

bNexia is a driver designed to consolidate query and command interactions with the Nexia API and distribute individual HVAC zone updates to connected bTstats. Projects require only one bNexia driver per "Location" as defined by Nexia. This driver runs as a background process and has no interface exposed to a user (aside from the Admin Server) - the standard thermostat interface is provided by one or more paired BNet Solutions bTstat drivers.

"NEXIA" BRAND SPLIT AND RETIREMENT

Nexia, the brand, is being retired and split into two separate brands: Trane and American Standard. bNexia v9+ is required to properly connect the new API endpoints.

SETUP

There are now two cloud API services and configuration homes depending on the brand of the physical thermostat. "Configuration Site" in the following setup instructions is a generic reference and should be substituted for the appropriate "Brand" site below:

Trane: <https://tranehome.com>

American Standard: <https://asairhome.com>

First step is to setup your Thermostat(s) on the Configuration Site. This step is likely already complete but confirm they are named appropriately (and uniquely), their schedules are set and of course that they are online and connected.

Next, install one bTstat driver (not this driver) for each HVAC zone - bTstat driver and documentation are available on the BNet Solutions website.

Simplify the setup process by naming each bTstat instance the same as thermostat system name (for non-zoned systems) or the zone name (for zoned systems). Doing so will allow the bTstat instance to auto select a zone when linked to bNexia (step 9 below).

bNexia Setup:

- 1) Within your Control4 project, install a single instance of the bNexia driver per location
- 2) Set the "Brand" Property to the physical thermostat's brand
- 3) On the navigation banner on the Configuration Site (above), go to 'Mobile' and click 'Add Mobile Device'. You will need 1 new Device per location (Most will only have a single location). What you name it doesn't matter, mine is call bNexia. Choose 'WiFi' as your mobile connection. Leave all the Thermostats selected under 'Devices this mobile device can control'. Click Save
- 4) Click 'Get Activation Code' on your newly created Mobile Device. There is an issue with Activation Codes that begin with a 0 (zero). If your code starts with a zero, request a new code. Activation codes are valid for single use only - if you repeat the setup, you will require another Activation Code.
- 5) Within your Control4 project, enter the Activation Code (from step 3) into the Activation Code property
- 6) Confirm Mobile ID and API Key properties are populated

bNexia Driver

- 7) Set Location Name property - if there is only one location associated with your Mobile Device, bNexia will select that location for you
- 8) Add an instance of the bTstat driver for every zone you wish to control at this location.
- 9) Select the associated bTstat instances via the Thermostats property device selector. In most cases, all bTstat instances should be selected
- 10) Upon successful activation, the Poll Interval will be set to 1 minute but may be adjusted as desired
- 11) bNexia setup is complete however each bTstat instance must now claim an HVAC zone - reference the bTstat driver documentation for details

PROPERTIES

DRIVER SETUP

Driver Version	Installed driver version
MAC Address	Unique network interface identifier for the Controller
Upgrade Mode	BNet Solutions drivers automatically update themselves. Options are "Automatic" and "Upgrade Now". See "Upgrade Mode" section below
Admin Token	Token required to access the driver's Admin Server

BNEXIA SETUP

Brand	Physical thermostat Brand (Trane or American Standard)
Activation Code	Code received from the Configuration Site used to validate bNexia as a mobile device
Mobile ID	Configuration Site assigned ID for bNexia
API Key	Configuration Site assigned key for bNexia
Location Name	List of available locations associated with the Configuration Site account
Poll Interval	Interval, in minutes, to retrieve the current state of Nexia thermostats. Zero (0) disables polling

THERMOSTAT SETUP

Thermostats	Device Selector property used to associate bTstat driver instances with this bNexia driver
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DEBUG SETTINGS

Debug Mode	Sets where the driver outputs debug information. See "Troubleshooting" section below for more information
Debug Level	Sets how much debug detail the driver outputs

ADMIN PORTAL

BNet Solutions drivers have a built-in Admin Portal that include an Information, Properties, Variables, Actions, Lua, Documentation and License tabs. Additionally, if the driver supports additional custom tabs, these are displayed as well.

A driver's Admin Portal can be reached using the following address template:

[https://\[controller ip\]/driver/bNexia/admin.html](https://[controller ip]/driver/bNexia/admin.html) where "controller ip" is the IP Address of your Control4 Director.

Because of the security model used by modern browsers, there are two configuration steps to

bNexia Driver

successfully connect to the Admin Portal:

- 1) The Admin Portal communicates to the controller via a secured websocket. The BNet Certificate Authority that signed the Admin Portal's server certificate must be trusted for your browser to make the SSL/TLS websocket connection. The BNet CA bundle must be downloaded and install as a root certificate. The bundle can be found at https://ca.bnet4solutions.com/get_ca_bundle.php
- 2) Your controller uses a privately signed Control4 server certificate that must be trusted before your browser will allow you to navigate to the Admin Portal. On your first visit to the Portal, you will be asked to make a security exception and continue.

The Admin Portal is protected by a challenge page that requires a token to continue. By default, the token is "bNexiaAdmin". Once authenticated, the token is stored in a cookie (technically hashed, then stored) so you won't need to log in every time. The token is configurable via the driver's property page. The Admin Server is enabled by default but can be disabled entirely via the driver's property page.

UPGRADE MODE

BNet Solutions drivers can automatically update themselves. New driver functionality or capability is typically packaged as an incremental "Major" version (v3, v4 etc). "Minor" versions (v2.3, v2.4) are typically maintenance releases that update underlying libraries, address a specific issue or usability concern.

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|------------|---|
| Automatic | When "Automatic" is selected, the driver will upgrade/update itself when a new version is available. This is currently the only available option. |
| Update Now | Checks for and upgrades to any newer Major or Minor version. |

KNOWN ISSUES AND LIMITATIONS

- Requires C4 OS v3.1.1 or greater
- There is an issue with Activation Codes that begin with a 0 (zero). If you are issued a code that begins with a zero, request a new code (the underlying JSON library trims leading zeros)
- The Thermostat device selector property specifically searches for devices installed from "bTstat.c4z". If bTstat instances are installed but not reflected in the Thermostats property, confirm the driver installation source is exactly "bTstat.c4z".

TROUBLESHOOTING

All BNet Solutions products have an additional 'Submit' Debug Mode. With this mode selected, the driver creates a unique log file to capture the Lua output based on the selected Debug Level (usually set to "5 - Debug"). Once 'Submit' Debug Mode is deselected, either manually or when the Debug Timer expires, the Submit Debug Log is uploaded to the BNet Solutions Server for analysis.

The server notifies me when Submit files are uploaded but if you have not purchased a license, I will have no way to reach back out to you for troubleshooting so please email me your contact information.

TRIAL AND PURCHASE

bNexia Driver

All BNet Solutions drivers are fully functional for a 7-day Trial Period. To continue usage after the Trial Period, you will need to purchase a license. Purchase functionality is provided by the License tab that may be accessed in one of two ways:

- In Composer, on the System Design side panel, click on the driver. The License tab is displayed as a subtab of the BNet tab
- In the Admin Portal, the License tab is displayed as one of the main tabs

Once the required fields are filled in, select one of the PayPal payment options and follow the prompts to complete the purchase. Upon completion, the driver will auto-populate the license key and activate. You will receive a receipt from PayPal for the transaction.

An example License tab:

Properties | **Properties** | Summary | List View

Advanced Properties

BNet | **Properties** | Actions | Lua

bnet SOLUTIONS

bROOMBA
ADMINv9.0
(DEVICE #402)

Documentation | **License**

LICENSE KEY

Set Key

LICENSE STATUS

Valid	False
Trial	False
Remaining	Trial Expired
Revoked	False

DRIVER COST: **\$75.00** *plus tax

PURCHASER INFORMATION

Email First Name Last Name

PayPal

venmo

☐ Debit or Credit Card

Powered by **PayPal**

There are no refunds so please review the documentation for any limitations or known issues and determine acceptance during the Trial Period.

LEGAL

By using this driver, you are indicating that you have read and agree with the Policies and Terms that govern its usage as published [here](#).

MY CONTACT INFORMATION

You can reach me at blucas@bnet4solutions.com for comments or questions.

CHANGE LOG

- v1 - 03/19 Beta Release
- v2 - 05/19 Initial Release
 - Consolidated all Nexia interactions into bNexia - bTstat now only proxies commands and updates via bNexia making bTstats cloud service agnostic
 - Added functionality to support new bTstat features including Auto system mode, Fan Circulation, Nexia Presets (None, Home, Away and Sleep) and Extras
- v3 - 06/19 Fixed issue when thermostat scheduling is disabled resulting in Hold Mode settings omitted from Nexia query
- v4 - 07/19 Resolved lost activation status after unclean director shutdown
- v5 - 08/19 Updated architecture modules
- v6 - 11/19 Added auto-update functionality
- v7 - 06/20 Streamlined setup and zone claim/release process
- v8 - 11/20 Major architecture overhaul
- v9 - 06/21 Support Nexia brand split