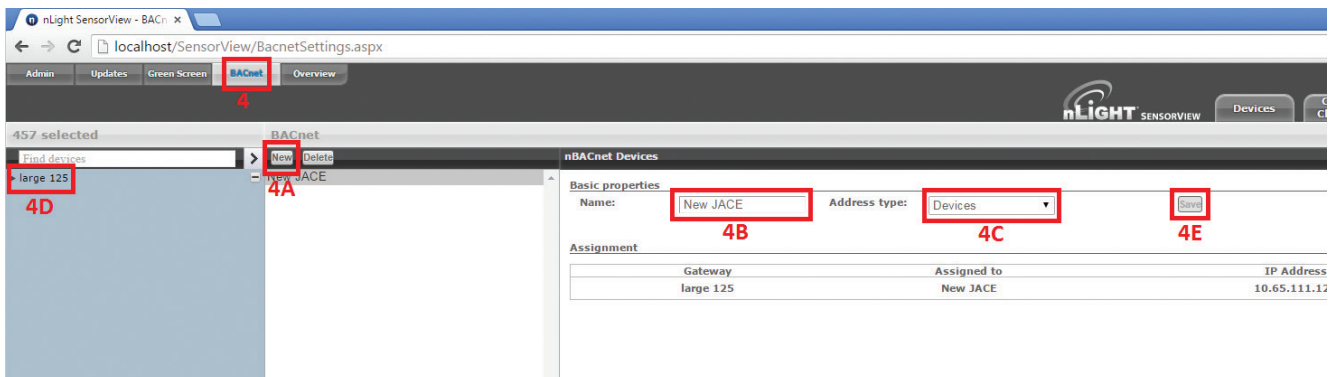


nBACnet Installation Guide



SENSORVIEW CONFIGURATION

1. Open web.config file located at: C:\Program Files\SensorSwitch\SensorView\App\Active\WebUI\web.config (Exact directory location will depend on the location chosen during installation)
2. Change the value of <add key="UseLegacyBacnet" value="Yes"/> to <add key="UseLegacyBacnet" value="No"/>
3. Save and close web.config
4. Log into SensorView as an administrator and navigate to the BACnet tab
 - A. Select New to create a new nBACnet mapping
 - B. Enter a descriptive name for the nBACnet unit
 - C. Select "device" or "zone" mode.
 - In device mode each device and its associated attributes are available over BACnet
 - In zone mode only zones are available over BACnet. All of the constituent devices will still be polled for zone status (i.e. if polling a zone for occupancy, if 1 or more occupancy sensors in an nLight zone are occupied the zone will show as occupied)
- D. Using the tree, select which devices or zones you want to assign to this unit.
 - Maximum 5 Gateways or 1500 devices per unit
 - Tree selection filters function as per the device tree
- E. When device or zone selection is complete, select save. This will update the nGWY2 device(s) so that it can communicate with the nBACnet unit
- F. Repeat for additional nBACnet units
 - Each gateway can only be assigned to one nBACnet unit. This means that if one device under a gateway is associated with a unit, only that unit can be used for any other device under the gateway.



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nBACnet Unit Preparation

1. Before starting, ensure that power to the unit has been arranged and the desired network configuration has been supplied by the customer.
2. Connect to the nBACnet unit using an independent LAN to the LAN 1 port of the nBACnet unit (e.g. direct connection via a laptop)
 - A. In a web browser (Internet Explorer or Firefox only) navigate to the IP address of the unit
 - If there is no sticker present on the device the IP address will be 192.168.1.215
 - The login credentials are nLightconfig/nLightconfig1
 - You may be prompted to install/run the java plugin. Follow installation steps provided to complete the install.
 - B. Enter the IP network default gateway into IPv4 Gateway
 - C. Enter the customer assigned IP address and subnet mask under Interface 1 (or if DHCP is required, select the enable check box)
 - D. It is recommended that interface 2 is enabled and assigned the default IP address, supplied with the unit. This will allow configuration of the nBACnet unit at a later time without connecting to the customer's IP network.
 - E. Select Save; this will cause the device to reboot. After rebooting connect the **nBACnet unit to the customer network via the LAN 1 port.**

The screenshot displays the nLight web interface for configuring network settings. The top navigation bar includes the nLIGHT logo, a Logoff button, and a menu with options: nLight Device Manager, BACnet Export, Network Settings, and User Manager. The main content area is titled 'hosts file' and contains the following configuration options:

- Use IPv6:** Yes
- DNS Domain:** [Empty text field]
- IPv4 Gateway:** 10.65.70.1
- DNSv4 Servers:** [Add, Remove, Up, Down icons]
- IPv6 Gateway:** [Empty text field]
- DNSv6 Servers:** [Add, Remove, Up, Down icons]

The 'Interfaces' section is expanded to show 'Interface 1' (en0) with the following details:

- ID:** en0
- Description:** Onboard Ethernet Adapter en0
- Physical Address:** 00:01:F0:8E:F9:04
- Adapter Enabled:** Enabled

Under 'IPv4 Settings' for Interface 1:

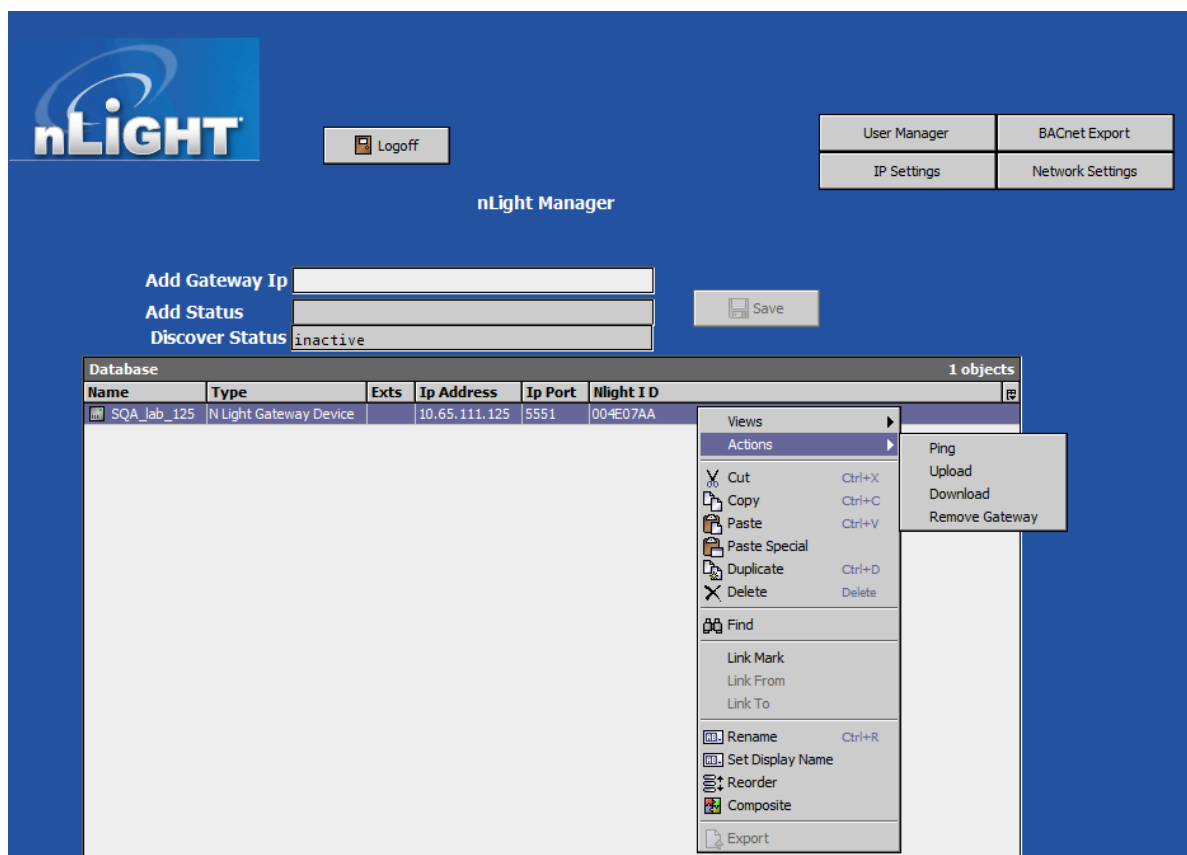
- DHCPv4:** Enabled
- IPv4 Address:** 10.65.70.200
- IPv4 Subnet Mask:** 255.255.255.0
- DHCPv4 Server:** n/a
- DHCPv4 Lease Granted:** n/a

At the bottom of the configuration window are 'Refresh' and 'Save' buttons.

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nBACnet Unit Configuration

1. Connect to the nBACnet unit, either through the secondary Ethernet adapter or via the customer IP network
 - A. Enter http://<IP> into a web browser (Internet Explorer or Firefox only) <IP> is the IP address assigned in previous step 2.2c
2. Navigate to the nLight Device Manager Page
3. Any nGWY 2 devices on the same vlan/subnet as the unit should automatically populate
 - A. If a gateway does not display:
 - 1) Enter the IP Address of the nGWY2 into Add Gateway IP address
 - 2) Save
 - B. If an undesired gateway shows up on the Device Manager page:
 - 1) Go to Network Settings and change Auto Discover Devices to false
 - 2) Save
 - 3) Return to the Device Manager page.
 - 4) Right-click the gateway you wish to remove
 - 5) Under Actions select Remove Gateway (*NOTE: Do **NOT** select delete)



4. Navigate to the Network Settings page
 - A. Enter the nGWY2 password in the password field (default is sensorswitch1234, and can be found by navigating to the "Gateway Password" menu directly from the nGWY2 GFX)
 - B. Select Onboard Ethernet Adapter en0 from the Adapter Dropdown under BACnet Network Settings
 - C. Enter the Network Number and Device Instance as provided by the customer or BMS integrator

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- D. If Enable IP Port or Enable BACnet are disabled, enable them at this time.
- E. Save Your Changes

The screenshot shows two side-by-side configuration panels. The left panel, titled 'nLight Network Settings', includes options for 'Auto Discover Devices' (set to false), 'Device Discovery Interval' (00000h 05m 00s), 'Discovery Timeout' (00000h 00m 15s), 'Auto Read XML' (set to true), 'Read Xml Timestamp' (2015-03-26T10:23:42.609-0400), 'Read Xml Interval' (00000h 05m 00s), and a 'Password' field containing 'ssissi0000000000'. The right panel, titled 'BACnet Network Settings', includes 'Enable BACnet' (set to Enable), 'Enable IP Port' (set to true), 'Network Number' (209), 'Device Instance' (device), 'Adapter' (Onboard Ethernet Adapter en0), 'Ip Address' (10.65.70.200), 'Udp Port' (0xBAC0), 'Ip Device Type' (Standard), and 'Bbmd Address' (null). Both panels have 'Save' and 'Refresh' buttons at the bottom.

- You can verify what is exposed using the BACnet Export page
- At this point the BMS engineer can begin integration.

The screenshot shows the 'Exported Objects' table in the nLight interface. The table has columns for Target Name, Object Name, Object Type, Inst Num, Value, Export, and BACnet Writable. It lists 1309 objects, including various DimmingOutputLevelP1 objects (Analog Value) and other system objects like OccupiedP1, MeasuredLightLevel, and PhotocellInhibitTimerP1. The 'Export' column shows '(ok)' for all objects, and the 'BACnet Writable' column shows 'no' for all objects.

Target Name	Object Name	Object Type	Inst Num	Value	Export	BACnet Writable
DimmingOutputLevelP1	nDev..0072607F.nIO_D_0072607F.DOL1	Analog Value	3001	0.0 (ok)	(ok)	no
DimmingOutputLevelP1	nDev..00726084.nIO_D_00726084.DOL1	Analog Value	3002	0.0 % (ok)	(ok)	no
DimmingOutputLevelP1	nDev..00726085.nIO_D_00726085.DOL1	Analog Value	3003	0.0 % (ok)	(ok)	no
DimmingOutputLevelP1	nDev..00726086.nIO_D_00726086.DOL1	Analog Value	3004	0.0 % (ok)	(ok)	no
DimmingOutputLevelP1	nDev..0072608A.nIO_D_0072608A.DOL1	Analog Value	3005	0.0 % (ok)	(ok)	no
DimmingOutputLevelP1	nDev..0072608B.nIO_D_0072608B.DOL1	Analog Value	3006	0.0 % (ok)	(ok)	no
DimmingOutputLevelP1	nDev..0072609C.nIO_D_0072609C.DOL1	Analog Value	3007	0.0 % (ok)	(ok)	no
TimeDelayRemainingP1	nDev..00727581.nCM_PDT_9_00727581.TDR1	Analog Value	9001	84.0 s (ok)	(ok)	no
OccupiedP1	nDev..00727581.nCM_PDT_9_00727581.OCC1	Binary Value	6001	Occupied (ok)	(ok)	no
MeasuredLightLevel	nDev..00727581.nIO_PDT_9_00727581.MLL	Analog Input	3001	0.2 fctcd (ok)	(ok)	no
PhotocellInhibitTimerP1	nDev..00727581.nCM_PDT_9_00727581.PIT1	Analog Value	15001	0.0 s (ok)	(ok)	no
PhotocellInhibitingP1	nDev..00727581.nCM_PDT_9_00727581.PI1	Binary Value	21001	Inhibiting (ok)	(ok)	no
DimmingOutputLevelP1	nDev..0073296D.nIO_D_0073296D.DOL1	Analog Value	3008	0.0 % (ok)	(ok)	no
DimmingOutputLevelP1	nDev..00732977.nIO_D_00732977.DOL1	Analog Value	3009	0.0 % (ok)	(ok)	no
DimmingOutputLevelP1	nDev..0073297A.nIO_D_0073297A.DOL1	Analog Value	3010	0.0 % (ok)	(ok)	no
DimmingOutputLevelP1	nDev..00732981.nIO_D_00732981.DOL1	Analog Value	3011	0.0 % (ok)	(ok)	no
DimmingOutputLevelP1	nDev..00732982.nIO_D_00732982.DOL1	Analog Value	3012	0.0 % (ok)	(ok)	no
DimmingOutputLevelP1	nDev..00732984.nIO_D_00732984.DOL1	Analog Value	3013	0.0 % (ok)	(ok)	no
DimmingOutputLevelP1	nDev..0073298C.nIO_D_0073298C.DOL1	Analog Value	3014	0.0 % (ok)	(ok)	no
DimmingOutputLevelP1	nDev..0073298D.nIO_D_0073298D.DOL1	Analog Value	3015	0.0 % (ok)	(ok)	no
DimmingOutputLevelP1	nDev..00732996.nIO_D_00732996.DOL1	Analog Value	3016	0.0 % (ok)	(ok)	no
DimmingOutputLevelP1	nDev..007856EF.nIO_D_007856EF.DOL1	Analog Value	3017	0.0 % (ok)	(ok)	no
DimmingOutputLevelP1	nDev..007856F4.nIO_D_007856F4.DOL1	Analog Value	3018	0.0 % (ok)	(ok)	no
DimmingOutputLevelP1	nDev..007856FE.nIO_D_007856FE.DOL1	Analog Value	3019	0.0 % (ok)	(ok)	no
DimmingOutputLevelP1	nDev..00785701.nIO_D_00785701.DOL1	Analog Value	3020	0.0 % (ok)	(ok)	no
DimmingOutputLevelP1	nDev..00785702.nIO_D_00785702.DOL1	Analog Value	3021	0.0 % (ok)	(ok)	no
DimmingOutputLevelP1	nDev..00785703.nIO_D_00785703.DOL1	Analog Value	3022	0.0 % (ok)	(ok)	no
DimmingOutputLevelP1	nDev..00785706.nIO_D_00785706.DOL1	Analog Value	3023	0.0 % (ok)	(ok)	no
DimmingOutputLevelP1	nDev..0078570A.nIO_D_0078570A.DOL1	Analog Value	3024	0.0 % (ok)	(ok)	no
DimmingOutputLevelP1	nDev..0078570B.nIO_D_0078570B.DOL1	Analog Value	3025	0.0 % (ok)	(ok)	no
DimmingOutputLevelP1	nDev..0078570C.nIO_D_0078570C.DOL1	Analog Value	3026	0.0 % (ok)	(ok)	no