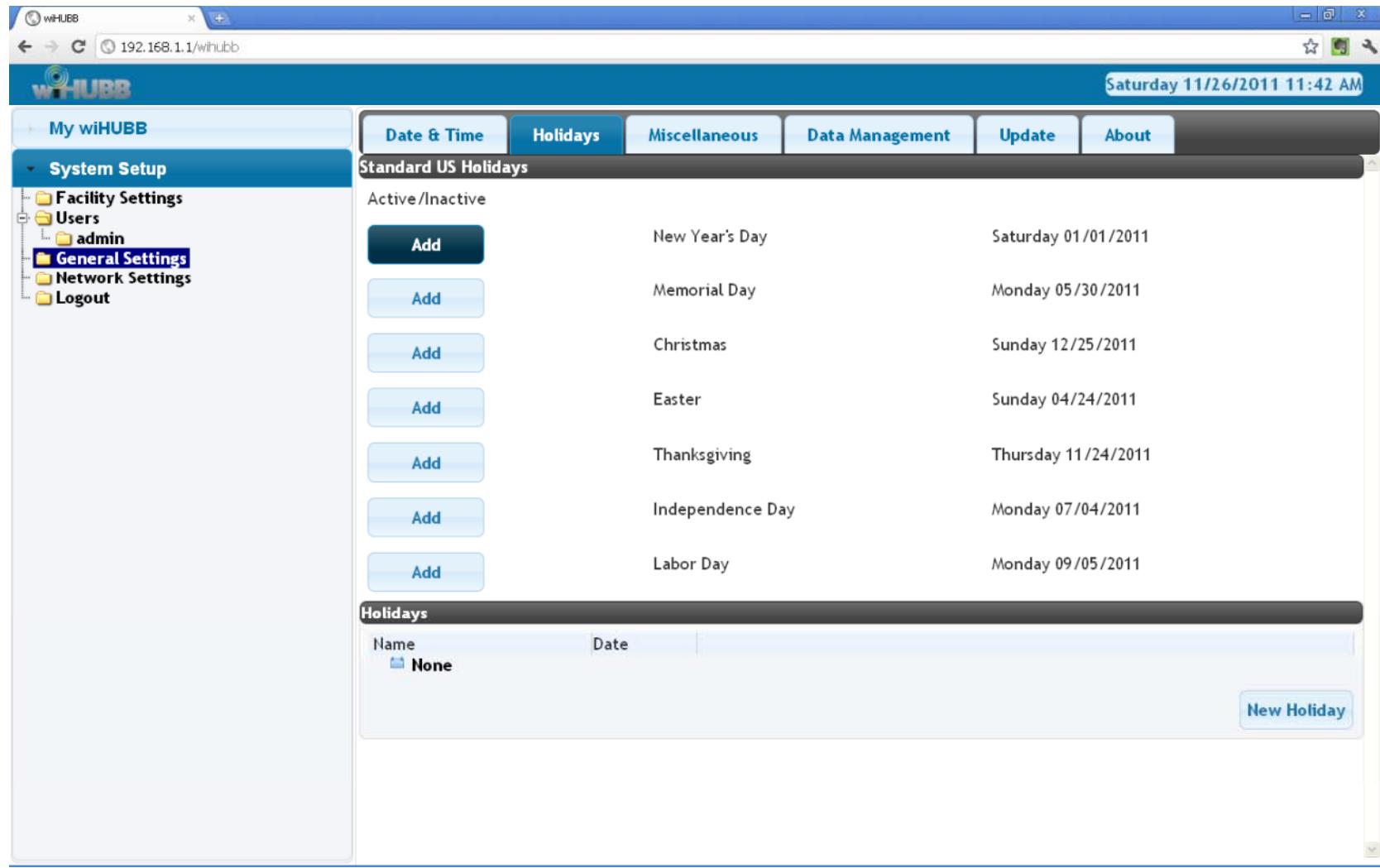


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Access Point

General Settings – Holidays – Add Holidays



The screenshot shows the wiHUBB web interface for managing holidays. The left sidebar has a tree view with 'My wiHUBB' at the top, followed by 'System Setup' which is expanded to show 'Facility Settings', 'Users' (with 'admin' selected), 'General Settings' (which is also selected and highlighted in blue), 'Network Settings', and 'Logout'. The main content area has a header with tabs: 'Date & Time', 'Holidays' (which is active and highlighted in blue), 'Miscellaneous', 'Data Management', 'Update', and 'About'. Below the tabs, a sub-header says 'Standard US Holidays'. A table lists seven standard US holidays with their names and dates. Each row has an 'Add' button next to it. At the bottom of the table, there's a section titled 'Holidays' with a table showing one entry ('None') and a 'New Holiday' button.

Name	Date
New Year's Day	Saturday 01/01/2011
Memorial Day	Monday 05/30/2011
Christmas	Sunday 12/25/2011
Easter	Sunday 04/24/2011
Thanksgiving	Thursday 11/24/2011
Independence Day	Monday 07/04/2011
Labor Day	Monday 09/05/2011

Name	Date
None	

New Holiday

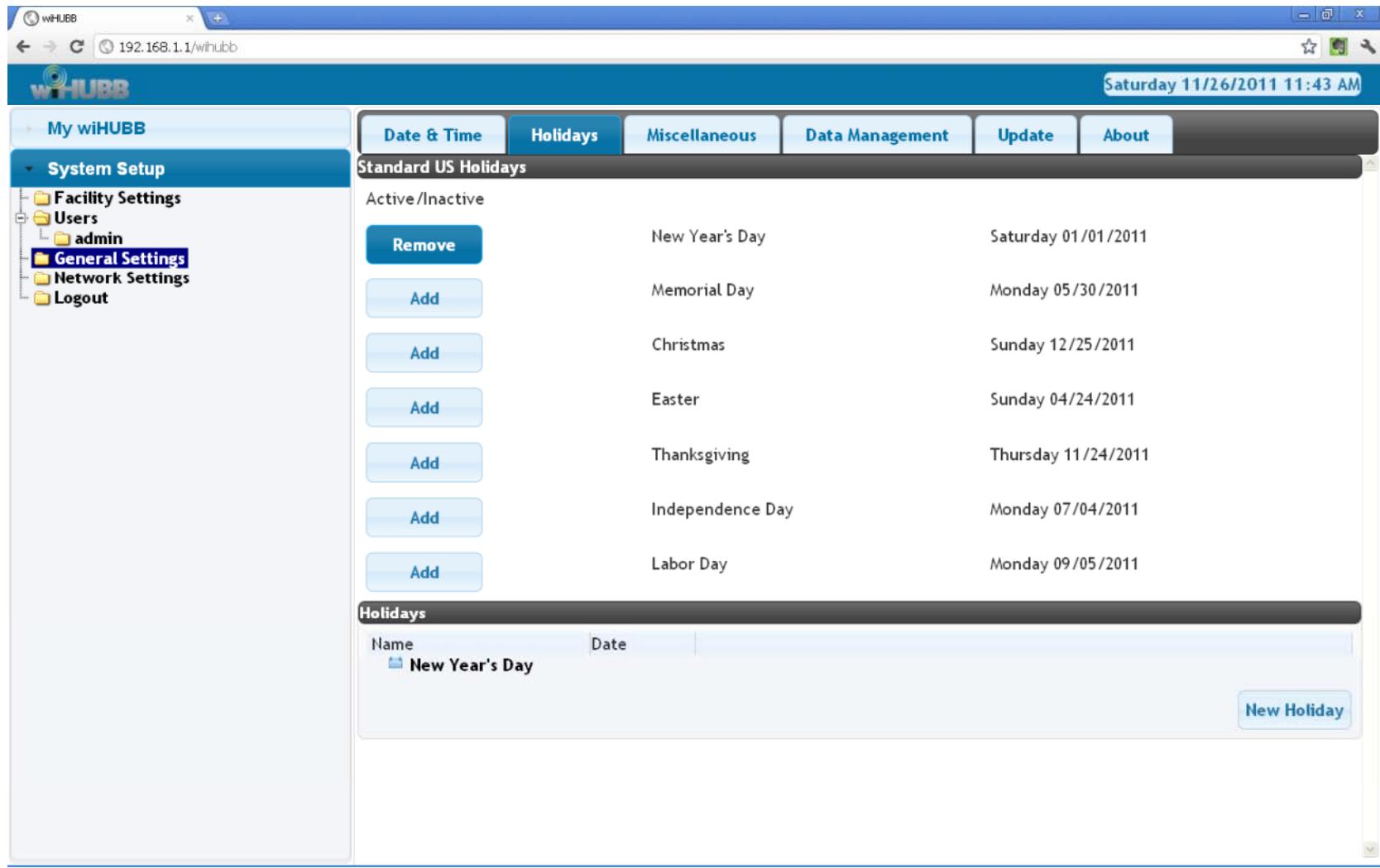


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Wireless Comes to Light

Access Point General Settings – Holidays – Holiday Added



The screenshot shows the wiHUBB web interface for managing holidays. The left sidebar shows navigation options like 'My wiHUBB', 'System Setup' (with 'General Settings' selected), and 'Logout'. The main content area has tabs for 'Date & Time', 'Holidays' (which is active), 'Miscellaneous', 'Data Management', 'Update', and 'About'. Under the 'Holidays' tab, it says 'Standard US Holidays' and lists active holidays with their names and dates. There are 'Add' buttons next to each entry. Below this is a 'Holidays' table with a single entry for 'New Year's Day' on 'Saturday 01/01/2011'. A 'New Holiday' button is at the bottom right of the table.

Name	Date
New Year's Day	Saturday 01/01/2011

Holidays

Name	Date
New Year's Day	Saturday 01/01/2011

New Holiday



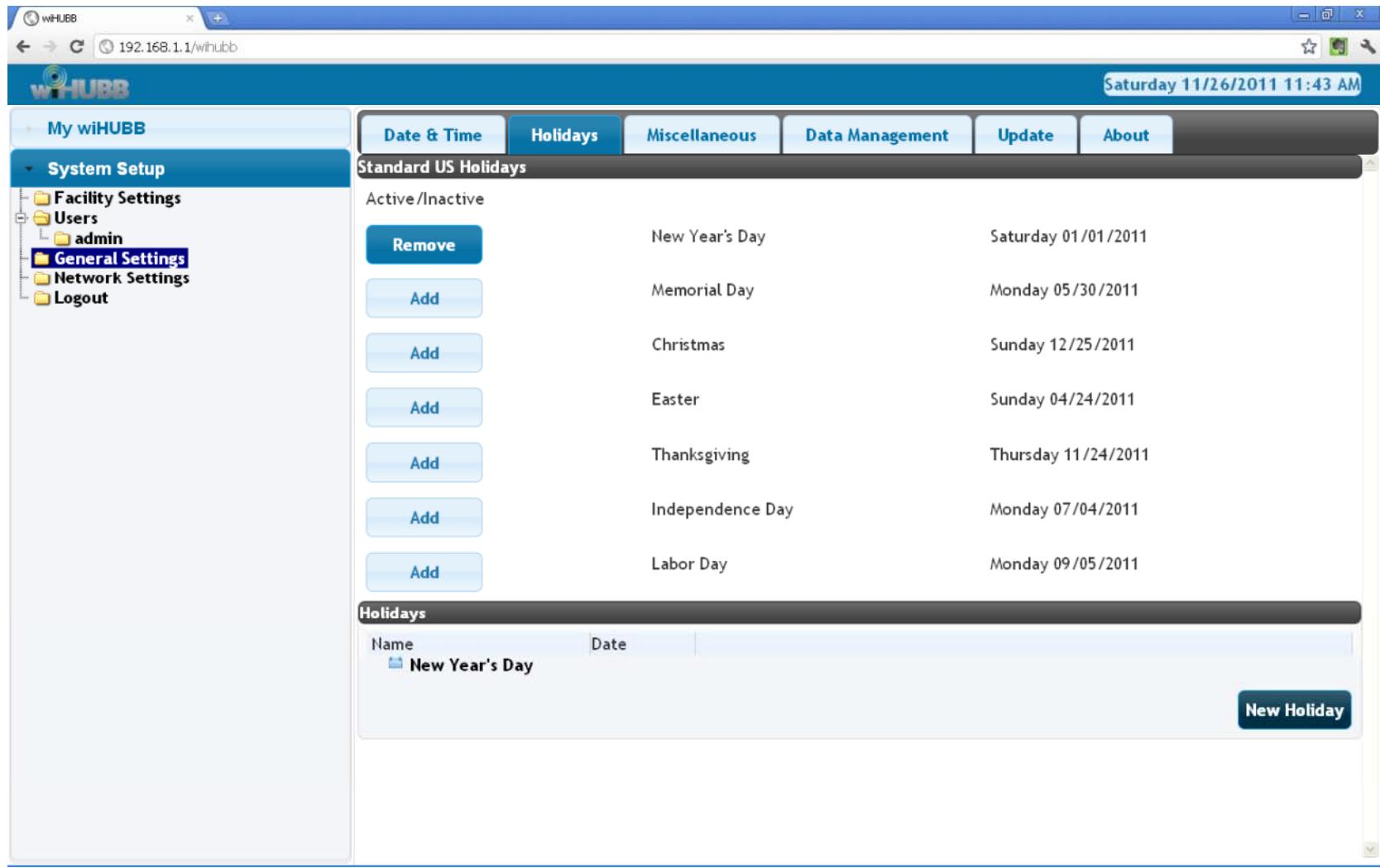
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Wireless Comes to Light

Access Point

General Settings – Holidays – New Holiday



The screenshot shows the wiHUBB web interface for managing holidays. The left sidebar shows navigation options like 'My wiHUBB', 'System Setup' (with 'General Settings' selected), and 'Logout'. The main content area has tabs for 'Date & Time', 'Holidays' (which is active), 'Miscellaneous', 'Data Management', 'Update', and 'About'. Under the 'Holidays' tab, it says 'Standard US Holidays' and lists active/inactive holidays with their names and dates. There are 'Add' buttons next to each entry. Below this is a 'Holidays' table with columns for Name and Date, containing 'New Year's Day'. A 'New Holiday' button is at the bottom right of the table.

Name	Date
New Year's Day	

Holidays

New Holiday



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Access Point General Settings – Holidays – Holiday Editor

The screenshot shows the wiHUBB web interface with the URL 192.168.1.1/wihubb. The main menu on the left includes System Setup, General Settings (which is selected), and Network Settings. The top navigation bar has tabs for Date & Time, Holidays (selected), Miscellaneous, Data Management, Update, and About. The date displayed is Saturday 11/26/2011 11:43 AM. The 'Holidays' section displays a list of standard US holidays: New Year's Day (Saturday 01/01/2011), Memorial Day (Monday 05/30/2011), Independence Day (Sunday 12/25/2011), Thanksgiving (Sunday 04/24/2011), Veterans Day (Thursday 11/24/2011), Labor Day (Monday 07/04/2011), and Columbus Day (Monday 09/05/2011). A 'Holiday Editor' dialog box is overlaid on the page, containing fields for 'Name:' and 'Date:', with 'Ok' and 'Cancel' buttons at the bottom. The 'Name:' field is empty, and the 'Date:' field contains the placeholder text 'Select Date...'. Below the dialog, a table lists the 'New Year's Day' holiday with its name and date.

Name	Date
New Year's Day	Saturday 01/01/2011

[New Holiday](#)



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Access Point General Settings – Holidays – Holiday Editor

The screenshot shows the wiHUBB web interface at 192.168.1.1/wihubb. The main menu on the left includes System Setup, General Settings (which is currently selected), and Network Settings. The top navigation bar has tabs for Date & Time, Holidays (which is active), Miscellaneous, Data Management, Update, and About. The date displayed is Saturday 11/26/2011 11:44 AM. In the center, under the Holidays tab, there's a list of Standard US Holidays: New Year's Day (Saturday 01/01/2011), Memorial Day (Monday 05/30/2011), Thanksgiving (Sunday 12/25/2011), Christmas Day (Sunday 04/24/2011), Thursday 11/24/2011, Monday 07/04/2011, and Monday 09/05/2011. A 'Holiday Editor' dialog box is open, prompting for a Name (Veterans Day) and Date (11/11). A 'Select a Date' calendar is displayed, showing November 2011 with the 11th highlighted. Buttons for Ok and Cancel are visible at the bottom of the calendar. An 'Accept' button is at the bottom of the editor dialog.



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Access Point General Settings – Holidays – Holiday Editor

The screenshot shows the wiHUBB web interface for managing holidays. The main menu on the left includes System Setup, General Settings (which is currently selected), and Network Settings. The top navigation bar has tabs for Date & Time, Holidays (which is active), Miscellaneous, Data Management, Update, and About. The date displayed is Saturday 11/26/2011 11:44 AM. The main content area shows a list of standard US holidays: New Year's Day (Saturday 01/01/2011), Memorial Day (Monday 05/30/2011), Thanksgiving (Sunday 12/25/2011), Independence Day (Sunday 04/24/2011), Thanksgiving (Thursday 11/24/2011), Memorial Day (Monday 07/04/2011), and Labor Day (Monday 09/05/2011). A 'Holiday Editor' dialog box is open in the foreground, prompting for a new holiday entry. The 'Name:' field contains 'Veterans Day' and the 'Date:' field contains '11/11'. At the bottom of the dialog are 'Ok' and 'Cancel' buttons.



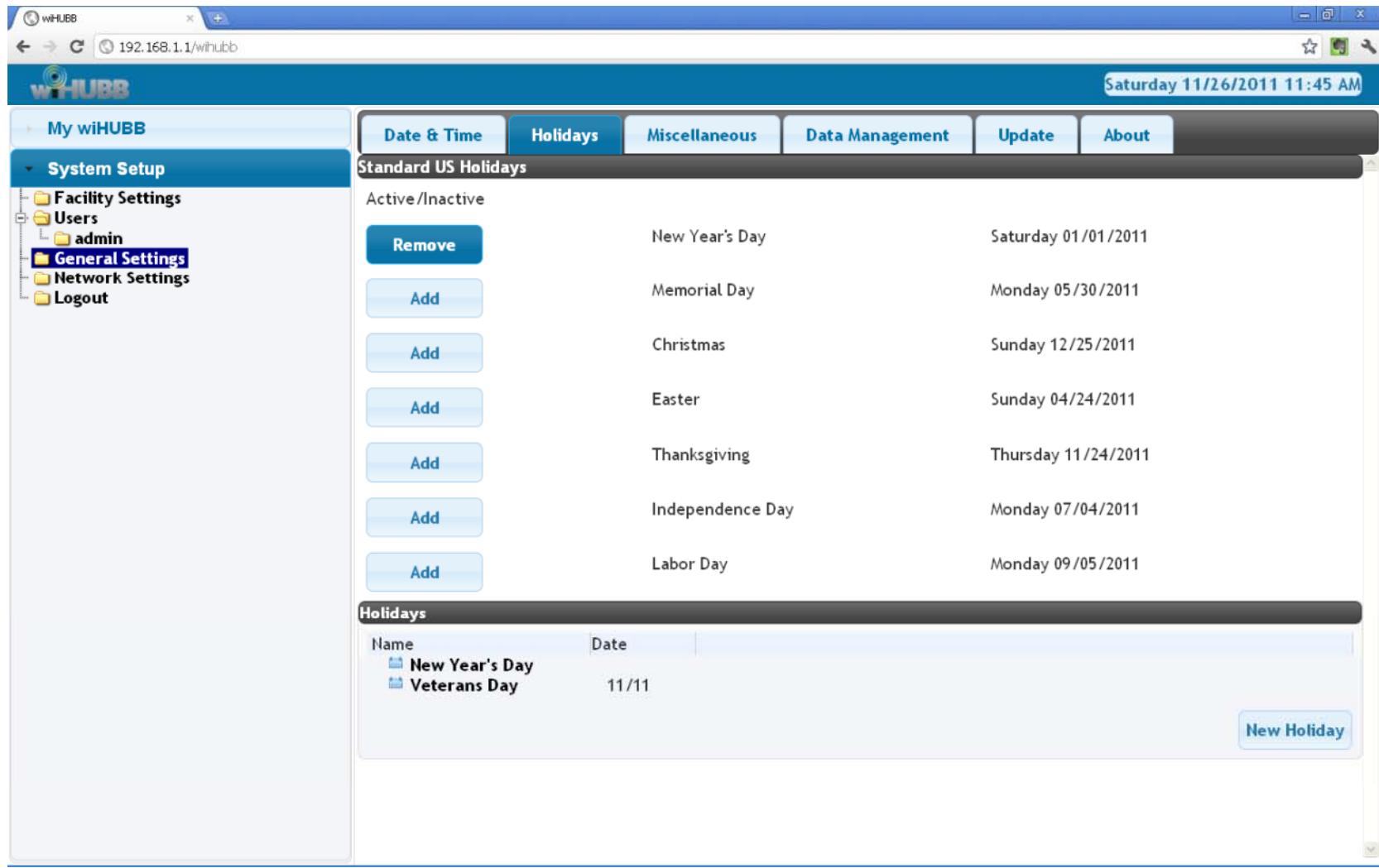
Building Automation, Inc.



Wireless Comes to Light

Access Point

General Settings – Holidays – New Holiday Added



The screenshot shows the wiHUBB web interface for managing holidays. The left sidebar has a tree view with 'My wiHUBB' at the top, followed by 'System Setup' which is expanded to show 'Facility Settings', 'Users' (with 'admin' selected), 'General Settings' (which is also selected and highlighted in blue), 'Network Settings', and 'Logout'. The main content area has a header with tabs: 'Date & Time', 'Holidays' (which is active and highlighted in blue), 'Miscellaneous', 'Data Management', 'Update', and 'About'. Below the tabs, the date is shown as 'Saturday 11/26/2011 11:45 AM'. The 'Standard US Holidays' section lists several holidays with their names and dates:

	Name	Date
Remove	New Year's Day	Saturday 01/01/2011
Add	Memorial Day	Monday 05/30/2011
Add	Christmas	Sunday 12/25/2011
Add	Easter	Sunday 04/24/2011
Add	Thanksgiving	Thursday 11/24/2011
Add	Independence Day	Monday 07/04/2011
Add	Labor Day	Monday 09/05/2011

Below this is a 'Holidays' section with a table:

Name	Date
New Year's Day	11/11
Veterans Day	

At the bottom right of this section is a blue 'New Holiday' button.



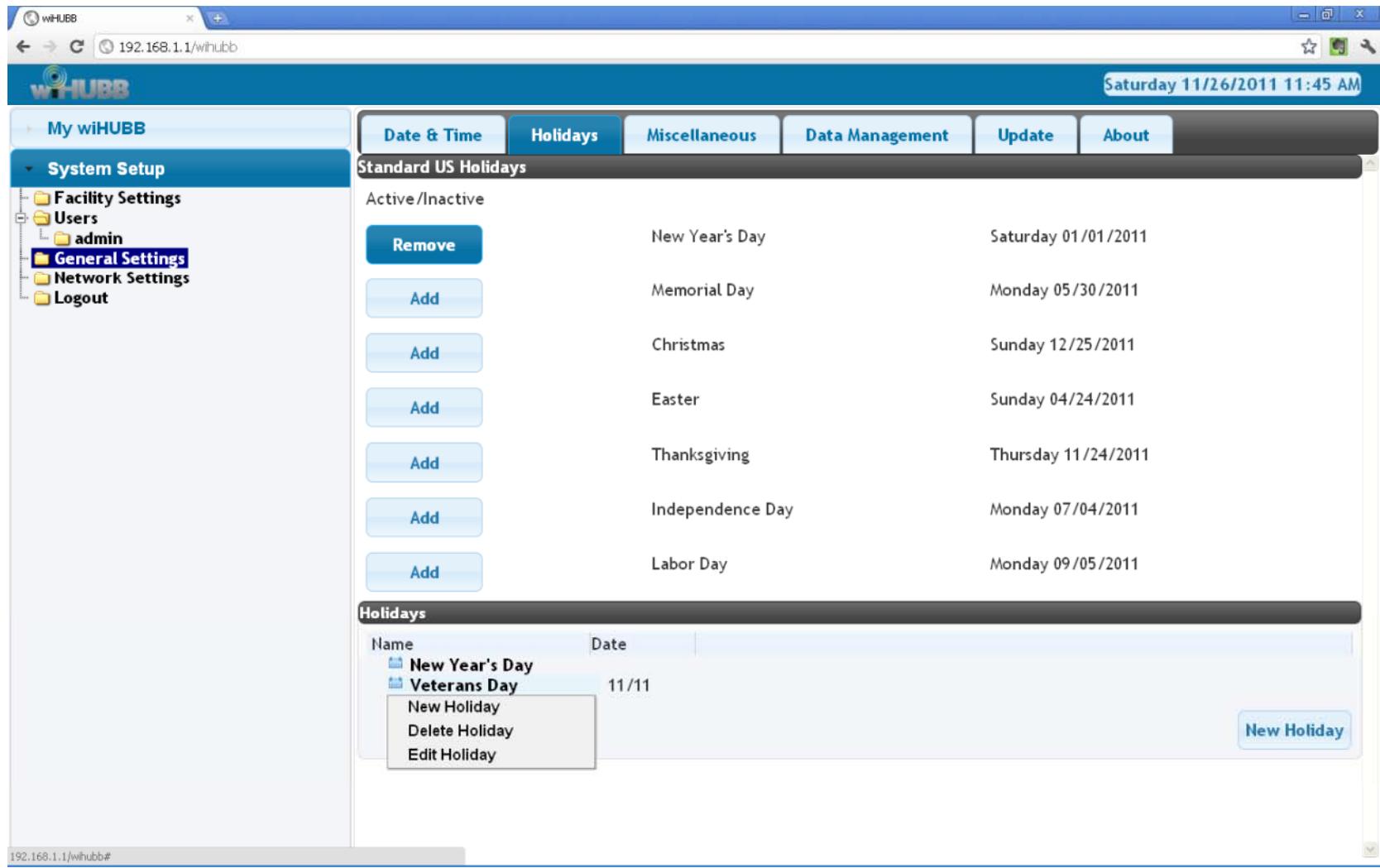
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Access Point

General Settings – Holidays – New, Delete, Edit Holiday



The screenshot shows the wiHUBB web interface for managing holidays. The top navigation bar includes links for Date & Time, Holidays (which is the active tab), Miscellaneous, Data Management, Update, and About. The date displayed is Saturday 11/26/2011 11:45 AM.

The left sidebar shows the System Setup menu with options like Facility Settings, Users, General Settings (selected), Network Settings, and Logout.

The main content area displays "Standard US Holidays" with the following data:

	Name	Date
Remove	New Year's Day	Saturday 01/01/2011
Add	Memorial Day	Monday 05/30/2011
Add	Christmas	Sunday 12/25/2011
Add	Easter	Sunday 04/24/2011
Add	Thanksgiving	Thursday 11/24/2011
Add	Independence Day	Monday 07/04/2011
Add	Labor Day	Monday 09/05/2011

Below this is a "Holidays" section with a table:

Name	Date
New Year's Day	11/11
Veterans Day	

A context menu is open over the first row, showing options: New Holiday, Delete Holiday, and Edit Holiday. A "New Holiday" button is also visible in the bottom right of the "Holidays" section.



wiHUBB
Wireless Comes to Light

Access Point General Settings – Miscellaneous

My wiHUBB Date & Time Holidays **Miscellaneous** Data Management Update About

Saturday 11/26/2011 11:46 AM

Location

Select a city: Longitude: Latitude:

Save Location

Facility Rate Configurations

Dimmer Fade Rate: Blink Duration: Override Duration: After Hour Sweeps:

Save Rates

Idle Detection Configuration

Idle time until logout:

Save Idle Time

Reset

Reset Radio **Reset Radio**

Reboot Box



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Wireless Comes to Light

Access Point General Settings – Miscellaneous

wiHUBB 192.168.1.1/wihubb Saturday 11/26/2011 11:46 AM

My wiHUBB

System Setup

- Facility Settings
- Users
- admin
- General Settings**
- Network Settings
- Logout

Date & Time **Holidays** **Miscellaneous** **Data Management** **Update** **About**

Location

Select a city:

Longitude:

Latitude:

Save Location

Facility Rate Configurations

Dimmer Fade Rate:

Blink Duration:

Override Duration:

After Hour Sweeps:

Idle Detection Configuration

Idle time until logout:

Reset

Reset Radio

Reboot Box



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Access Point General Settings – Miscellaneous – Select a City

My wiHUBB Date & Time Holidays **Miscellaneous** Data Management Update About

Saturday 11/26/2011 11:46 AM

Location

Select a city:

Longitude:
Latitude:
Longitude:
Latitude:
Longitude:
Latitude:
Longitude:
Latitude:
Longitude:
Latitude:

Facility Rate Configurations

Dimmer Fade Rate:

Blink Duration:

Override Duration:

After Hour Sweeps:

Idle Detection Configuration

Idle time until logout:

Reset

Reset Radio:

Reboot Box:



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Access Point
General Settings – Miscellaneous – Save Location

My wiHUBB Date & Time Holidays **Miscellaneous** Data Management Update About

Saturday 11/26/2011 11:49 AM

Location

Select a city:

Longitude:

Latitude:

Save Location

Facility Rate Configurations

Dimmer Fade Rate:

Blink Duration:

Override Duration:

After Hour Sweeps:

Idle Detection Configuration

Idle time until logout:

Reset

Reset Radio:

192.168.1.1/wihubb#



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Wireless Comes to Light

Access Point General Settings – Miscellaneous – Save Rates

My wiHUBB Date & Time Holidays **Miscellaneous** Data Management Update About

Saturday 11/26/2011 11:49 AM

Location

Select a city: Longitude: Latitude:

Save Location

Facility Rate Configurations

Dimmer Fade Rate:

Blink Duration:

Override Duration:

After Hour Sweeps:

Idle Detection Configuration

Idle time until logout:

Reset

Reset Radio

192.168.1.1/wihubb#



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Wireless Comes to Light

Access Point

General Settings – Miscellaneous – Idle Detection

My wiHUBB

System Setup

- Facility Settings
- Users
 - admin
- General Settings
- Network Settings
- Logout

Date & Time Holidays **Miscellaneous** Data Management Update About

Location

Select a city: Austin TX

Longitude: -97.8

Latitude: 30.3

Save Location

Facility Rate Configurations

Dimmer Fade Rate: 0.1 sec(s)

Blink Duration: 1 min

Override Duration: 1 min

After Hour Sweeps: 1 min

Save Rates

Idle Detection Configuration

Idle time until logout: 5 min(s)

Save Idle Time

Reset

Reset Radio

Reboot Box

Reset Radio

Reboot Box



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wiHUBB

Wireless Comes to Light

Access Point General Settings – Misc – Idle Detection Disabled

192.168.1.1/wihubb Saturday 11/26/2011 11:48 AM

My wiHUBB

System Setup

- Facility Settings
- Users
- admin
- General Settings**
- Network Settings
- Logout

Date & Time **Holidays** **Miscellaneous** **Data Management** **Update** **About**

Location

Select a city: Longitude: Latitude:

Save Location

Facility Rate Configurations

Dimmer Fade Rate: **Save Rates**

Blink Duration:

Override Duration:

After Hour Sweeps:

Idle Detection Configuration

Idle time until logout: **Save Idle Time**

Reset

Reset Radio **Reset Radio**

Reboot Box **Reboot Box**



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wiHUBB

Wireless Comes to Light

Access Point General Settings – Misc – Idle Detection Disabled

192.168.1.1/wihubb Saturday 11/26/2011 11:48 AM

My wiHUBB

System Setup

- Facility Settings
- Users
- admin
- General Settings**
- Network Settings
- Logout

Date & Time **Holidays** **Miscellaneous** **Data Management** **Update** **About**

Location

Select a city: Longitude: Latitude:

Save Location

Facility Rate Configurations

Dimmer Fade Rate: **Save Rates**

Blink Duration:

Override Duration:

After Hour Sweeps:

Idle Detection Configuration

Idle time until logout: **Save Idle Time**

Reset

Reset Radio **Reset Radio**

Reboot Box **Reboot Box**



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Access Point

General Settings – Miscellaneous – Reset Radio

Saturday 11/26/2011 11:49 AM

My wiHUBB

System Setup

- Facility Settings
- Users
- admin
- General Settings**
- Network Settings
- Logout

Date & Time Holidays **Miscellaneous** Data Management Update About

Select a city: Austin TX

Longitude: -97.8

Latitude: 30.3

Save Location

Facility Rate Configurations

Dimmer Fade Rate	0.1 sec(s)	<input type="range"/>
Blink Duration	1 min	<input type="range"/>
Override Duration	1 min	<input type="range"/>
After Hour Sweeps	1 min	<input type="range"/>

Save Rates

Idle Detection Configuration

Idle time until logout	Disabled	<input type="range"/>
------------------------	----------	-----------------------

Save Idle Time

Reset

Reset Radio	Reset Radio
Reboot Box	Reboot Box



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Wireless Comes to Light

Access Point

General Settings – Miscellaneous – Reboot Box

My wiHUBB Date & Time Holidays **Miscellaneous** Data Management Update About

Select a city: Austin TX

Longitude: -97.8

Latitude: 30.3

Save Location

Facility Rate Configurations

Dimmer Fade Rate	0.1 sec(s)	<input type="range"/>
Blink Duration	1 min	<input type="range"/>
Override Duration	1 min	<input type="range"/>
After Hour Sweeps	1 min	<input type="range"/>

Save Rates

Idle Detection Configuration

Idle time until logout	<input type="button" value="Disabled"/>	<input type="range"/>
------------------------	-----------------------------------------	-----------------------

Save Idle Time

Reset

Reset Radio	<input type="button" value="Reset Radio"/>
Reboot Box	<input type="button" value="Reboot Box"/>



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A screenshot of a web browser window titled "wiHUBB" with the URL "192.168.1.1/wihubb". The page shows a navigation menu on the left with options like "My wiHUBB", "System Setup" (which is expanded to show "Facility Settings", "Users", "admin", "General Settings" which is selected, "Network Settings", and "Logout"). The main content area has tabs at the top: "Date & Time", "Holidays", "Miscellaneous", "Data Management" (which is highlighted), "Update", and "About". Below the tabs, there is a file input field labeled "File:" with "Choose File No file chosen", a "submit" button, and two links: "Download Backup" and "Reset Database".

Data Management is used to update the firmware of specific device types (e.g. In-Fixture Modules, On-Fixture Modules, Smart Packs and Switch Stations)

1. Select **Choose File**.
2. From the Open Dialog, locate the device update file which has the file extension ".ssu".
3. Select the file and then click the Open button.
4. Click on the Submit button to distribute the device firmware update to all devices of that same type.
5. Verify device firmware version by going to the device management page and clicking on the About tab.



The screenshot displays the "Data Management" tab of the wiHUBB web interface. On the left, a sidebar menu under "System Setup" shows "General Settings" selected. The main area contains a file upload form with a "Choose File" button and a "No file chosen" message. Below the form are two buttons: "Download Backup" (in blue) and "Reset Database" (in light blue). The top navigation bar includes links for "Date & Time", "Holidays", "Miscellaneous", "Update", and "About". The date and time "Saturday 11/26/2011 11:50 AM" are also shown in the top right corner.

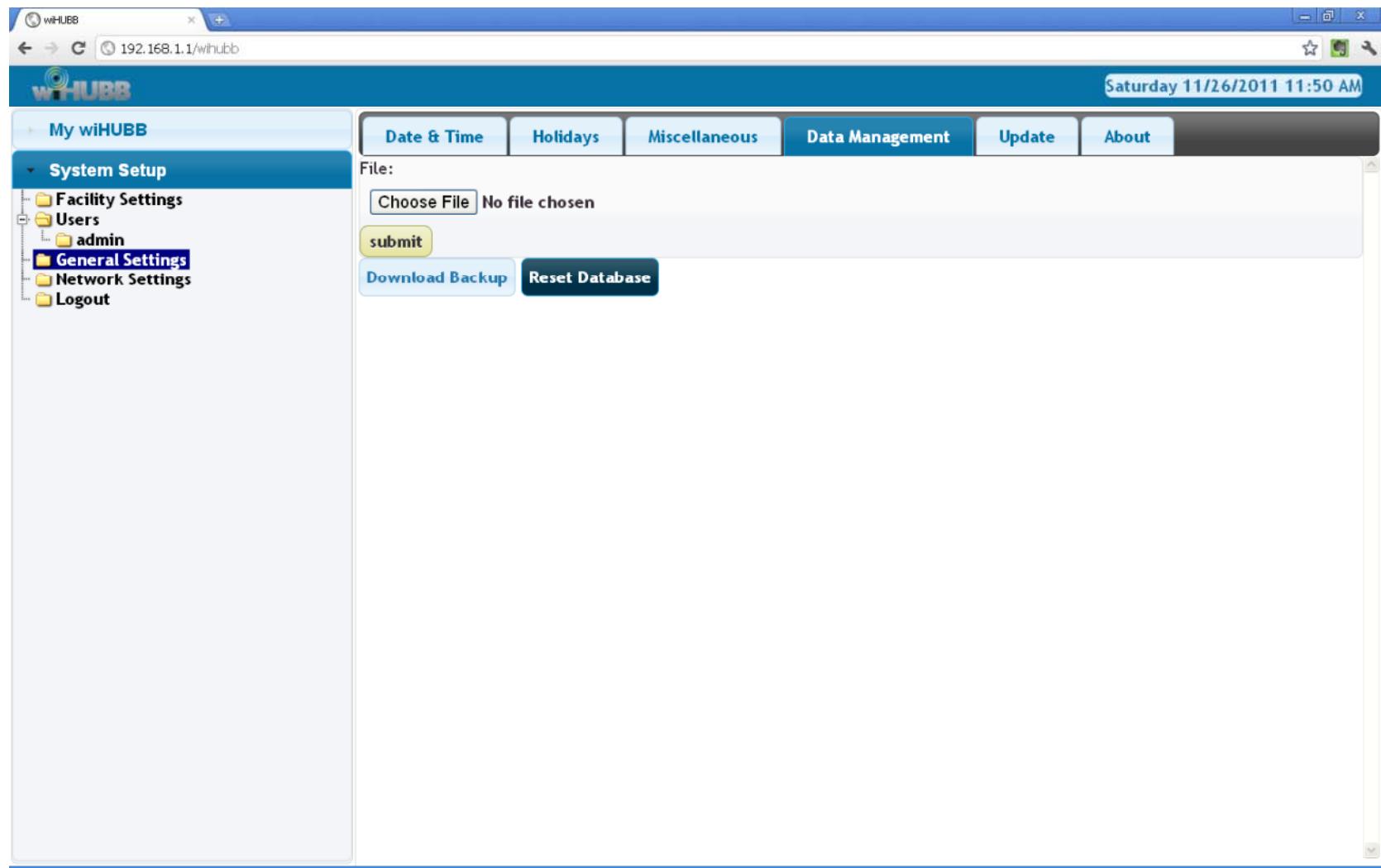


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Access Point

General Settings – Data Mgmt – Reset Database



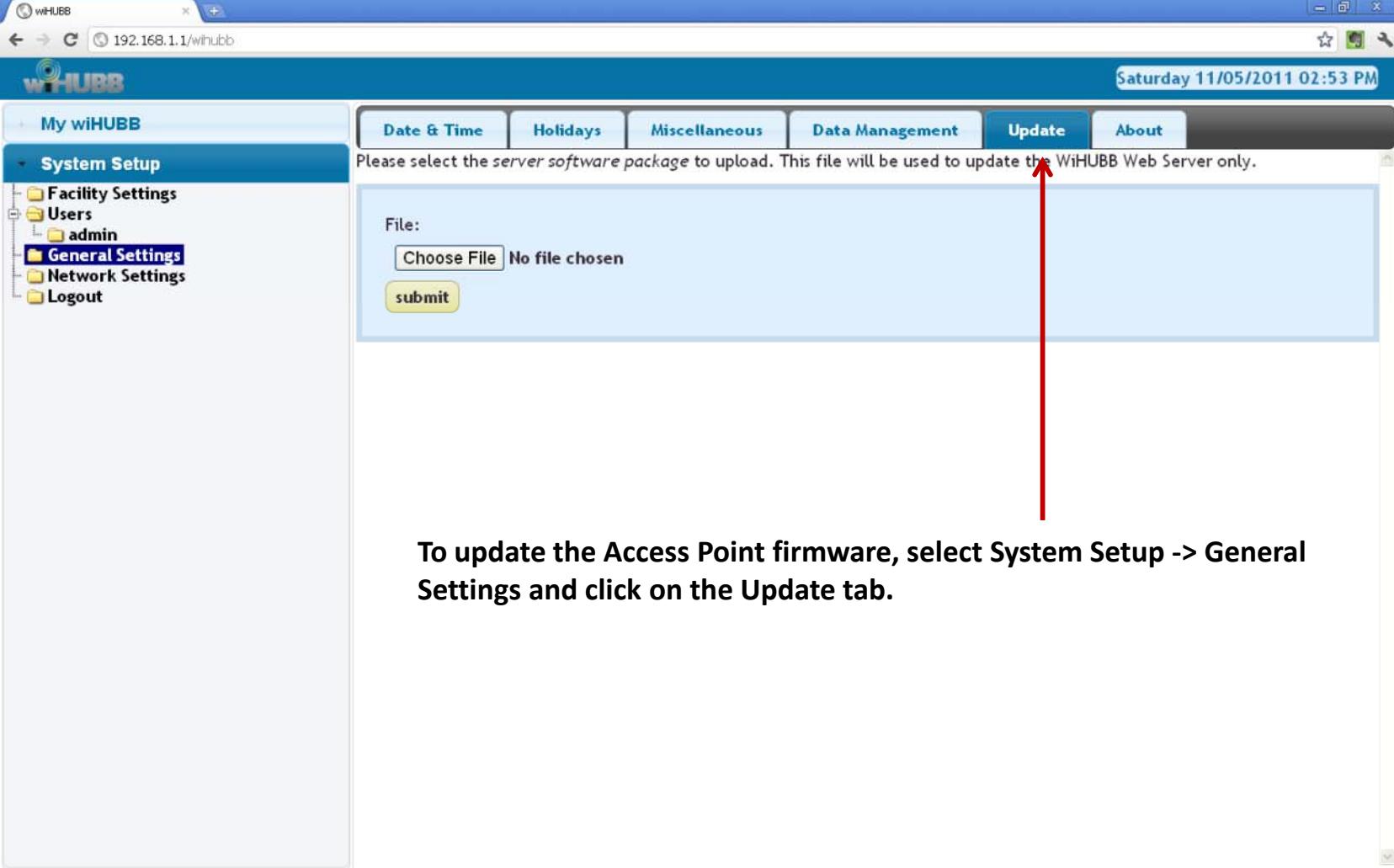
The screenshot shows a web browser window for the wiHUBB system. The URL in the address bar is 192.168.1.1/wihubb. The page title is "wiHUBB". The top navigation bar includes links for Date & Time, Holidays, Miscellaneous, Data Management (which is highlighted in blue), Update, and About. The date and time displayed are Saturday 11/26/2011 11:50 AM. On the left, a sidebar menu under "System Setup" shows options: Facility Settings, Users (with admin selected), General Settings (selected), Network Settings, and Logout. The main content area contains a "File:" input field with "Choose File No file chosen", a "submit" button, and two buttons at the bottom: "Download Backup" and "Reset Database".



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Access Point
Updating the AP Firmware – Step 1 of 4

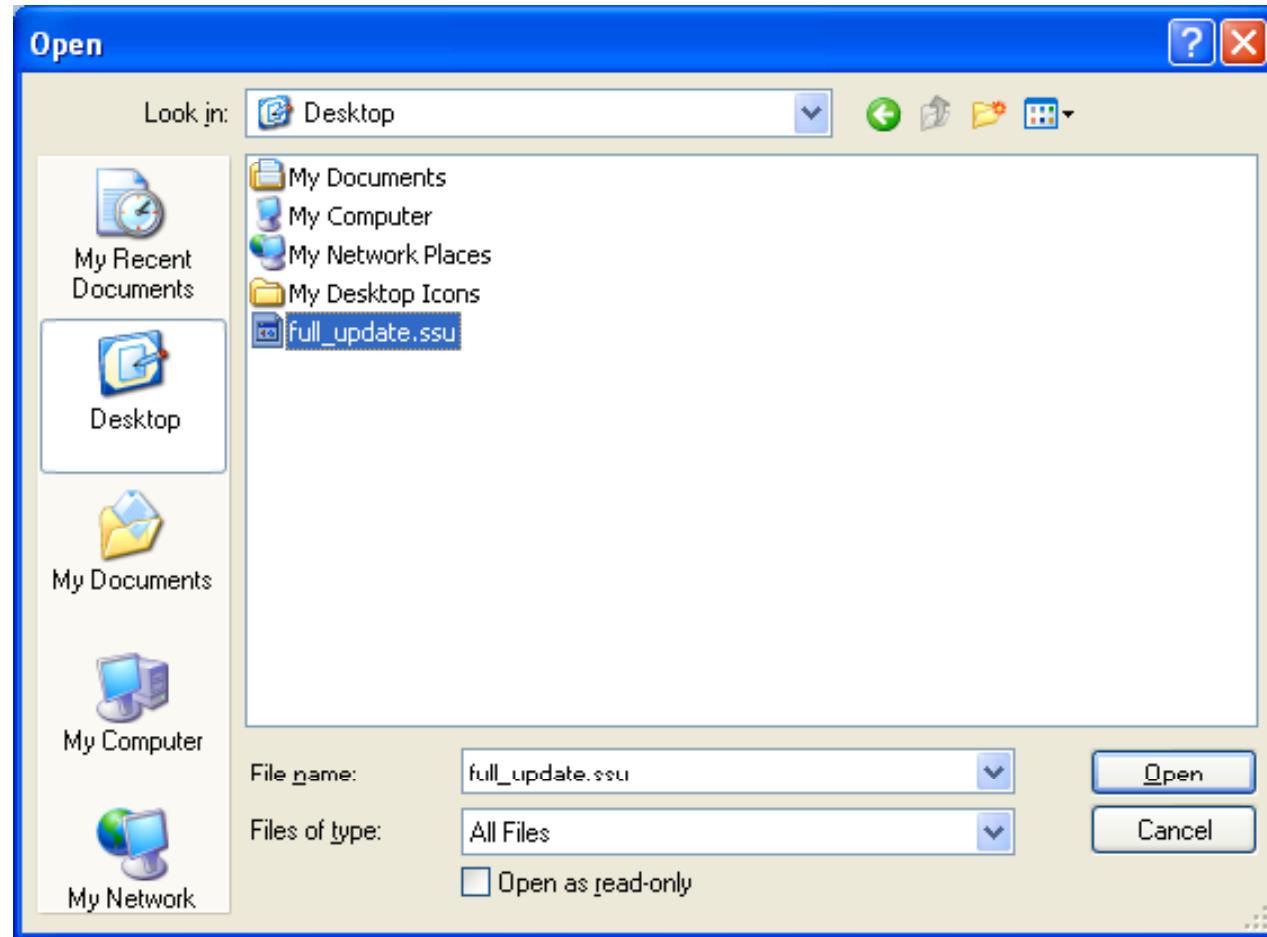


The screenshot shows the WiHUBB web interface at the URL 192.168.1.1/wihubb. The navigation menu on the left includes 'My wiHUBB', 'System Setup' (which is currently selected), 'Facility Settings', 'Users' (with 'admin' listed), 'General Settings' (which is highlighted in blue), 'Network Settings', and 'Logout'. The main content area has a header: 'Date & Time', 'Holidays', 'Miscellaneous', 'Data Management', 'Update' (highlighted in blue), and 'About'. Below this, a message reads: 'Please select the server software package to upload. This file will be used to update the WiHUBB Web Server only.' There is a 'File:' input field with a 'Choose File' button and a 'No file chosen' message, followed by a 'submit' button.

To update the Access Point firmware, select System Setup -> General Settings and click on the Update tab.



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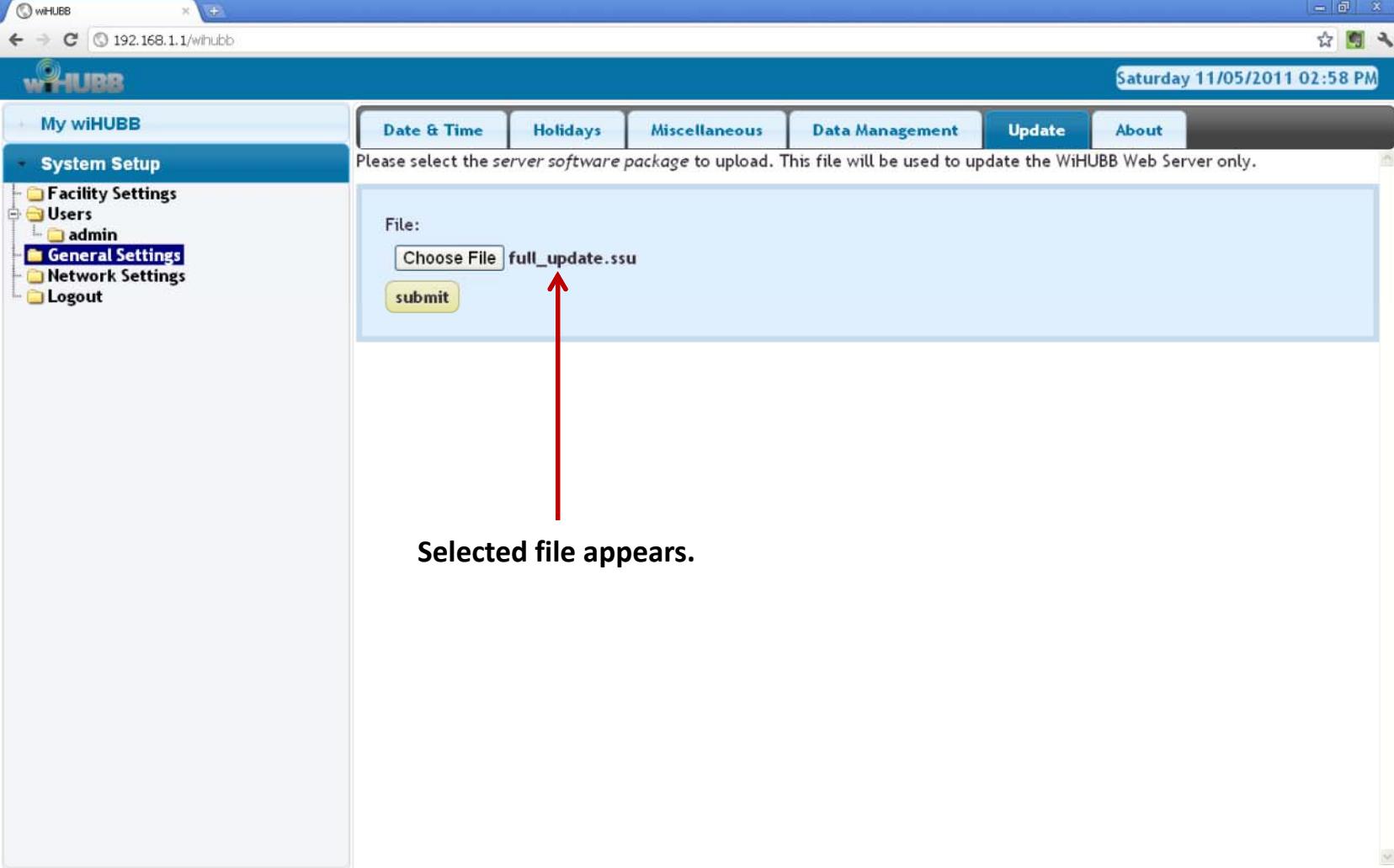
Locate the update file which has the file extension “.ssu”. Select the file and then click the Open button.



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Access Point
Updating the AP Firmware – Step 3 of 4



Selected file appears.

wiHUBB 192.168.1.1/wihubb Saturday 11/05/2011 02:58 PM

My wiHUBB

System Setup

- Facility Settings
- Users
 - admin
- General Settings**
- Network Settings
- Logout

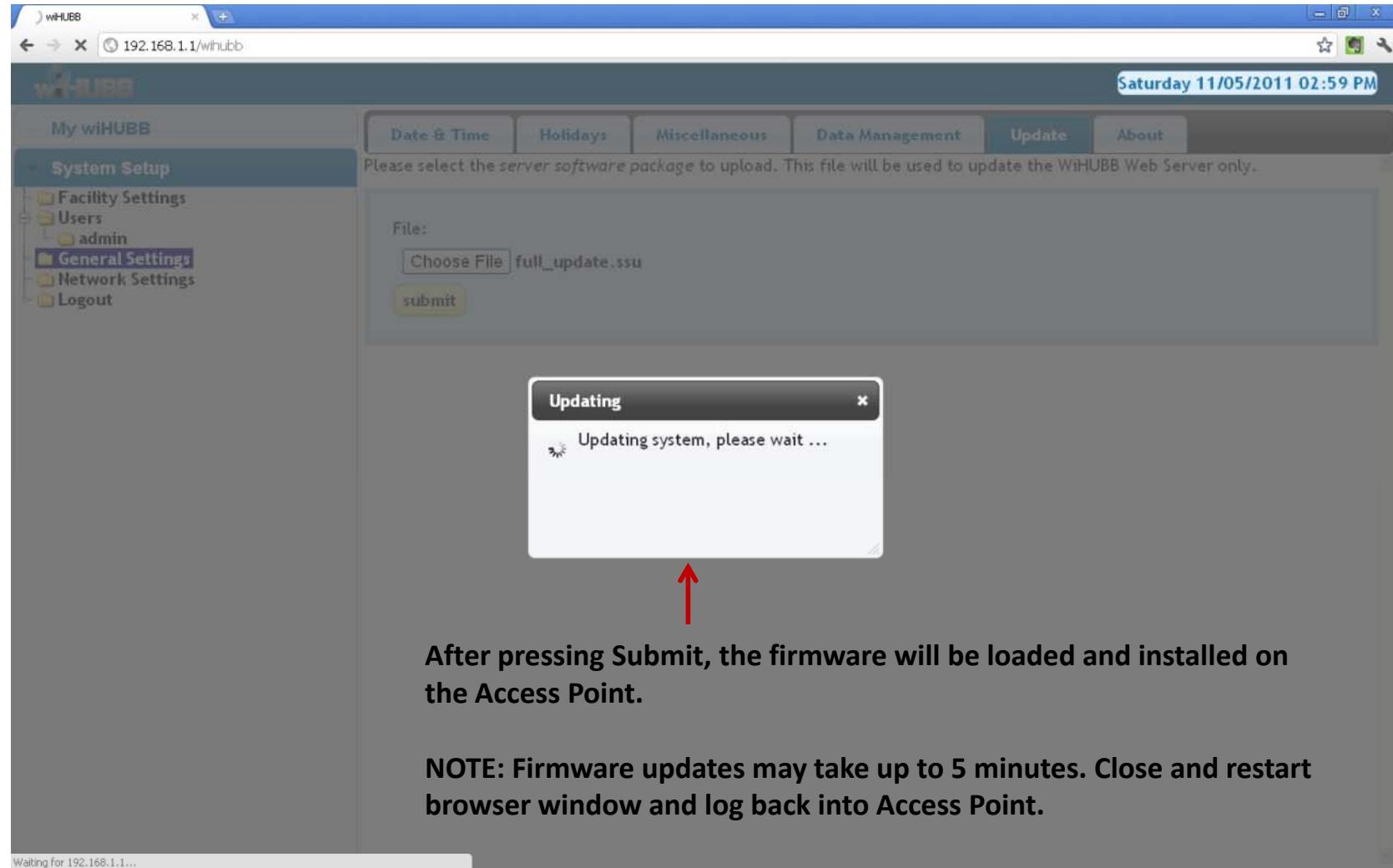
Date & Time Holidays Miscellaneous Data Management Update About

Please select the server software package to upload. This file will be used to update the WiHUBB Web Server only.

File:



Access Point Updating the AP Firmware – Step 4 of 4





Access Point General Settings – About

A screenshot of a web browser window displaying the wiHUBB management interface. The URL in the address bar is 192.168.1.1/wihubb. The page title is "wiHUBB". On the left, a sidebar menu shows "My wiHUBB" and "System Setup" expanded, with "General Settings" selected. The main content area has tabs for "Date & Time", "Holidays", "Miscellaneous", "Data Management", "Update", and "About". The "About" tab is active. It displays the "Welcome" message, the wiHUBB logo, and the text "wiHUBB 0.9.9:10001G5-10202011".

wiHUBB
0.9.9:10001G5-10202011

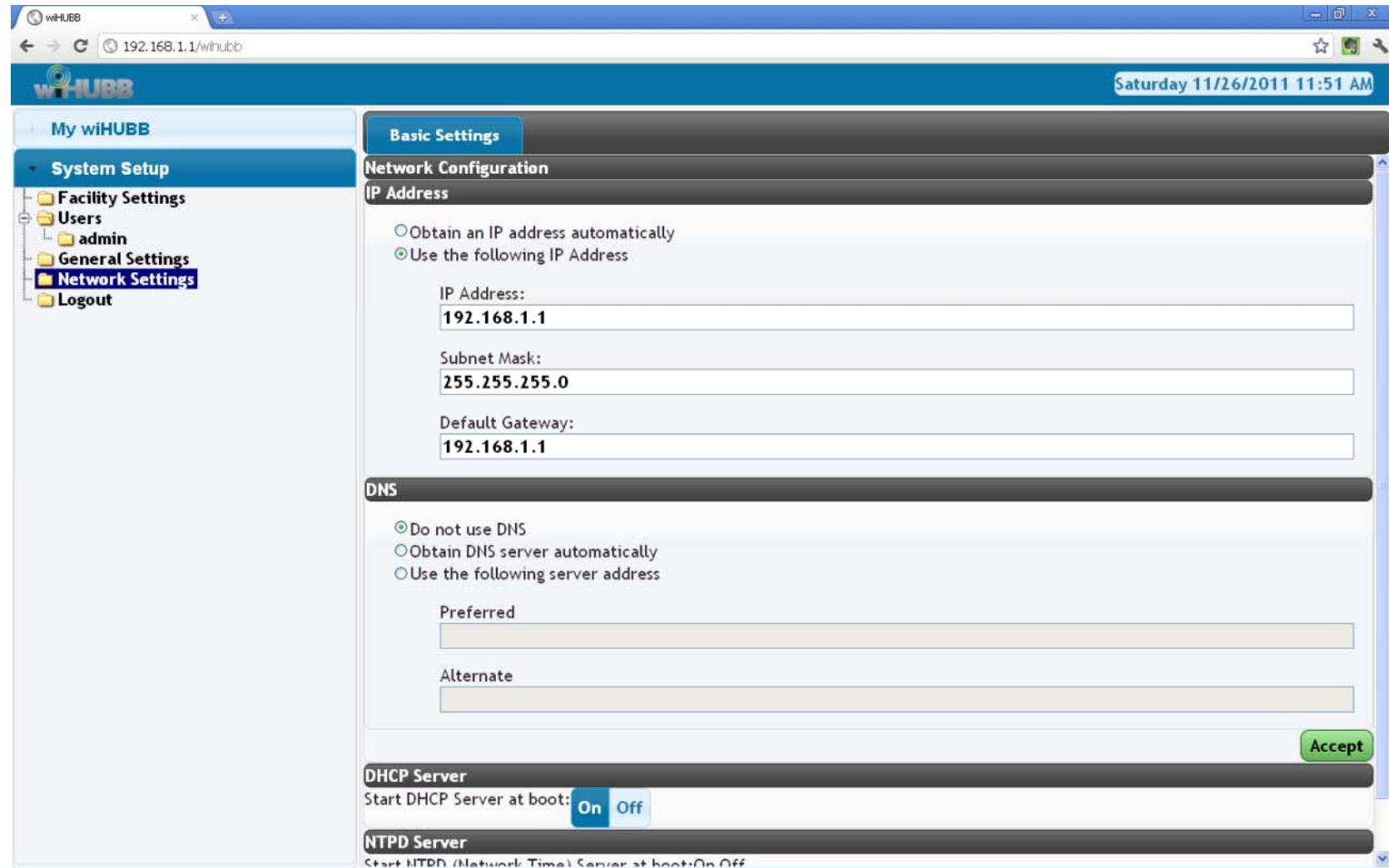
wiHUBB
Wireless comes to light



Building Automation, Inc.



Access Point Network Settings – Basic Settings



The screenshot shows the 'Basic Settings' page of the wiHUBB web interface. The left sidebar menu is expanded, showing 'System Setup' selected. Under 'System Setup', 'Network Settings' is highlighted. The main content area is titled 'Basic Settings' and contains the following sections:

- Network Configuration**
 - IP Address**:
Radio buttons: Obtain an IP address automatically (disabled), Use the following IP Address.
Text input field: **192.168.1.1**.
 - Subnet Mask**:
Text input field: **255.255.255.0**.
 - Default Gateway**:
Text input field: **192.168.1.1**.
- DNS**
 - Radio buttons: Do not use DNS, Obtain DNS server automatically, Use the following server address.
 - Preferred**: Text input field (empty).
 - Alternate**: Text input field (empty).
- DHCP Server**:
Text: Start DHCP Server at boot: **On** **Off** (button).
- NTPD Server**:
Text: Start NTPD (Network Time) Server at boot: **On** **Off**.

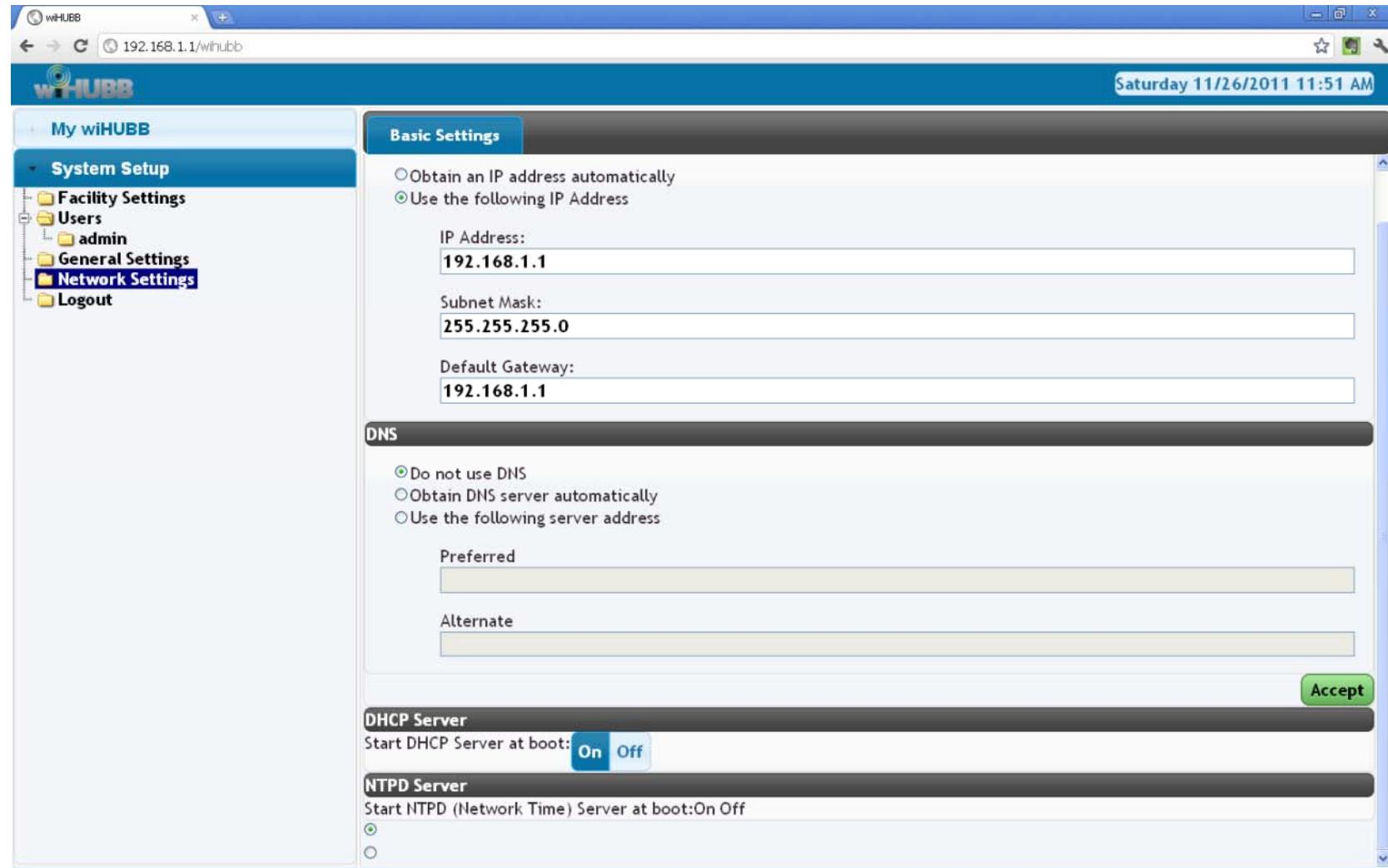
A green 'Accept' button is located in the bottom right corner of the main content area.



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Access Point Network Settings – Basic Settings (Cont.)



The screenshot shows the 'Basic Settings' configuration page of the wiHUBB web interface. The left sidebar menu is expanded to show 'System Setup' and its sub-options: Facility Settings, Users, General Settings, Network Settings (which is selected and highlighted in blue), and Logout.

Basic Settings

IP Address: (highlighted)

Subnet Mask:

Default Gateway:

DNS

Do not use DNS (radio button selected)

Obtain DNS server automatically

Use the following server address

Preferred:

Alternate:

DHCP Server

Start DHCP Server at boot: (highlighted)

NTPD Server

Start NTPD (Network Time) Server at boot: On Off

Accept (green button)



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Commissioning a System

1. Verify Lights Are Working
 - Default factory power up setting for relay(s): ON
2. Determine Best Setup for Areas, Zones and Groups
3. Create Areas, Zones and Groups in Access Point
4. Make Sure Device MAC Address Labels Are Identified by Room
 - If not, inform EC that additional commissioning time and cost may be incurred. Obtain signoff from EC as to agreement.
5. Discover and Commission Devices
6. Test and Program System
7. Train Staff
8. Obtain Signoff



Commissioning a System

Determine Best Setup for Areas, Zones and Groups

- Areas and Zones are “name-able”, Groups are numbered
- Each zone has its own devices, groups, presets and schedules
- Schedules are individually created for each zone
 - Cannot be used across zones
 - Cannot be copied from one zone to another
- Presets and Preset Switches are zone specific
- Devices that need to function together will need to be placed in the same Group
- Follow the K.I.S.S. principle
 - 1 Floor, 16 Rooms
 - 1 Named Area (Floor1), 1 Named Zone (Rooms) , 16 Groups -OR-
 - 1 Named Area (Floor1), 16 Named Zones (Rm101, Rm102), 1 Group for each Zone -OR-
 - 16 Named Areas (Rm101, etc), 1 Named Zone (Rm101,etc) for each Area, 1 Group for each Zone



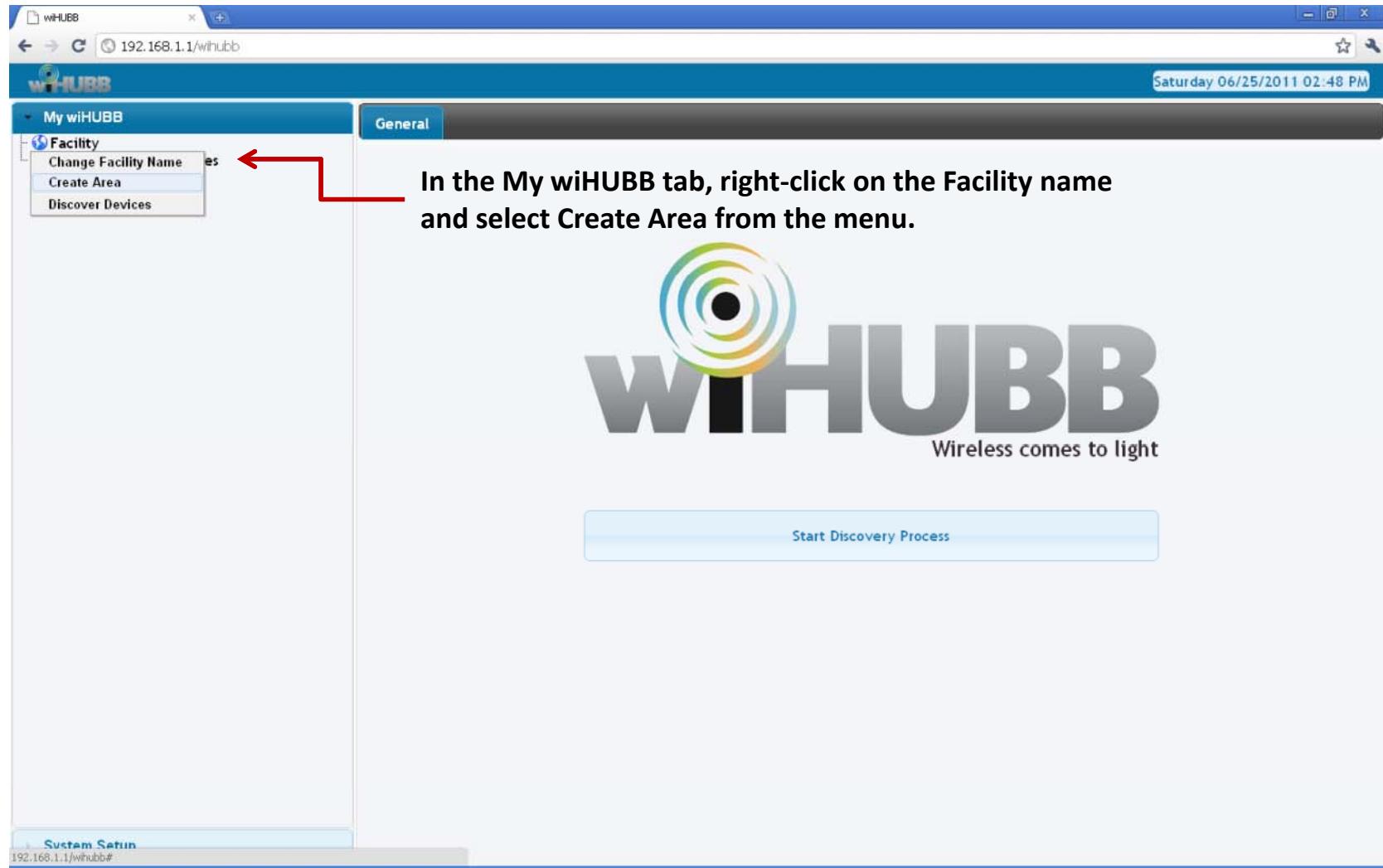
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wiHUBB

Wireless Comes to Light

Access Point Create an Area – Step A



In the My wiHUBB tab, right-click on the Facility name and select Create Area from the menu.

The screenshot shows a web browser window for the wiHUBB interface at 192.168.1.1/wihubb. The title bar says "wiHUBB". The address bar shows the URL. The top navigation bar has tabs for "General" and "System Setup". The main content area has a sidebar with "My wiHUBB" and "Facility" sections. In the "Facility" section, there is a context menu with options: "Change Facility Name", "Create Area", and "Discover Devices". A red arrow points from the text above to this menu. The central area contains the wiHUBB logo and a "Start Discovery Process" button. The bottom of the page shows a footer with the HUBBELL logo and "Building Automation, Inc.".



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Access Point Create an Area – Step B

Type in the name of the area and press Enter.

The screenshot shows a web browser window titled 'wiHUBB' with the URL '192.168.1.1/wihubb'. The page has a blue header bar with the 'wiHUBB' logo and a date/time stamp 'Saturday 06/25/2011 02:49 PM'. On the left, there's a sidebar with 'My wiHUBB' and three items: 'Facility' (selected), 'New Area Name' (highlighted with a red arrow and a callout), and 'Uncommissioned Devices'. The main content area features the 'wiHUBB' logo and a 'Start Discovery Process' button. At the bottom, there's a 'System Setup' link.



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Access Point Create an Area – Completed

Create additional areas as needed. You can create up to 64 areas.

My wiHUBB

- Facility
- Area1
- Uncommissioned Devices

General

Start Discovery Process

System Setup

192.168.1.1/wihubb#



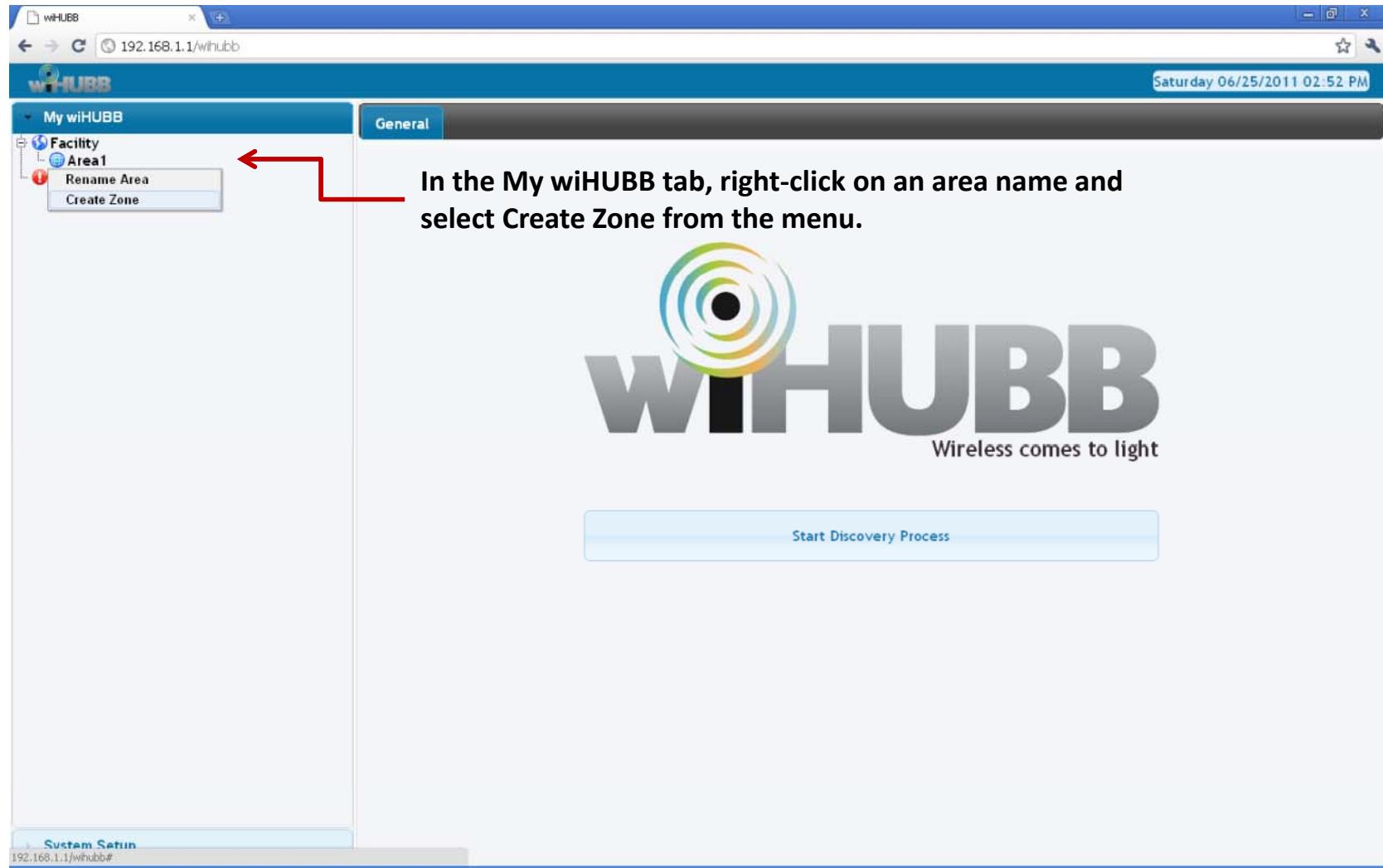
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wiHUBB

Wireless Comes to Light

Access Point Create a Zone – Step A



Start Discovery Process



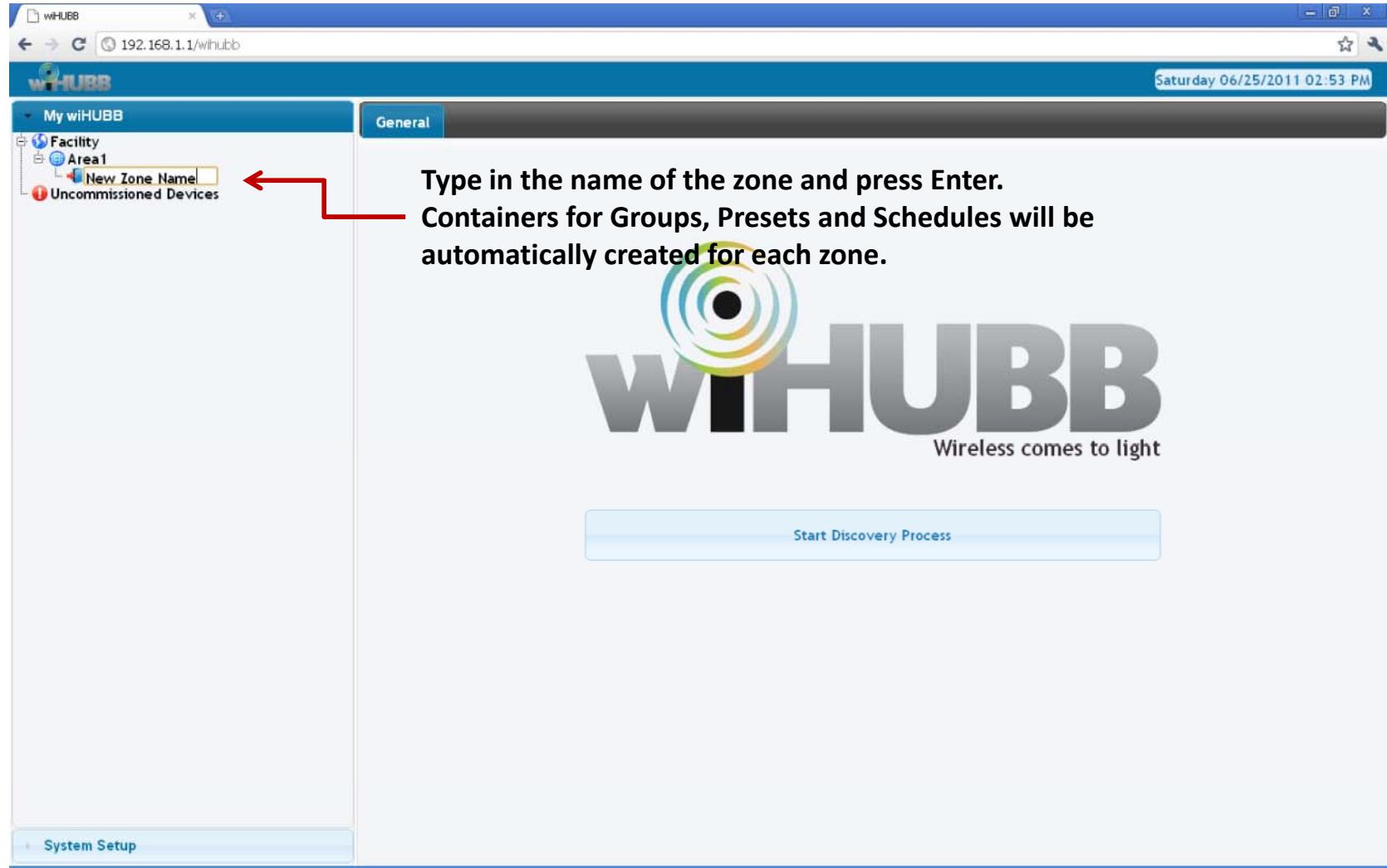
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wiHUBB

Wireless Comes to Light

Access Point Create a Zone – Step B



Type in the name of the zone and press Enter.
Containers for Groups, Presets and Schedules will be
automatically created for each zone.

Start Discovery Process

System Setup



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Access Point Create a Zone – Completed

Create additional zones as needed. You can create up to 64 zones per area.

My wiHUBB

- Facility
 - Area1
 - Zone1
 - Groups
 - Presets
 - Schedules- Uncommissioned Devices

General

Saturday 06/25/2011 02:54 PM

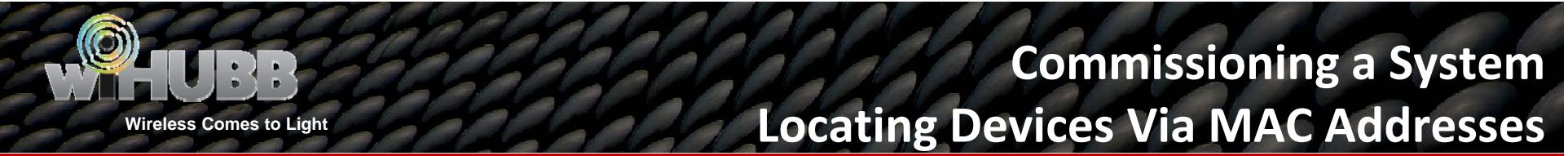
Start Discovery Process

System Setup

192.168.1.1/wihubb#



Building Automation, Inc.



- Devices Have a Unique MAC Address and MAC Address Labels
- Product Instructions Indicate What To Do With The MAC Address Labels:
 - “Affix a MAC address label to the outside of the fixture/device that contains the [device]. Place the second MAC address label in a log book or on as-builds and record the location of the fixture/device. The device’s MAC address and location will be needed later during the system setup process.”
- Physically Locate Devices By Winking The Device
 - On Device Page, Press the Wink Start Button
 - Devices controlling lighting fixtures will turn lights on and off.
 - Winking a switch will cause the switch to blink its LED

A screenshot of a web browser window titled "wiHUBB" at the URL "192.168.1.1/wihubb". The browser's address bar shows the URL and the date "Saturday 06/25/2011 02:59 PM". The left sidebar has a tree view under "My wiHUBB" with nodes: Facility, Area1, Zone1, Groups, Presets, Schedules, and Uncommissioned Devices. The "General" tab is selected. In the center, there is a large wiHUBB logo with the tagline "Wireless comes to light" below it. A red arrow points upwards from the text below to the "Start Discovery Process" button. At the bottom left of the interface, there is a "System Setup" tab.

In the My wiHUBB tab, select Facility. Then click the Start Discovery Process button.



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A screenshot of a web browser window titled "wiHUBB" with the URL "192.168.1.1/wihubb". The page shows a navigation menu on the left with options like "My wiHUBB", "Facility" (which is expanded to show "Area1", "Zone1", "Groups", "Presets", "Schedules"), and "Uncommissioned Devices". The main content area has a large "wiHUBB" logo and the tagline "Wireless comes to light". A central "Please Wait" dialog box is open, containing the message "Working with wiHUBB network, please wait..." and a "Cancel" button. At the bottom of the page, there's a link labeled "Discovery Process".

The discovery process will take a few minutes depending on how many devices are in the wiHUBB network. You can verify that the Access Point is transmitting by watching the wiHUBB Activity LED on the back of the Access Point



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The screenshot shows the wiHUBB software interface running in a web browser. The URL is 192.168.1.1/wihubb. The main window title is "wiHUBB". On the left, a navigation tree under "My wiHUBB" includes "Facility" (Area1, Zone1, Groups, Presets, Schedules) and "Uncommissioned Devices" (InFixture, Occupancy Sensor, OnFixture, Smart Pack, Switch Station). A red arrow points from the text below to the "Uncommissioned Devices" section. The right side of the interface features the wiHUBB logo and the text "wiHUBB Wireless comes to light". Below the logo is a blue button labeled "Start Discovery Process". At the bottom left of the interface is a "System Setup" button. The status bar at the bottom right shows the date and time: Saturday 06/25/2011 03:03 PM.

Once the process is complete, the Uncommissioned Devices folder will show the devices that need to be assigned/commissioned to an Area and Zone.

NOTE: Refreshing browser window will cause devices listed in Uncommissioned Devices list to be cleared and will require a rediscovery.



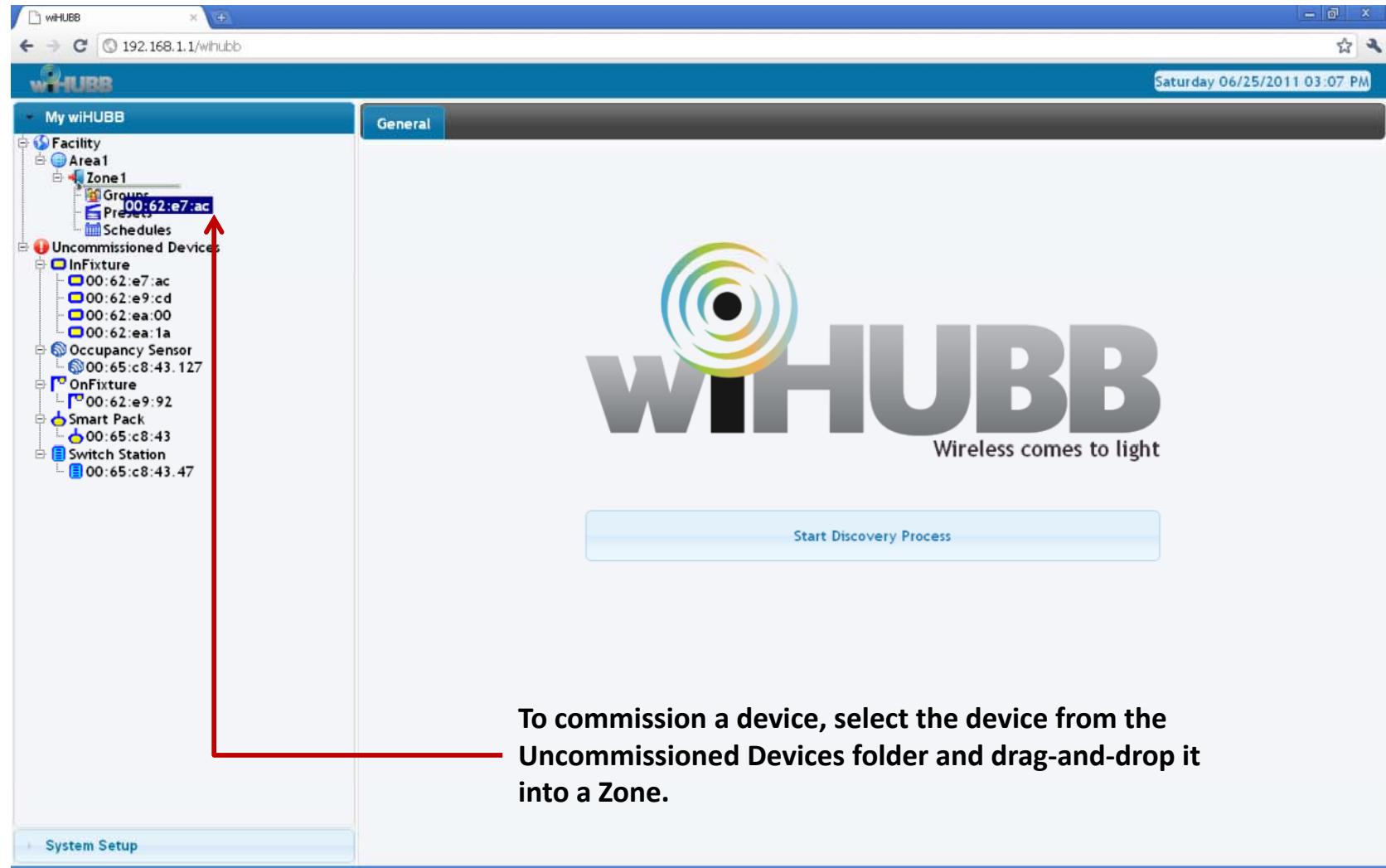
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wiHUBB

Wireless Comes to Light

Access Point Discover and Commission Devices



The screenshot shows the wiHUBB web interface. On the left, a sidebar lists 'My wiHUBB' sections: Facility (Area1, Zone1), Groups, Presets, Schedules, and Uncommissioned Devices. Under Uncommissioned Devices, it lists InFixture (multiple MAC addresses), Occupancy Sensor (00:65:c8:43:127), OnFixture (00:62:e9:92), Smart Pack (00:65:c8:43), and Switch Station (00:65:c8:43:47). A red arrow points from the text below to the 'InFixture' section of the device list.

To commission a device, select the device from the Uncommissioned Devices folder and drag-and-drop it into a Zone.



Start Discovery Process

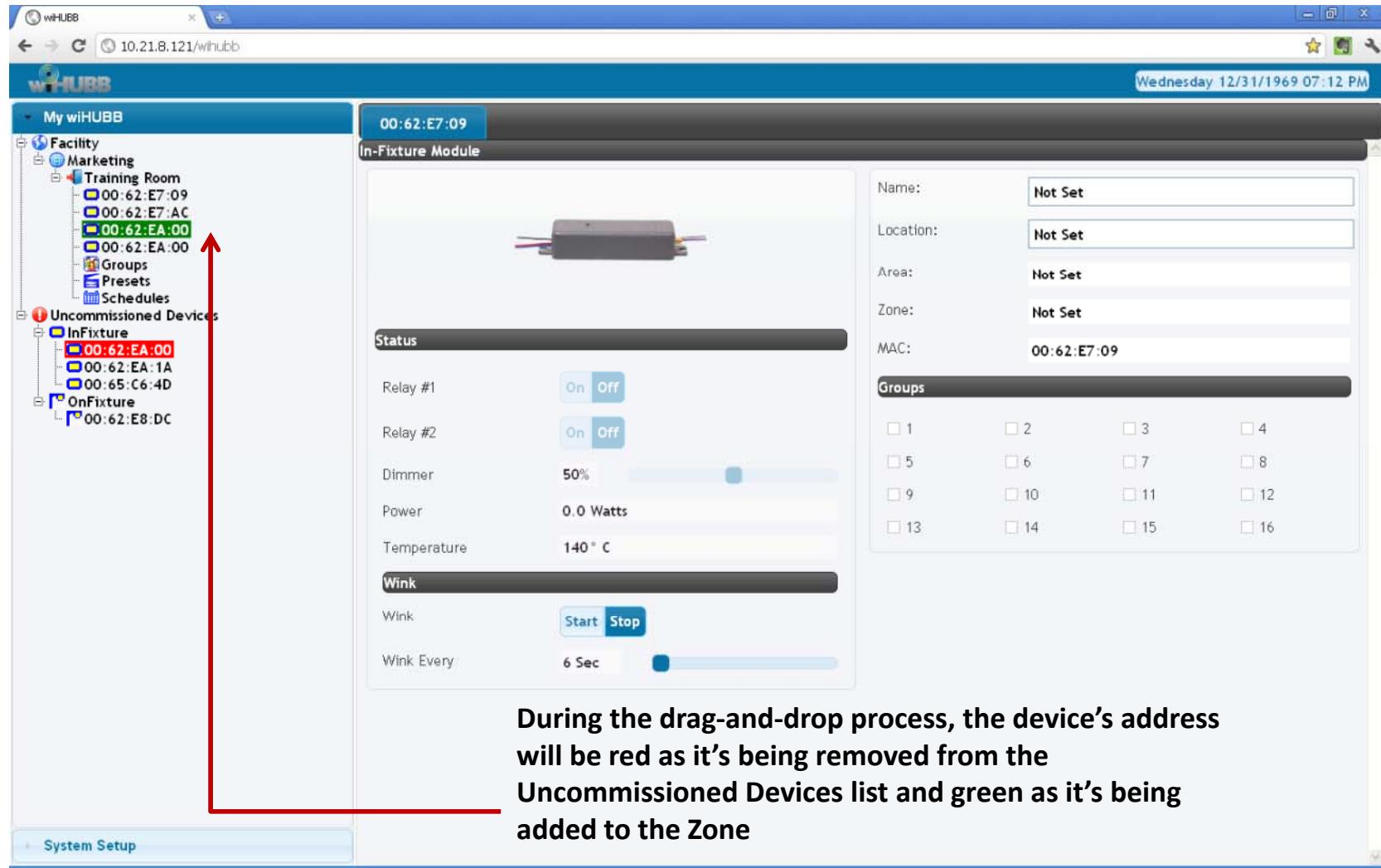


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Wireless Comes to Light

Access Point Discover and Commission Devices



The screenshot shows the wiHUBB software interface. On the left, the sidebar displays the navigation tree under 'My wiHUBB' and lists 'Uncommissioned Devices'. A red arrow points from the 'Uncommissioned Devices' section to the 'Groups' section on the right. The main panel shows the 'In-Fixture Module' configuration with fields for Name, Location, Area, Zone, MAC, and a list of groups (1-16). Below this are sections for Status (Relay #1, Relay #2, Dimmer, Power, Temperature), Wink (Wink, Start/Stop, Wink Every), and System Setup.

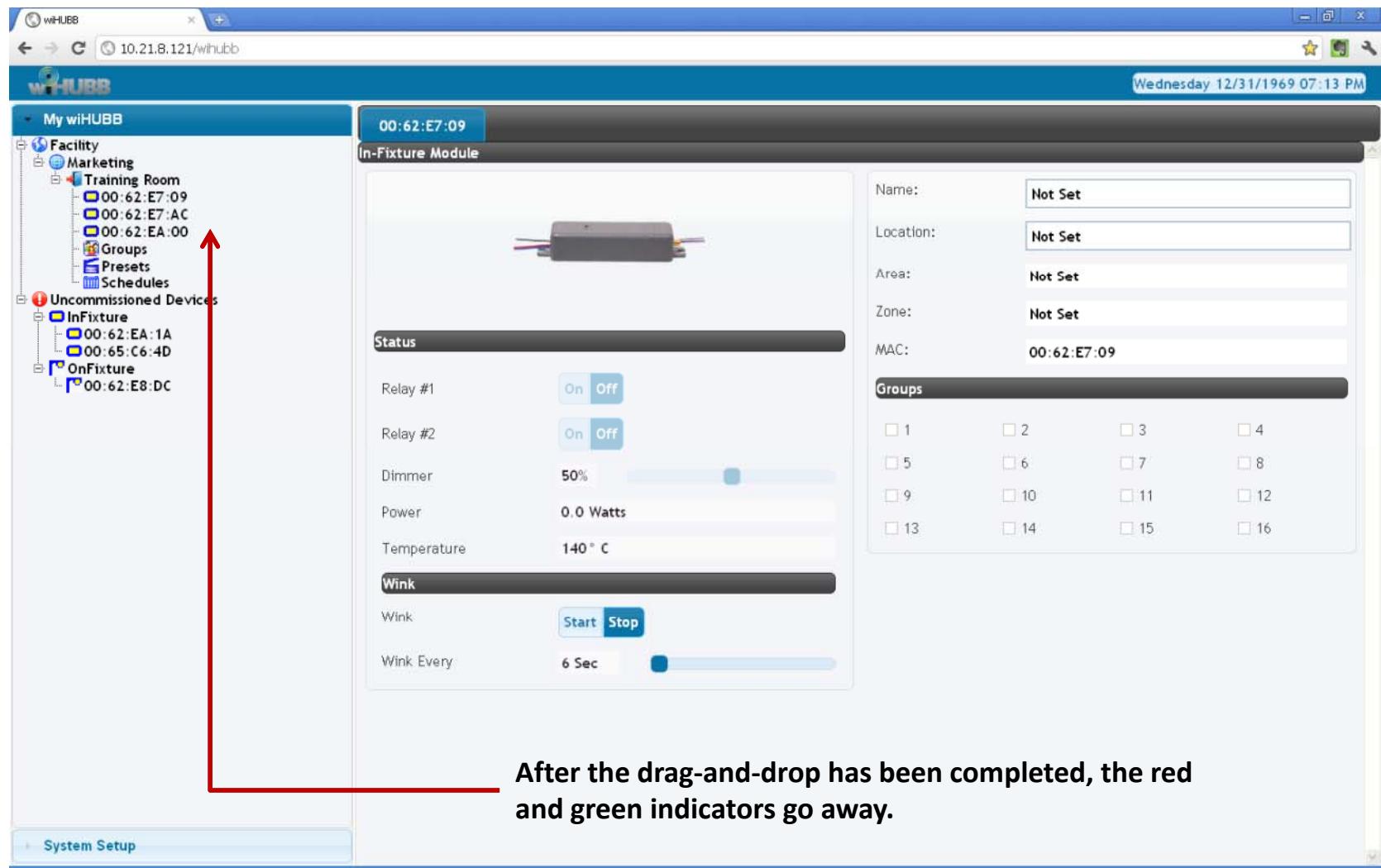
During the drag-and-drop process, the device's address will be red as it's being removed from the Uncommissioned Devices list and green as it's being added to the Zone



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Access Point Discover and Commission Devices



The screenshot shows the wiHUBB software interface. On the left, a navigation tree under 'My wiHUBB' includes 'Facility' (Marketing, Training Room), 'Uncommissioned Devices' (InFixture, OnFixture), and 'System Setup'. A red arrow points from the 'Uncommissioned Devices' section towards the main content area. The main content area displays an 'In-Fixture Module' with a MAC address of 00:62:E7:09. It shows a physical image of the module, its status (Relay #1 Off, Relay #2 Off, Dimmer 50%, Power 0.0 Watts, Temperature 140 °C), and a 'Wink' section with a start/stop button and a timer set to 6 Sec. To the right, there are fields for Name (Not Set), Location (Not Set), Area (Not Set), Zone (Not Set), and MAC (00:62:E7:09). Below these are group selection checkboxes for groups 1 through 16.

After the drag-and-drop has been completed, the red and green indicators go away.



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Access Point Discover and Commission Devices

The screenshot shows the wiHUBB software interface. On the left, a navigation tree titled "My wiHUBB" lists "Facility", "Uncommissioned Devices", and various sensor and fixture types. An arrow points from the text below to the "Zone1" node under "Facility". The main content area displays a device page for "Area1\Zone1\00:62:e7:ac". The page includes a device image, status information (Relay #1, Relay #2, Dimmer, Power, Temperature), a "Wink" section with start/stop buttons, and a settings panel for groups, blink alerts, and power-up configurations. The URL in the browser is 192.168.1.1/wihubb.

After the device has been assigned to an Area and Zone, select the device to view its device page. The device page contains current status and settings.

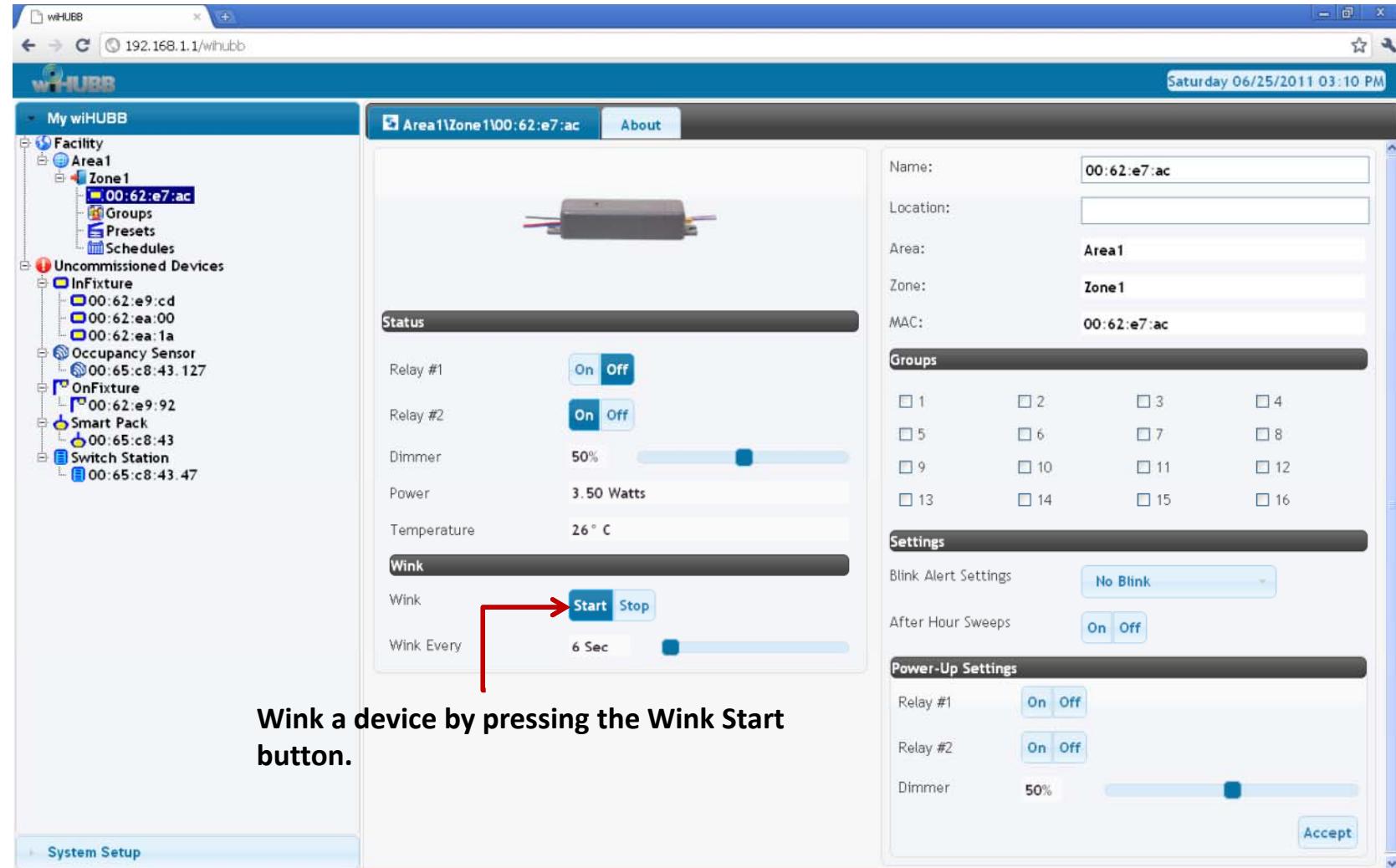


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Access Point

Discover and Commission Devices



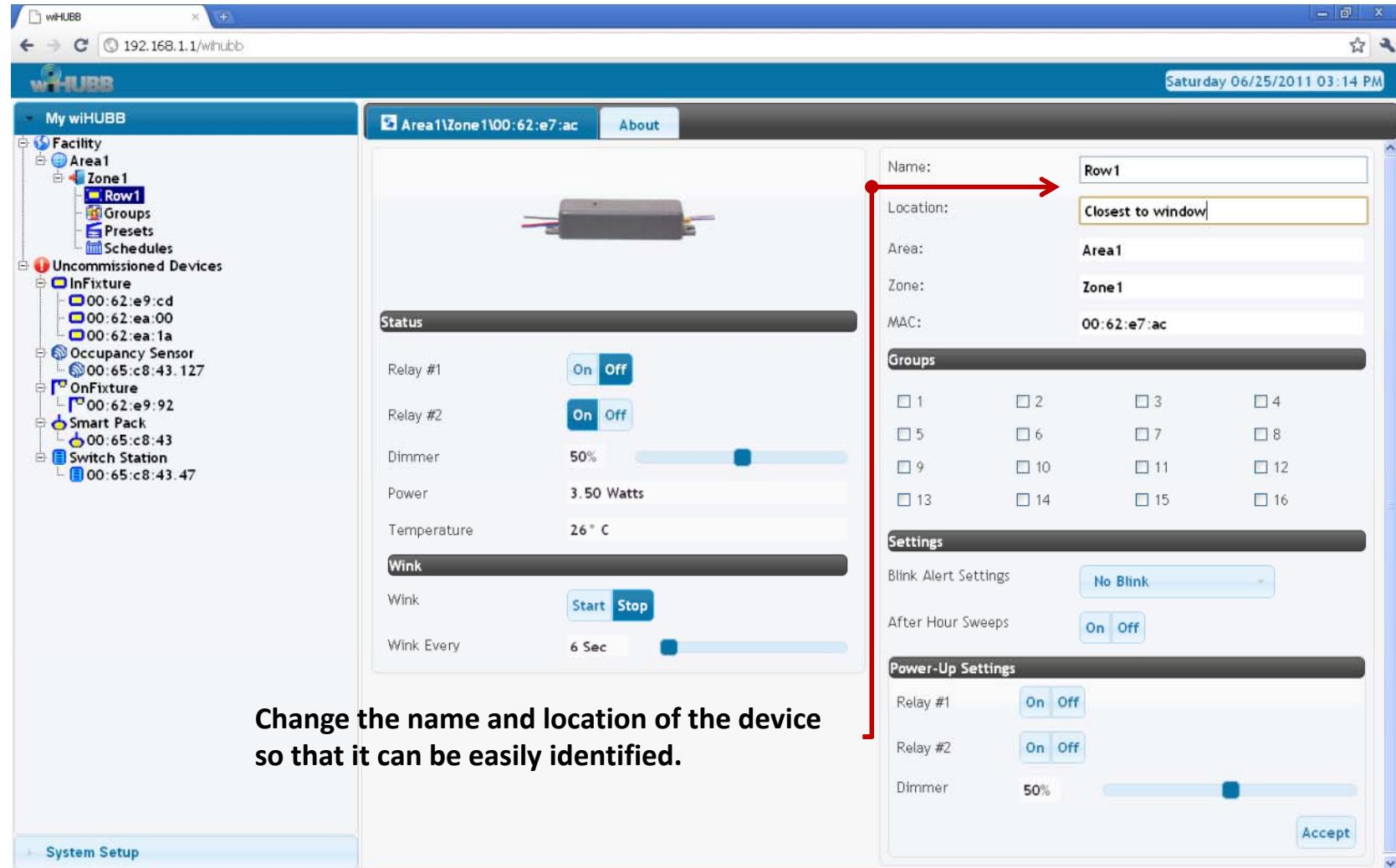
The screenshot shows the wiHUBB web interface for managing access points. On the left, a navigation tree lists 'My wiHUBB' under 'Facility' (Area1, Zone1, Groups, Presets, Schedules) and 'Uncommissioned Devices' (InFixture, Occupancy Sensor, OnFixture, Smart Pack, Switch Station). The main content area displays a device named '00:62:e7:ac' from 'Area1\Zone1'. It includes a thumbnail image, a status bar with Relay #1 (On), Relay #2 (Off), Dimmer (50%), Power (3.50 Watts), and Temperature (26 °C), and a 'Wink' section with a 'Start' button highlighted by a red arrow. To the right, configuration fields allow setting the device's name ('00:62:e7:ac'), location, area ('Area1'), zone ('Zone1'), MAC address ('00:62:e7:ac'), and group assignments for 16 channels. Settings for blink alerts and power-up configurations are also present. An 'Accept' button is at the bottom right.

Wink a device by pressing the Wink Start button.



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Access Point Discover and Commission Devices



The screenshot shows the wiHUBB web interface for managing wireless devices. On the left, a navigation tree lists 'My wiHUBB' under 'Facility' (Area1, Zone1, Row1, Groups, Presets, Schedules), and 'Uncommissioned Devices' (InFixture, Occupancy Sensor, OnFixture, Smart Pack, Switch Station). The main content area displays a device named 'Area1\Zone1\00:62:e7:ac' with a preview image of a small grey rectangular device. Below it, the 'Status' section shows Relay #1 (On/Off), Relay #2 (On/Off), Dimmer (50%), Power (3.50 Watts), and Temperature (26°C). The 'Wink' section includes a 'Start' button, a 'Stop' button, and a slider for 'Wink Every' (6 Sec). To the right, a configuration panel allows changing the device's name ('Row1') and location ('Closest to window'), setting its area ('Area1') and zone ('Zone1'), and specifying its MAC address ('00:62:e7:ac'). It also includes sections for 'Groups' (checkboxes for groups 1-16), 'Settings' (Blink Alert Settings set to 'No Blink', After Hour Sweeps set to 'On'), and 'Power-Up Settings' (Relay #1, Relay #2, Dimmer, Accept button). A red arrow points from the text below to the 'Name:' field.

Change the name and location of the device so that it can be easily identified.



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Access Point Manage Devices

The screenshot shows the wiHUBB web interface for managing devices. On the left, a navigation tree titled "My wiHUBB" lists "Facility" (Area 1, Zone 1, Row 1), "Groups", "Presets", "Schedules", and "Uncommissioned Devices" (InFixture, Occupancy Sensor, OnFixture, Smart Pack, Switch Station). The main content area is titled "Area1\Zone1\Row1" and shows a device icon. It includes sections for "Status" (Relay #1 On/Off, Relay #2 On/Off, Dimmer 50%, Power 3.50 Watts, Temperature 26°C), "Wink" (Wink Start/Stop, Wink Every 6 Sec), and "Groups" (checkboxes for groups 1-16). The right side contains "Settings" (Blink Alert Settings: No Blink, After Hour Sweeps: On/Off) and "Power-Up Settings" (Relay #1 On/Off, Relay #2 On/Off, Dimmer 50%, Accept button). The bottom left has a "System Setup" link.

Change the settings as appropriate. You can manually turn relays on and off, adjust dimming levels, wink a device, assign the device to one or more groups and configure device power up settings.



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A screenshot of a web browser window showing the wiHUBB management interface. The URL is 10.21.8.121/wihubb. The main navigation menu on the left shows "My wiHUBB" with sections like Facility, Marketing, Training Room, Cimarron, Plank, Row 1, Row 2, Row 3, Whiteboard, Groups, Presets, and Schedules. A red exclamation mark icon indicates "Uncommissioned Devices". The central content area is titled "Marketing\Training Room\Plank" and "About". It displays the "Firmware Version: Version REL v0.10J" and "Device Date/Time: Wednesday 12/31/69 5:59 F". Below this is a "Device Event Log" table with the following data:

Time Stamp	Event	Generated by
Sunday 1/25/70 2:31 PM	Do Preset #2	Switch (00:62:e8:0b)
Sunday 1/25/70 2:31 PM	R#1 On / R#2 Off / Dim 50%	Switch (00:62:e8:0b)
Sunday 1/25/70 2:31 PM	Do Preset #4	Schedule #67
Sunday 1/25/70 2:31 PM	R#1 On / R#2 On / Dim 45%	Occupancy Sensor (00:62:e8:0c)
Sunday 1/25/70 2:31 PM	R#1 On / R#2 On / Dim 80%	Schedule #2
Sunday 1/25/70 2:31 PM	R#1 On / R#2 On / Dim 80%	Power-Up - Power-Up State

System Setup

The device's About page gives you information regarding the device's firmware version, date/time information and recent events.



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To create a group, right-click on the container labeled 'Groups' and select 'Add Group' from the menu.



Type in a group number from 1 to 16.





Access Point Create a Group

The screenshot shows the wiHUBB web interface with the URL 192.168.1.1/wihubb. The main navigation menu on the left includes sections like Facility, Area1, Zone1, Groups, Uncommissioned Devices, Presets, Schedules, and System Setup. The 'Groups' section is expanded, showing a group named '1' which contains 'Row1'. The central panel displays 'Area1\Zone1\Group #1' with 'Group Control' options for 'Relay #1', 'Relay #2', and 'Dimmer' (set to 50%). Below this is the 'Group Membership' section titled 'InFixture' with three rows: Row1, Row2, and Row3, each with 'Yes' and 'No' buttons. A note at the bottom of the panel states: "On the Group page in the Group Membership section, select the 'Yes' button for each device that should be in the group. Select 'No' to remove a device from the group."

On the Group page in the Group Membership section, select the 'Yes' button for each device that should be in the group. Select 'No' to remove a device from the group.

NOTE: You can also add and remove devices to and from groups from the device page by selecting or deselecting the group check boxes.



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To create a preset, right-click on the container labeled 'Presets' and select 'Add Preset' from the menu.



Type in a preset number from 1 to 16.



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The screenshot shows the wiHUBB software interface with the title "Area1\Zone1\Preset #1". The left sidebar shows a tree view of the facility, including "Area1", "Zone1" (with "Row1", "Row2", "Row3"), "Groups", "Presets" (selected), and "Schedules". Under "Uncommissioned Devices", there are several entries like "InFixture", "Occupancy Sensor", "OnFixture", "Smart Pack", and "Switch Station".

Device Name	No Action	Relay #1	Relay #2	Dimmer
Row1	<input checked="" type="checkbox"/>	On / Off	On / Off	Not Set <input type="range"/>
Row2	<input checked="" type="checkbox"/>	On / Off	On / Off	Not Set <input type="range"/>
Row3	<input checked="" type="checkbox"/>	On / Off	On / Off	Not Set <input type="range"/>

Buttons at the bottom include "Record Preset", "Test Preset", and "Clear Preset".

On the Preset page, for each device included in the preset, deselect “No Action” and set relay and dimmer settings.

Devices that have the “No Action” checkbox selected will not be included in the preset operation.



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The screenshot shows a web browser window titled "wiHUBB" with the URL "192.168.1.1/wihubb". The main content area is titled "Area1\Zone1\Preset #1". On the left, a navigation tree shows "My wiHUBB" with sections like Facility, Area1, Zone1, Groups, Presets, Schedules, and Uncommissioned Devices. Under Presets, there is a node labeled "P1". The main panel displays a table for "InFixture" with columns: Device Name, No Action, Relay #1, Relay #2, and Dimmer. Three rows are listed: Row1, Row2, and Row3. Row1 has "On" and "Off" buttons for both relays and a dimmer slider at 50. Row2 has "On" and "Off" buttons for both relays and a dimmer slider at 100. Row3 has a checked "On" button for Relay #1 and an "On/Off" button for Relay #2, with a dimmer slider set to "Not Set". At the bottom are buttons for "Record Preset", "Test Preset", and "Clear Preset".

Set relay and dimmer settings for those devices included in the preset.



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The screenshot shows the wiHUBB web interface for managing lighting fixtures. On the left, a navigation tree includes "My wiHUBB" (Facility, Area1, Zone1, Groups, Presets), "Schedules", and "Uncommissioned Devices" (InFixture, Occupancy Sensor, OnFixture, Smart Pack, Switch Station). The main panel displays "Area1\Zone1\Preset #1" for "InFixture". It has columns for "Device Name" (Row1, Row2, Row3), "No Action" (checkboxes), "Relay #1" (On/Off buttons), "Relay #2" (On/Off buttons), and "Dimmer" (sliders). Row1 has Relay #1 set to On and Dimmer at 50. Row2 has Relay #2 set to On and Dimmer at 100. Row3 has No Action checked and Dimmer set to Not Set. At the bottom are buttons for "Record Preset", "Test Preset" (highlighted with a red arrow), and "Clear Preset".

To test the preset, press the Test Preset button.



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A screenshot of a web-based control interface for a wiHUBB system. The left sidebar shows a tree structure of facilities, areas, zones, groups, and schedules. Under "Uncommissioned Devices", several devices are listed with their MAC addresses. The main panel displays "Area1\Zone1\Preset #1" for an "InFixture" device. It has columns for "Device Name", "No Action", "Relay #1", "Relay #2", and "Dimmer". Rows represent "Row1", "Row2", and "Row3". Row1 and Row2 have "On/Off" buttons for both relays. Row3 has a checked checkbox under "No Action" and "On/Off" buttons for both relays. A dimmer slider is set to 50 for Row1 and 100 for Row2. Row3 has a "Not Set" status. At the bottom are buttons for "Record Preset", "Test Preset", and "Clear Preset".

To record the preset, press the Record Preset button. During the Record Preset process, the devices store their preset settings.



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A screenshot of a web-based control interface for a wiHUBB system. The left sidebar shows a tree structure of "My wiHUBB" with sections like Facility, Area1, Zone1, Groups, Presets, Schedules, and Uncommissioned Devices. The main panel displays "Area1\Zone1\Preset #1" for "InFixture". It lists three rows: Row1, Row2, and Row3. Each row has checkboxes for "Device Name", "No Action", "Relay #1", "Relay #2", and a "Dimmer" slider. Row3 has a checked checkbox under "Device Name". At the bottom of the panel are buttons for "Record Preset", "Test Preset", and "Clear Preset". A red arrow points upwards from the "Clear Preset" button towards the text below it.

Device Name	No Action	Relay #1	Relay #2	Dimmer
Row1	<input type="checkbox"/>	On Off	On Off	50
Row2	<input type="checkbox"/>	On Off	On Off	100
Row3	<input checked="" type="checkbox"/>	On Off	On Off	Not Set

Record Preset **Test Preset** **Clear Preset**

To clear the preset, press the **Clear Preset** button.



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A screenshot of the wiHUBB software interface. On the left is a navigation tree with sections like Facility, Area1, Zone1, Groups, Presets, Schedules, and Uncommissioned Devices. The main area shows a table titled "Area1\Zone1\Preset #1" with columns for Device Name, No Action, Relay #1, Relay #2, and Dimmer. Rows represent "Row1", "Row2", and "Row3", each with checkboxes and control buttons for On/Off and Dimmer levels. At the bottom of the table are buttons for "Record Preset", "Test Preset", and "Clear Preset". A red arrow points upwards from the "Clear Preset" button towards the explanatory text below.

Device Name	No Action	Relay #1	Relay #2	Dimmer
InFixture				
Row1	<input checked="" type="checkbox"/>	<input type="button" value="On"/> <input type="button" value="Off"/>	<input type="button" value="On"/> <input type="button" value="Off"/>	50 <input type="range"/>
Row2	<input checked="" type="checkbox"/>	<input type="button" value="On"/> <input type="button" value="Off"/>	<input type="button" value="On"/> <input type="button" value="Off"/>	100 <input type="range"/>
Row3	<input checked="" type="checkbox"/>	<input type="button" value="On"/> <input type="button" value="Off"/>	<input type="button" value="On"/> <input type="button" value="Off"/>	Not Set <input type="range"/>

Record Preset **Test Preset** **Clear Preset**

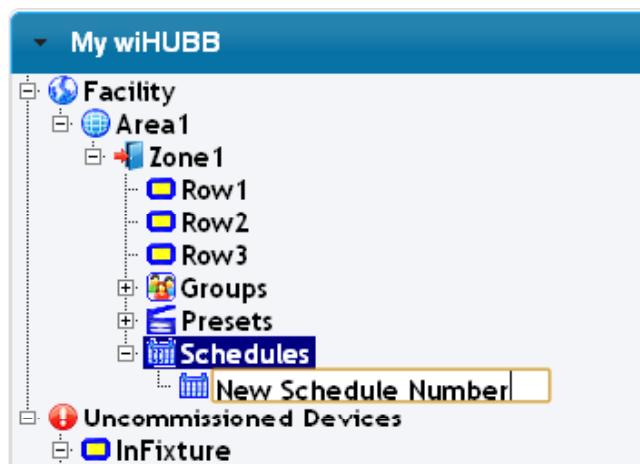
After clearing the preset, either press Record Preset to clear out the preset settings from the devices OR make any new changes and then press Record Preset to update the devices with the new preset settings.



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To create a schedule, right-click on the container labeled 'Schedules' and select 'Add Schedule' from the menu.



Type in a schedule number from 1 to 99.



The screenshot shows the wiHUBB software interface for creating a schedule. On the left, there's a navigation tree under "My wiHUBB" with sections like Facility, Uncommissioned Devices, and System Setup. The main panel is titled "Area1\Zone1\Schedule #1". It includes fields for "Schedule Type" (set to "None") and "Action" (also set to "None"). To the right of these are checkboxes for days of the week (Sunday through Saturday) and a checkbox for "Holidays". A "Save" button is at the bottom right. A red arrow points upwards from the explanatory text below towards the "Schedule Type" dropdown.

Select the Schedule Type, Schedule Time/Offset, Days of the Week and the Action that should occur.



Access Point Create a Schedule

The screenshot displays the wiHUBB web-based management interface. On the left, a navigation tree titled "My wiHUBB" includes sections for "Facility" (with "Area1" expanded to show "Zone1", "Row1", "Row2", "Row3", "Groups", "Presets", and "Schedules"), "Uncommissioned Devices" (listing various devices like "InFixture", "Occupancy Sensor", and "Smart Pack" with their MAC addresses), and "System Setup". The main content area is titled "Area1\Zone1\Schedule #1". It contains the following configuration fields:

- Schedule Type: Normal Time
- Time: 05:00 PM
- Action: Group On
- Group Association: 1
- Day Selection:
 - Sunday:
 - Monday:
 - Tuesday:
 - Wednesday:
 - Thursday:
 - Friday:
 - Saturday:
 - Holidays:

A large red arrow points upwards from the bottom of the "Save" button towards the text "To save the schedule, press the Save button." located below the configuration panel.

To save the schedule, press the Save button.



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DE-commissioning a device resets the device's Facility ID and Area/Zone/Group information. After a device has been decommissioned it can be re-discovered again during the discovery process.

To decommission a device:

1. Select the device in the device list
2. Right mouse-click over device and select "Decommission" from the menu items -OR- Drag and Drop device into the Uncommissioned Devices List



1. Verify all devices are working properly.
2. Verify control groups are working per customer requirements.
3. Verify all presets and schedules have been setup.
4. Once testing is complete, save Access Point database
 - General Settings -> Data Management -> Download Backup



Troubleshooting



Troubleshooting

1. Unable to Find Access Point on Network
2. Unable To Log Into Access Point
3. Device Not Showing Up In Uncommissioned Devices List



1. Make sure Access Point is powered on.
2. PING the IP address of the Access Point to verify you have the correct IP address
 - a. Open a Command prompt window
 - b. Type in “ping 192.168.1.1” or the address that was assigned to the Access Point during the Setup Wizard process.
 - c. If all packets are lost during transmission, double check the IP address to make sure it was typed in correctly.
 - d. If Access Point still does not respond to ping command, Access Point will need to be returned to factory for resetting. Support for resetting the Access Point in the field to factory settings is currently under development.



Troubleshooting Unable To Log Into Access Point

If you try to log into the Access Point and the login screen repeatedly clears itself, the Access Point is unable to correctly resolve the Internet browser's cookie information and the stored time on the Access Point. This issue only appears when using the MS Internet Explorer browser.

1. Try logging into the Access Point with another web browser such as Google Chrome or Mozilla Firefox.
2. Once logged in, reset the Access Point's Date and Time settings.



Troubleshooting Device Not Showing Up In Uncommissioned Devices

1. Repeat the Discovery process.
2. Check that device is powered on.
3. Power cycle the device.
4. Check radio distance.
5. Check device wiring.
6. Try to communicate directly with device using the Access Point Test Device page.
7. Bypass actuator to determine if problem is with fixture or device.
8. Replace actuator and rediscover.



wiHUBB 192.168.1.1/wihubb Saturday 11/26/2011 11:33 AM

My wiHUBB Identification Test Device

System Setup

- Facility Settings
- Users
- General Settings
- Network Settings
- Logout

Device Tester

MAC:

Query Device Configuration

Device Type:

Facility ID:

Fixture Controls

Relay #1

Relay #2

Dimmer 50%

Wink

Wink

Wink Every 6 Sec

This screenshot shows the wiHUBB web interface. The left sidebar has a tree view with "Facility Settings" expanded, showing "Users" (with "admin" selected), "General Settings", "Network Settings", and "Logout". The main content area has tabs for "Identification" and "Test Device", with "Test Device" selected. Under "Device Tester", there are fields for MAC, Device Type, and Facility ID. Below that is a "Fixture Controls" section with two relays (On/Off buttons), a dimmer slider set at 50%, and a "Wink" section with start/stop buttons and a timer slider set at 6 seconds.



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Commissioning a System Facility Identification

The screenshot shows a web browser window titled "wiHUBB" with the URL "192.168.1.1/wihubb". The page is titled "wiHUBB" and shows the date and time "Saturday 11/26/2011 11:32 AM". On the left, a sidebar menu is open under "System Setup", showing "Facility Settings" selected. The main content area has tabs "Identification" and "Test Device" with "Identification" selected. Under "Facility", there are fields for "Facility ID" (1234) and "Facility Name" (Facility), and a "Set Facility ID" button. Under "Defaults", there is a field for "Default Facility ID" (9601) and a dropdown menu with options "7212" and "9601".



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HBA Technical Support



- All forms have been updated to include wiHUBB . Please use these forms going forward for all commissioning jobs, including LX . Forms will be emailed to you and will be available on our FTP site.
- A new form is available for service calls not related to commissioning.

Purpose:		
When to use this form:		
User:		
Project Name		Claim Number
Project Location		Date Requested
Customer Name		HBA Requestor
Company Name		Priority
Technician Name		Arrival date/time
Company		Depart date/time
Phone Number		
E-mail address		
Condition of Installation or Product upon arrival		
Reported Issue was observed or duplicated? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Description of Work Performed by Technician		
Resolution or open issues		

Technician: Signing this form acknowledges that the work and observation described above is true to the best of your knowledge.

Customer representative: Signing this form only acknowledges that you have carefully read this form and had the opportunity to communicate your issues with the technician, observe his work and provided any additional information you wish.

Signatures		
Customer Representative		Date
Printed Name		Phone Number
HBA Technician		Date



- HBA will provide the following information in requesting field commissioning:
 - Completed Startup Request Form
 - Completed Tenant Lighting Schedule
 - BOM
 - Number of Days allotted to job
- You need to contact customer to arrange dates and confirm site is ready.
(If supplied information is incomplete, please confirm with customer that data is available on-site.)
- Once date is confirmed, inform M. Kahn and Agent
- If customer has not attached MAC addressed tags to a location (as-builts, log book) which delineates location of devices, inform them that additional days may need to be purchased if you cannot complete the job in the allocated days.



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Project Name: _____

Access Point IP Address: _____

wIHUBB Facility Name: _____

wiHUBB MAC Address Device Log

Project Location: _____

Cert. Field Tech: _____

wIHUBB Facility ID:

Section added for LX or wiHUBB Specific Information

For LX Systems	For wiHUBB Systems
Network wiring correctly installed per HBA specifications: Yes No If no please explain:	All devices documented and input: Yes No If no please explain:
Total network wiring distance:	Total # of HLI wiHUBB enabled fixtures: Brand and Type:
Panel schedules documented and input: Yes No If no please explain:	Facility Code:
JENEsys/BAS Interface commissioned and documented: Yes No If no please explain:	Other:



Commissioning Report

- Sections added for Call Summary, Problems, and Parts Usage
- For Call Summary and Problems, please use as much space as necessary to describe your visit and specific problems encountered.
- Please detail any parts used if supplied by HBA. Used or defective parts must be returned to HBA, Technical Services with an RMA.
- Contact Technical Services to start the RMA Process



The following documents need to be submitted to HBA in order to receive payment

- Completed Startup Commissioning Signoff by Customer
- Completed Startup Commissioning Report.
- System Files for LX or wiHUBB
- For wiHUBB: wiHUBB MAC Address Device Log
- Invoice

We also need to receive back any unused parts supplied to you for the specific job!!



Fixture Problems

- Check with site prior to visit. All fixtures should be on prior to commissioning. If not, they need to contact their supplier. If fixtures are not working, this could delay startup/commissioning.
- If you experience problems with HLI Fixtures while on-site, contact HBA Tech Services (800-888-8006) so that we can put you in contact with the appropriate warranty individual.



HBA Website
Hubbell-Automation.com

Refer to HBA Website for:

- Cut Sheets
- Instruction Sheets
- Application Guide
- Link to HLI Fixtures



Wireless Comes to Light

QUESTIONS ?



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