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User Guide

Autani Bulk Commissioning App

Windows Based Version with Commissioning Wand

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1. Commissioning App Overview

1.1. Overview

The **Autani Commissioning App and Wand** is a Windows application that is designed to help users with rapid, large-scale remote commissioning. The application is designed to solve some of the primary challenges associated with large-scale deployments of wireless controls:

1. Wireless devices often need to be associated with a particularly gateway to "backhaul" control commands and sensor information to a central unit for management and control.
2. Wireless devices need to be grouped with nearby devices for proper functioning. For example, in a small conference room, the lighting may be divided into two "circuits", one group of lights near a TV or projector screen, and the other lights further away. Two switches may be used to control each circuit separately. During the commissioning process, these groups must be established and the relationships between the wireless devices defined.
3. Wireless devices need to be added to a facility map and named in a descriptive way so that maintenance personnel can locate and manage these units in the future.

The Autani Commissioning App solves many of these issues:

1. Antenna sensitivity on the Autani Commissioning App can be adjusted so that only nearby wireless controls join the network.
2. You can rapidly join and identify Devices in a few seconds, and the appropriate devices can rapidly be placed on an overhead map of the facility called the Map View.
3. Wireless lighting control are automatically turned off when placed on the Map View, so that you can see which Devices are still not on the network at a glance.
4. Devices can be configured and groups simply by drawing boxes around a group of Devices.

These feature, as well as a number of other enhancements have been designed to support large scale onboarding of wireless controls into the Autani EnergyCenter software ecosystem.

1.2. What is the Commissioning Process?

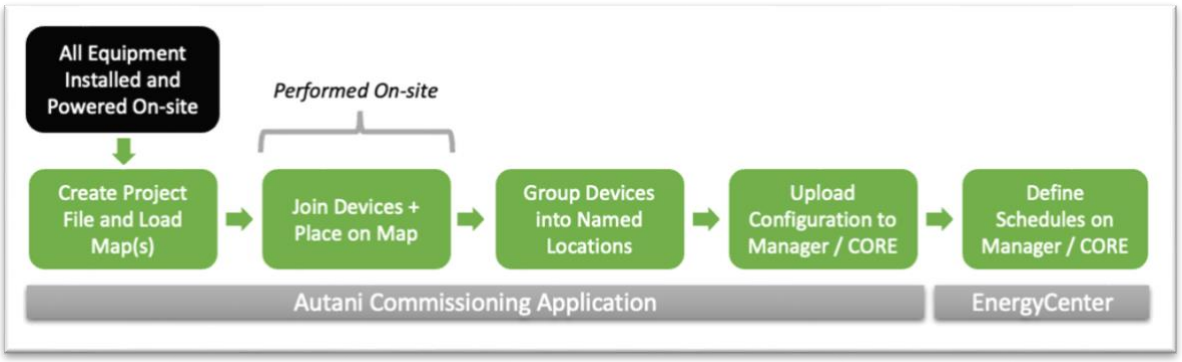
The Autani Commissioning App is used to commission wireless networked lighting and HVAC control devices. During the Commissioning process, you will configure wireless controls and sensors and provide basic grouping and setup functions so these can be quickly imported to an Autani Manager or CORE device (sometimes referred to as Gateways). The application allows a user to move around a facility with a portable antenna, picking up devices no matter how far they are away from an installed Gateway.

The App is specially designed to:

- Allow a user to move very rapidly through a facility while joining Devices to a network.
- Allow a user to work without requiring barcode scanning of devices, particularly in areas where Devices are difficult to access and / or the barcode stickers may have been poorly maintained by the installation staff.
- Support users who are not technically sophisticated with previous wireless commissioning tools. Most user interface elements are simple drag and drop.

1.2.1. Typical Commissioning Workflow

A commissioning workflow that is recommended for use with the Autani Commissioning App is shown below.



One observation that should be made is that only the Join Devices step needs to be performed on-site. This means that a commissioning agent on-site can focus on joining hundreds of devices a day, following up by quickly grouping these into rooms when time is later available.

2. Setting Up the Application

2.1. Installing the Application

You will obtain the setup files directly from Autani Support in advance of using the product. The best way to proceed with the installation is to accept the default installer settings when installing; there are no special options that need to be selected during the install process.

***NOTE**: This App is available in for Windows 10 and 11 (intel) systems only. A Touch or Pen-Based interface is recommended if you will be walking through a facility commissioning devices, as one-handed operation is easier to support; however, traditional mouse and trackpad-based laptops are fully supported.*

2.2. Using the Autani Wand (Wireless Transceiver)

Along with the Autani Commissioning App software, you will need a wireless transceiver to allow your laptop or tablet to talk to the wireless devices. Autani Support will supply you with a unit (called the Autani Wand) upon project initiation. A single Autani Wand can be used to commission any number of Managers / CORE's on separate projects.

The Autani Wand plugs into your computer or tablet via a USB-C connection, so you may need an adapter for some computers.

Figure 1 - Autani Wand with USB-C Connector

3. User Interface Overview

3.1. Using Mouse, Touch, and Pen Interfaces

The Autani Commissioning App is designed for use with multiple types of user input. It supports mouse-based access, but also supports touch interfaces as well as pen-based interfaces for rapid data manipulation on table-based PC's such as the Microsoft Surface tablet and Surface Go.

When using these interfaces, some of the gestures to perform actions (such as drag and drop) may be slightly different. The nuances of these gestures are most apparent when first joining devices and moving these devices around on the facility map.

In some cases, the differences between the input devices is covered in Sections 5 - Commissioning a Project - Joining and Placing Devices (pg. 14) and 5.3 - Placing Devices on the Map (pg. 20).

The following chart is helpful for documenting the differences in user interface between these three interfaces.

Action	Mouse	Pen	Touch
Selecting an item	Left click item with mouse	Tap pen to item	Tap item with finger
Extending selection to 2nd item	Right click 2nd item with mouse	Hold button on side of pen and click 2nd item	Touch 2nd item and hold finger in place (without moving) for a second or two. A circle will appear around your finger. Release to select the 2nd item. 
Select multiple items on the Map with a box	Click an empty area of the diagram and hold the left mouse button down. Drag a window around all the items you wish to select and release the button.	Touch pen to an empty area of the screen and drag a window around the items you wish to select. Remove the pen from the screen to finish selecting.	Touch and hold your finger in place in an empty area of the screen. Wait until a circle appears around your finger, and then drag your finger to create a window around multiple items. Remove your finger from the screen to finish the selection. 

3.2. Working with the Main Window

The Autani Commissioning App is a single-window application, using tabs and icon-based navigation menus to allow users to navigate to various functions within the application. The Main Window appears when the application is first launched.

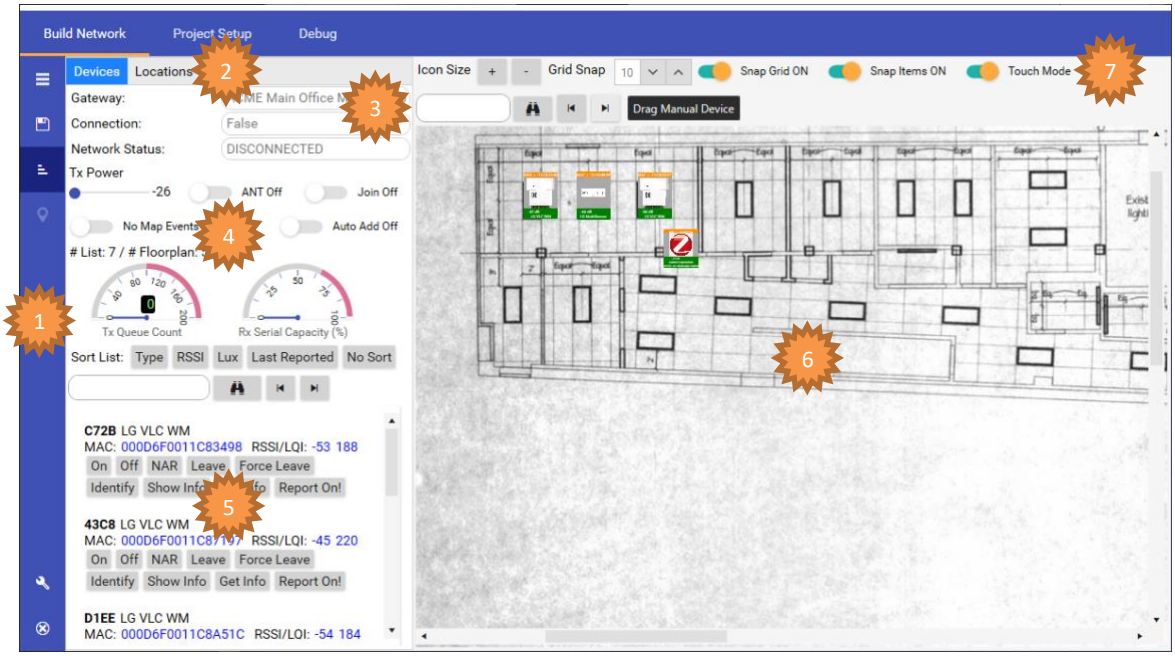
1. The Tab menu allows you to choose between Build Network and Project Setup Tabs. These are described in more detail in the next Section - Overview of Panels (pg. 7)

3.3. Overview of Panels

3.3.1. Build Network

The Build Network Tab is the primary view that you will use in the Commissioning App. In this view, you can turn on and off the Autani Wand, enable devices to join the network, and add these devices to the map while recording commissioning detail.

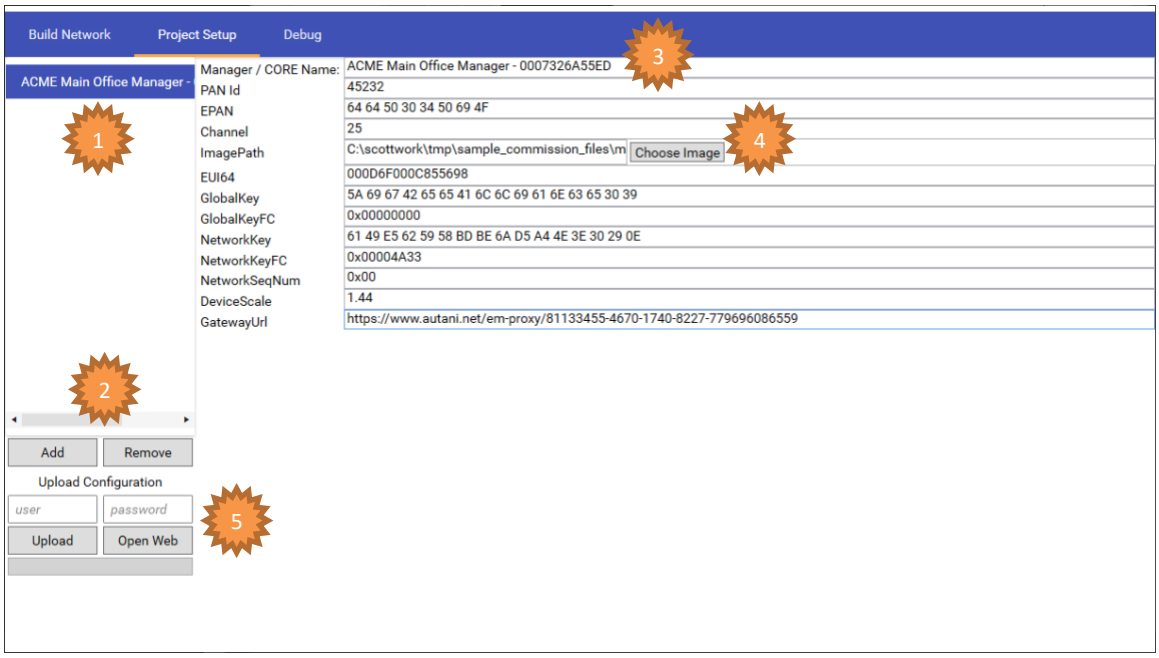
1. The Action Buttons are used to load files, switch networks, and send bulk commands to all devices in the Unconfigured Devices lists.
2. The Devices / Locations Tag allows you to switch the list of devices with a list of device groupings (locations) that represent rooms within the facility.
3. The Connection Status area shows the Autani Wand network details and connection status.
4. The Autani Wand switches allow you to turn off and on the Autani Wand as well as turn off and on devices behaviors.
5. The Unconfigured Devices List shows devices that have joined your network but have not yet been placed on the Map.
6. The Map View shows the floorplan of the facility and allows you to drag and drop items from the Unconfigured Devices list.



3.3.2. Project Setup Tab

The Project Setup Tab is used to configure each of the Managers and CORE's that will eventually host the devices that you are commissioning.

1. The Gateway List shows the Managers and COREs that will be used for a particular project. You will need at least one Manager defined on a project, and you can add additional units now or later in a project.
2. The Add / Remove buttons allow new Managers and COREs to be added to the list.
3. The Settings for each Manager / CORE are displayed when you select an item in the Gateways List.
4. You can edit the background image associated with each device (for example, if each Manager / CORE controls a different floor)
5. The Upload Configuration area allows you to enter credentials and upload your file to specific Manager / CORE. You will use this after you have finished joining and grouping devices on a Gateway.

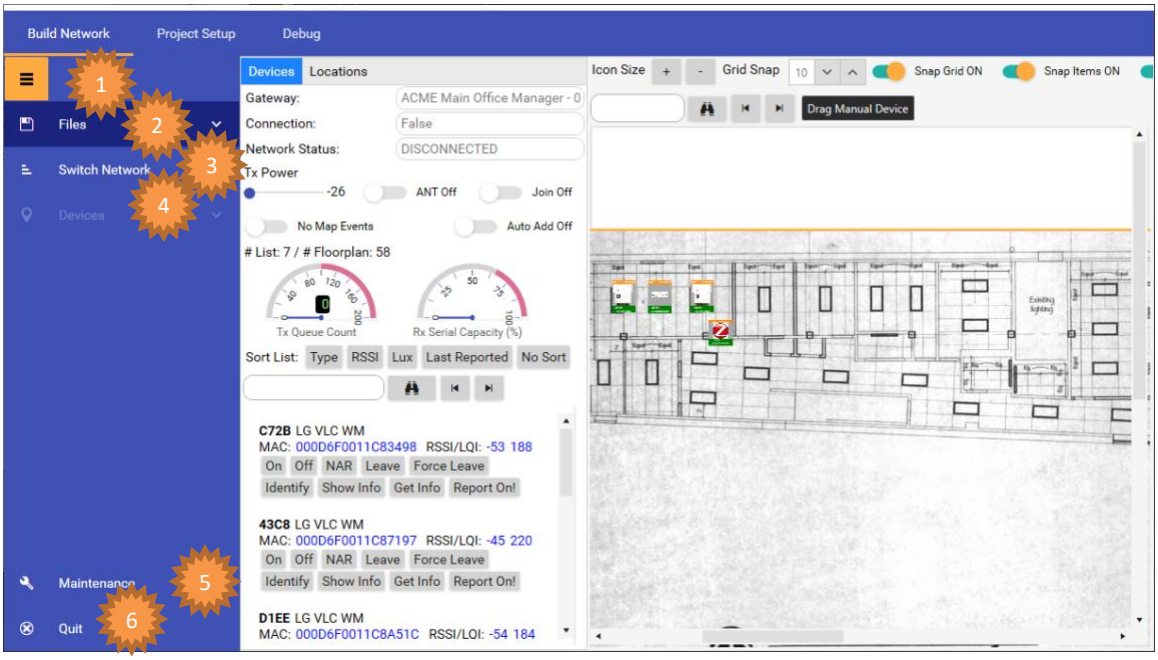


3.3.3. Navigation Bar

The Navigation Bar appears when you have the Build Network Tab selected, and it offers various file, network, and device options. The details for using the submenu options within each option are further described in later sections that cover various task-based instructions.

1. The Expand Menu (sometimes referred to as the "hamburger menu") expands the Navigation Bar to persistently display the full text of all options. If not expanded, the menu items will dynamically expand and contract after you have selected an option.
2. The Files menu allows you to load and save building project files. Additionally, you can export an audit trail of all devices and "last seen" locations to assist Autani Support in locating lost devices.
3. The Switch Network option allows you to select and switch between multiple gateways (Managers and CORE's), separately configuring the devices assigned to each network.
4. The Devices option allows you to send commands to all of the devices joined to the network that appear in the Devices List. For example, you can tell all lighting controllers to turn on or off to test network connectivity.
5. The Maintenance option includes advanced options that allow you to upgrade or reset your attached radio transceiver (the Autani Wand). This will typically only be used under the guidance of Autani Support to resolve an issue in the field.
6. The Quit option allows you to close the application. You will be warned to save your project file; this is important to do even if you haven't made any changes, as the project file also contains security information

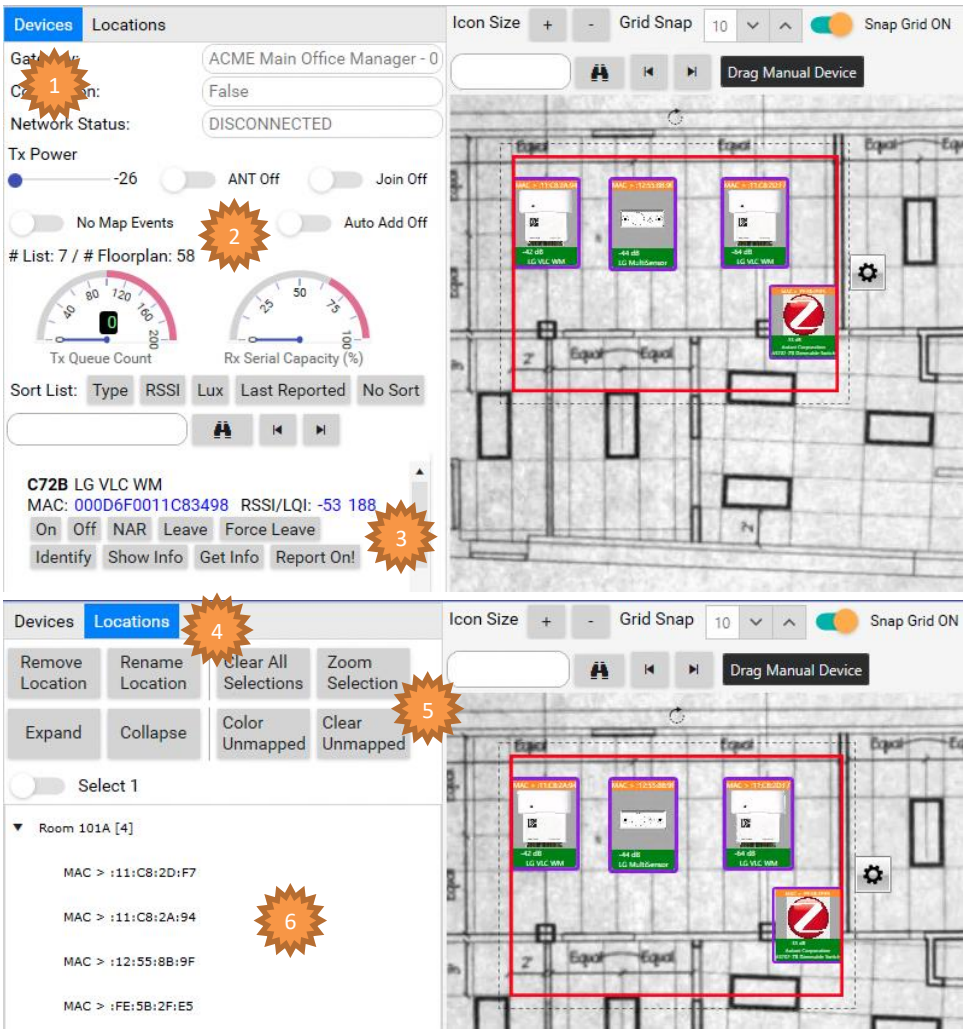
about the devices on your wireless network, and these values may change while you are using the Autani Wand (transceiver).



3.3.4. Devices / Locations Tabs

The Devices / Location Tabs allow you to switch to between device joining and grouping activities.

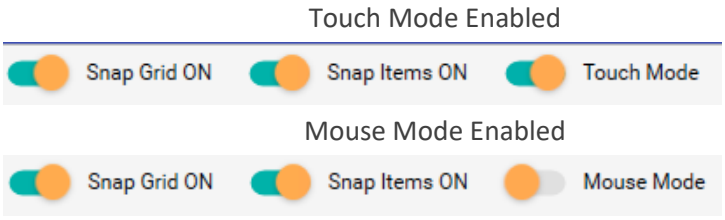
1. When using the Devices Tab, wireless devices that have joined the network can be dragged onto the Map View. Additionally, separate commands can be sent to each device to verify connectivity and help identify which controllers and switches belong to the listed entry.
2. The Antenna options allow the user to turn on and off the antenna as well as enable joining and joining related behaviors.
3. The Devices List allows devices to be dragged onto the map and allows you to click the buttons on each device to quickly turn only that device on or off as well as trigger other network behaviors, such as sending that device away from the network.
4. Meanwhile, the Locations tab shows functions associated with placing devices into a Group (also analogous to putting device on the same “circuit” or in the same room). Devices that are grouped are configured to work together; for example, all the lights in a Group will turn off or on if a switch in that Group is pressed.
5. The Grouping buttons allow you to manage Groups (Remove, Rename), expand or collapse the list of groups, and navigate on the Maps View to a particular group. Finally, you can highlight or unhighlight all devices that don’t appear in any Group.
6. The Groups List shows a list of all Groups on a particular Network.



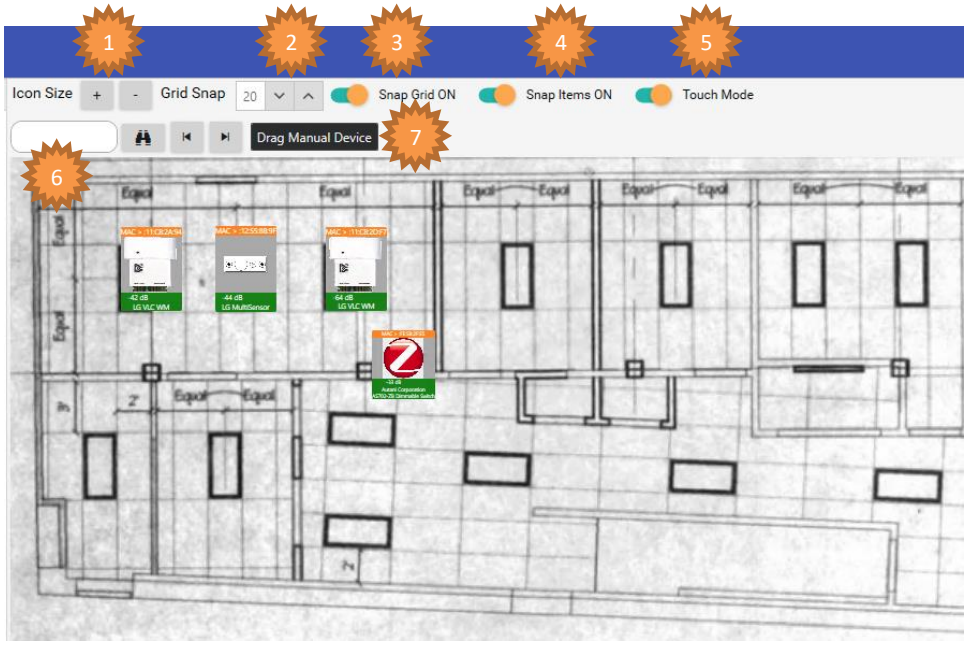
3.3.5. Diagram View

The Diagram View shows the facility map that is associated with the currently selected Network as well as the Devices that have been placed on the map.

1. The Icon Size control allows you to adjust the size of Devices that are displayed on the map currently as well as new Devices placed on the map in the future.
2. The Grid Snap Size control adjusts the size of the snap grid onto which Devices are placed. When you make this number larger, Devices will only be allowed to be dropped at discrete points on the Map with a larger separation distance between them. The easiest way to imagine this function is that your Map is overlaid with an invisible grid (like a paper map or latitude / longitude lines), and Devices can only be placed at the intersection of the horizontal and vertical lines. When a Device is moved on the Map, it will shift or “snap” to the nearest grid location.
3. The Snap Grid On/Off control allows you to turn on / off “Snap to Grid” functionality. When turned off, Devices can be moved and placed on the map wherever they are dropped. When turned on, Devices will “snap” to the nearest grid interval when moved.
4. The Snap Items On/Off option, when enabled, will attempt to line up Devices horizontally or vertically with other nearby Devices already on the map.
5. Touch Mode / Mouse Mode options switch you between modes optimized for use with a pen-based interface (or finger-based touch interface) and a traditional mouse-based interface. The primary difference between these modes is that each additional “click” or “touch” in Touch Mode is additive. This means that selecting a new Device while another Device is already selected will result in BOTH devices being selected. In Mouse Mode, selecting a second device will automatically deselect the previous entry.



6. The Search Map control allows a user to type in a partial MAC address for radio-based devices. The Map View will automatically zoom to each matching device as the user clicks the left and right arrows.
7. The Drag Manual Device control allows a user to drag non-Zigbee radio devices onto the Map. Currently, only EnOcean based devices are supported, but other devices will be supported in the future.



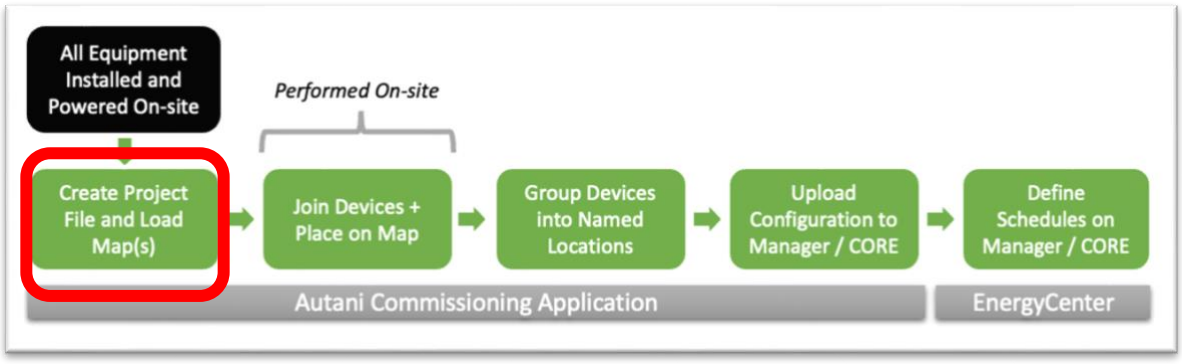
4. Commissioning a Project – Create a Project and Load Map(s)

4.1. Project Commissioning – An Overview

While the next pages provide an in-depth view of the commissioning process, the overall process is quite simple.

- Load a starter project file and add map(s) of your facility
- Turn on the antenna and place joined Devices on the facility maps
  - Joined devices automatically can transition to different light levels allowing you to quickly identify fixtures.
- Group those Devices into rooms.
  - Most room-based behaviors (such as occupancy and switches) are automatically defined by this grouping
- Upload Devices to the Manager / CORE and enter schedule information for each room.
  - Here you can set time-based schedules, such as defining different occupied lighting levels for day and night.

The following sections go through this process in detail with screenshots showing typical applications.



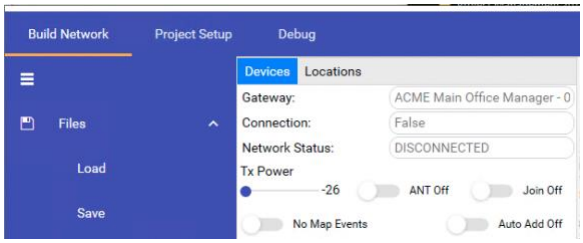
4.2. Working with Project Files

4.2.1. Project Setup

4.2.1.1. Overview

Project files are used to save all the wireless configurations for a particular building or site. Each separate project should be defined in a separate project file, and these project files should be regularly backed up during the commissioning job.

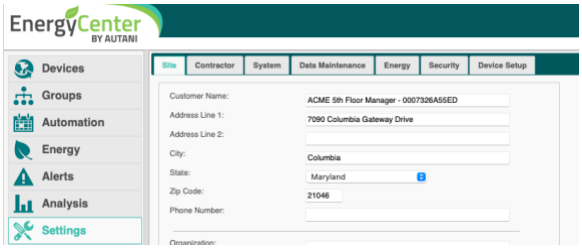
Project files are loaded and saved from the Files option on the Navigation Bar.



4.2.1.2. Adding / Removing Gateways

Normally, you will be provided with a starter project file along with your other Autani hardware. This will already be setup to work with your Autani Manager's and CORE's. However, if you need to add a new Manager or CORE after the fact, you can use the following steps:

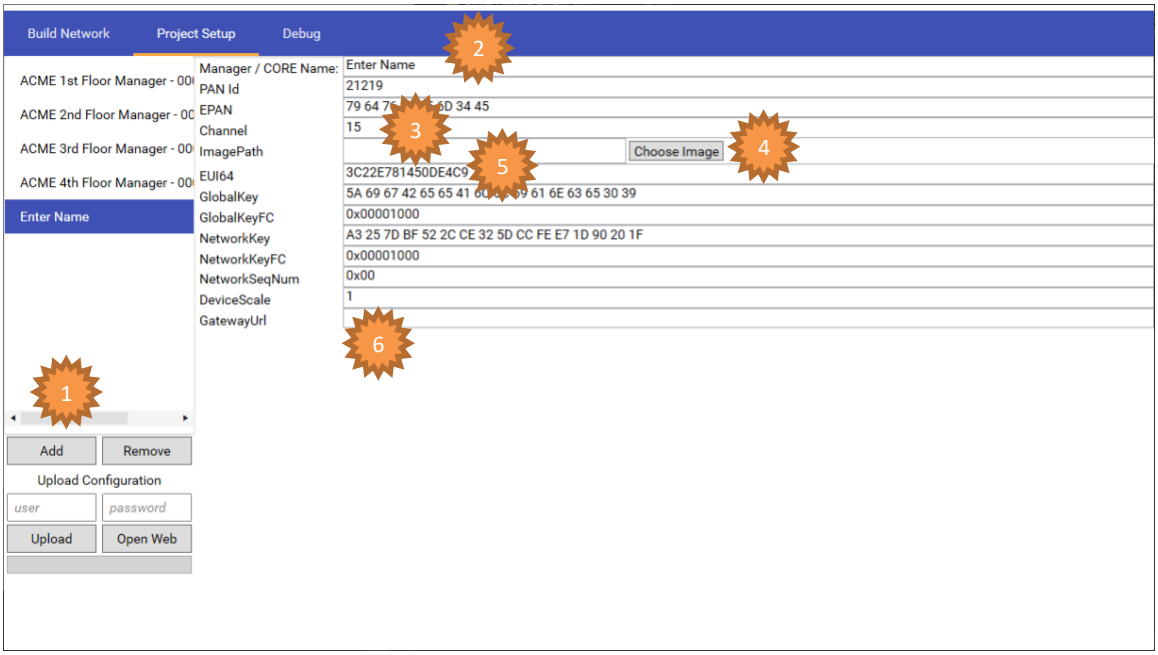
1. Click the Add button to add a new Manager or CORE.
2. Enter the name of the Manager or CORE in the Name field. It is helpful to use the same name that is displayed in Autani.Net for this device so there is no confusion. This name can be found through Autani.net for a particular Manager or CORE when you navigate to Settings -> Site Tab -> Customer Name field.



3. Choose a channel for this network. It is recommended that you typically work with only channels 15,20, and 25, although the allowable range is 11-25. Also, is it recommended to choose channels so that adjacent managers aren't on the same channel when possible.
4. Click "Choose Image" and select a local photo or scan of the facility map (it must be in a common image format such as .PNG or .JPG).

5. Enter the EUI64 (MAC address) associated with this Manager or CORE. This will need to be supplied to you by Autani Support.
6. Enter the Gateway URL associated with your Manager or CORE. This will need to be supplied to you by Autani Support.

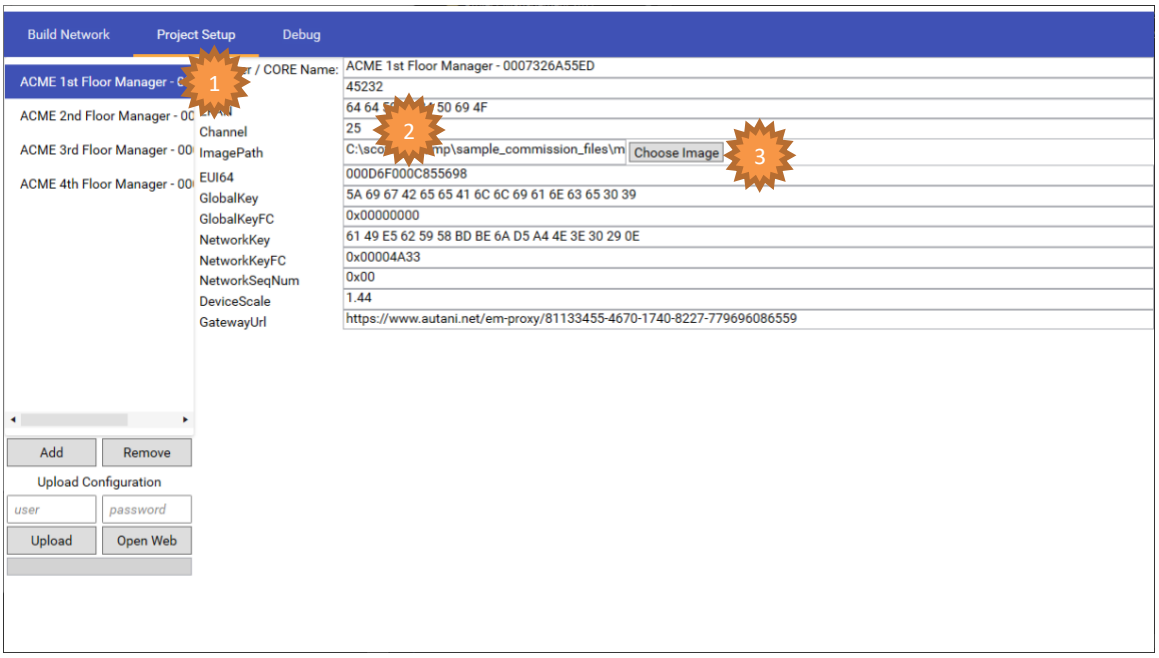
Leave all other settings untouched.



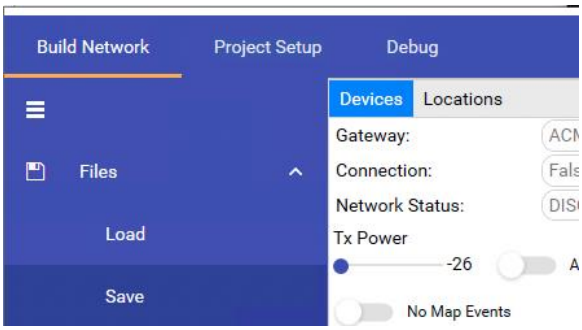
4.2.2. Working with a Predefined File

If you already have the Managers and COREs setup on your project file, the primary thing for you to do is associate a reflected ceiling plan or other scanned diagram with each area of the building. If you are working with a large facility in which the same overhead view will be used for all Managers and CORE (each Gateway used to support a separate area), then you can just pick the same map multiple times. Additionally, you may want to adjust the channel based on Manager / CORE locations.

1. Select the entry you will be editing. Each entry corresponds to a single Gateway (a Manager or CORE). You will need to define a map and channel for each entry, so repeat these steps for each item.
2. Choose a channel for this network. It is recommended that you typically work with only channels 15,20, and 25, although the allowable range is 11-25. Also, is it recommended to choose channels so that adjacent managers aren't on the same channel when possible.
3. Click "Choose Image" and select a local photo or scan of the facility map (it must be in a common image format such as .PNG or .JPG).

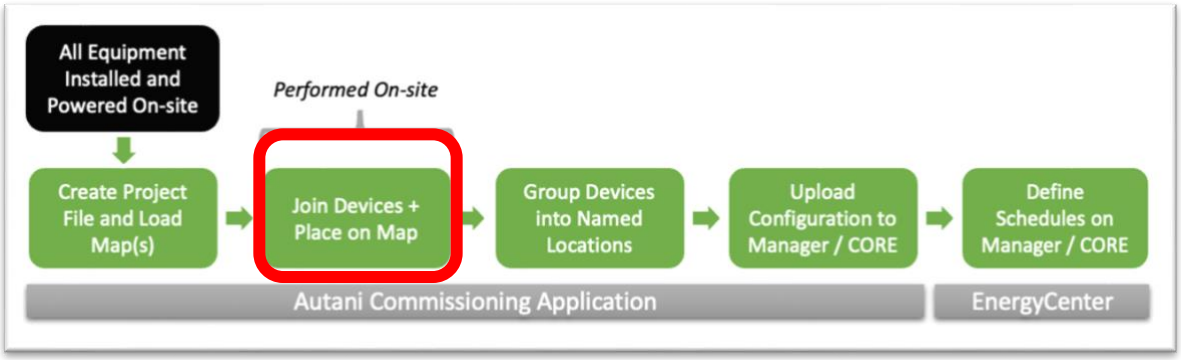


Please note that you will need to save your file once you have made changes. You can do that from the Build Network Tab by expanding the Files option on the Navigation Bar and clicking Save.



5. Commissioning a Project - Joining and Placing Devices on the Map

After preparing your project file, the next step will be on-site: you will join Devices to the Commissioning App and place those Devices on Map(s).



5.1. Before You Start

When you are working with Autani Commissioning App with the antenna enabled, ensure that your laptop or tablet does not go into “sleep” mode or power down. This can cause the application to miss radio message and may result in losing Devices that will later require re-commissioning. Typically, you can adjust this via your power and screensaver settings in the Windows 10/11 Control Panel.

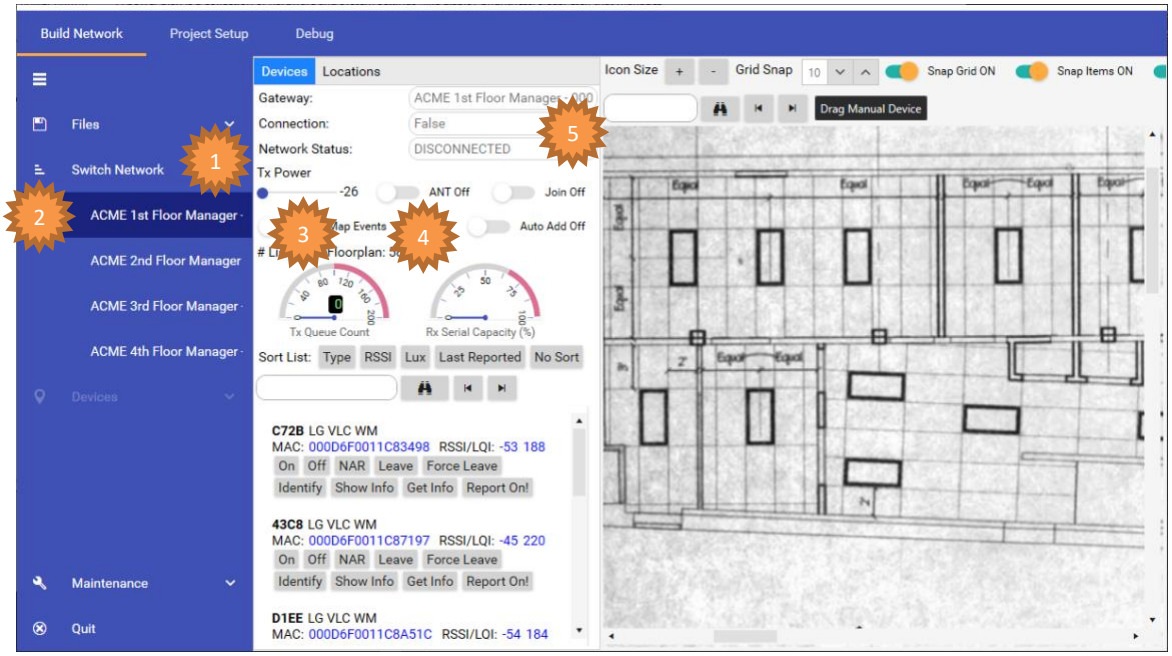
5.2. Joining Devices

5.2.1. Turning on the Network

For you to commission devices, you will first need to turn on the transceiver (the Autani Wand) and form one of the networks in the building.

Never disconnect the Autani Wand when working with a Network. This will cause data loss, and potentially require you to restart the application.

1. Expand the Navigation Bar and click the Switch Network option.
2. Choose the Manager / CORE that you will be working with. The Map on the right-hand side of the screen will be updated when you select an option.
3. Optionally, drag the TxPower slider to choose a transmission power (the default is the lowest setting of -26db). It’s good to start with the lowest value and try other values over time if you need to. Higher values will result in Devices joining the network from further away locations, so you can keep only nearby Devices joining by starting with a lower value. In some applications, such as high bay fixtures, you may need to start with a higher value such as -12db or higher.
4. Click the ANT Off radio button. It should transition to ANT On in a few moments.
5. Wait for the Connection and Network Status fields to transition to True and UP, respectively.



You are now ready to join devices to the network.

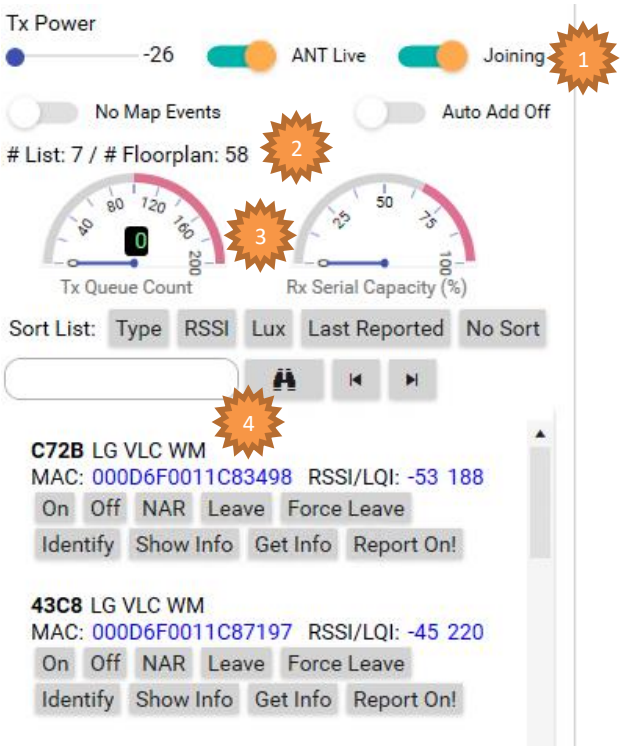
5.2.2. Enabling Joining and Monitoring Joined Devices

Once you have selected a Network in the previous step, you can enable joining to the network.

Generally, you should not leave joining on for a long time and particularly not if you are leaving your laptop unattended. The point of keeping the antenna power low and leaving joining on for a short period of time is to ensure that you only join those Devices which are near your transceiver and easily identifiable. If you join 30+ Devices at a time, it will potentially take longer to identify which physical fixtures are associated with the entries that appear in the user interface.

If Devices fail to join the network and the list remains blank, you can try some of the troubleshooting steps discussed in Section 5.2.5 - Troubleshooting Device Joining (pg. 19).

1. Enable Joining by clicking the Join Off toggle, shifting it to Joining mode.
2. As Devices join the network, you will see the count of devices update. In this example, the counts are indicating that 7 devices appear in the Uncommisssioned Devices List, and 58 Devices have been added to the Map. We will discuss adding items to the Map in Section 5.3 - Placing Devices on the Map (pg. 20).
3. As Devices are joined, you will see the "speedometers" register inbound and outboard radio traffic. These function as a troubleshooting check to make sure that radio traffic is being observed by the Autani Wand (and that the Autani Wand is not disconnected, for example).
4. As each new item joins the network, you will be able to see the device address and device type. In this case, we are looking at an LG manufactured WM, which is short for wireless module.



5.2.3. Working with a Single Devices in the Uncommissioned Devices List

There are several buttons and other pieces of information that appear on each Device in the list.

1. The 4-character display shows the current address of the device on the network. This may change over time, so this is only useful for support personnel.
2. The name of the device is displayed next to the Device address. This name is generally populated a few seconds after the device joins. If this name fails to populate, you can try clicking the Get Info button to reload the Device information.
3. The MAC address displayed is the permanent Device identifier; typically, this MAC address will also appear on a sticker affixed to the product. If you are unable to identify the location of an item, you can potentially

use this MAC address to locate other data gathered during installation. In some cases, installers will affix stickers that are supplied with the devices to a map during the install process.

4. The current signal strength (RSSI) and Link Quality Indicator (LQI) shows device connection strength and error rates. For a good connection, RSSI should be greater than -70 and LQI should be 200 or greater; however, in the field you will see these values vary. These can help you identify how far a Device is away from the antenna, as more negative RSSI values indicate devices that are further away.

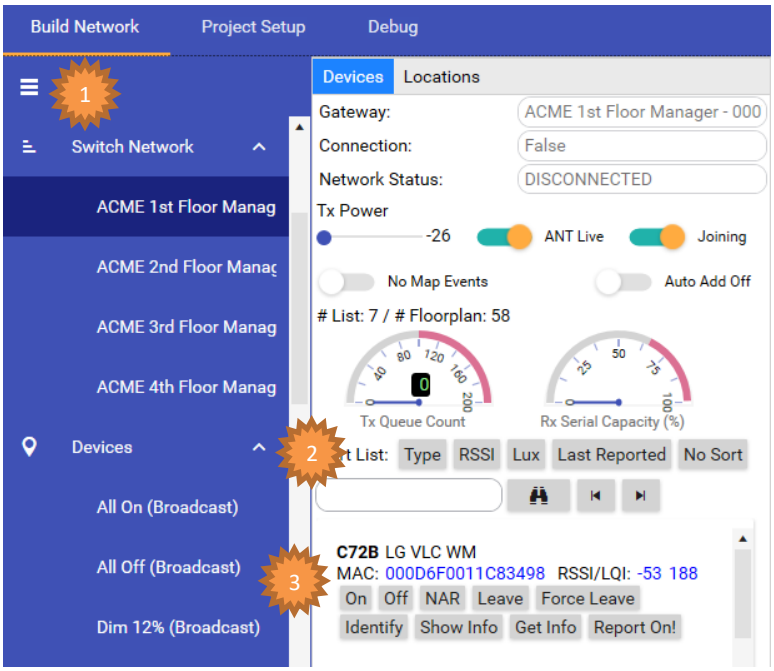
There are also multiple buttons that can be clicked for each Device.

- On - If this is a lighting controller, turns the light on by closing the relay. Does not change the dim level.
- Off - If this is a lighting controller, turns the light off by closing the relay.
- NAR - This stands for Network Address Request (NAR) and is useful if a device has become non-responsive. If a device hasn't finish loading (for example, name of the device isn't displayed), you can click the NAR button followed by the Get Info button to reload the device information.
- Leave – Asks the Device to Leave the network. If this is successful, the Device will disappear from this view.
- Force Leave – Generally, this command should not be used unless a device has been physically reset or has been uninstalled. This will remove the Device from the Devices list; however, the Device is not sent away, which could strand devices.
- Identify – This sends out an Identify command, which tells most Devices to react in a way that can help an installer identify which Device has been messaged. This is different than On / Off buttons because many non-lighting controller devices will also respond to this command. As an example, non-lighting controllers such as switches have small LED indicator lights, and this command will cause those lights to blink. Lighting controllers will typically blink the lights for 5-10 seconds as well.
- Show Info – This causes a window to be displayed that contains basic information about the Device.
- Get Info – Reloads Device information if communications were disrupted. If joining many Devices at the same time, you may need to click this button to reload information that may be corrupted due to large amounts of radio traffic.
- Report On! – For multi-sensor Devices, this turns on illuminance (light level) reporting so that you can shine flashlights at these fixtures to identify which fixture is currently being addressed.

5.2.4. Bulk Functions in the Uncommissioned Device List

There are several bulk functions that can be used to iterate through all items in the Uncommissioned List. This can be used to quickly identify, for instance, which lights in a large area have been joined by turning off all fixtures that are on the network. The Devices link on the Navigation Bar has a variety of options.

1. Optionally, you can expand the Navigation Bar items to always stay open (instead of popping in and out whenever clicked). Click the three-line menu to pin the Navigation Bar open.
2. Click the Devices link to expand the list of options. You will potentially need to use the scroll bar to scroll through the options that are pushed off screen.
3. Click any option to send that message to all devices in the list.



The following commands are supported:

- Broadcast Commands – All items noted with (Broadcast) indicate commands sent to the entire network. Devices on BOTH the Uncommissioned List and on the Map View will all respond to this command.
    - All On (Broadcast) – Sends On to all lighting controllers without a dim setting.
    - All Off (Broadcast) – Sends Off to all lighting controllers without a dim setting.
    - Dim 12% (Broadcast) – Sends On and dim to 12% to all lighting controllers.
    - Dim 50% (Broadcast) – Sends On and dim to 50% to all lighting controllers.
    - Dim 99% (Broadcast) – Sends On and dim to 99% to all lighting controllers.
- Multicast Commands – All items noted with (MCast 7777) indicate commands sent to all devices that have been placed in the group denoted by the ID 7777. This is used as a test group to ensure that some devices stay on the network. As an example, some Devices are configured to only stay on a network if they are actively placed on a group; this command can be used to trigger only these Devices. Devices on BOTH the Uncommissioned List and on the Map View will all respond to this command.
    - All On (Mcast 7777) – Sends On to all lighting controllers in group 7777 without a dim setting.
    - All Off (Mcast 7777) – Sends Off to all lighting controllers in group 7777 without a dim setting.
    - Dim 12% (Mcast 7777) – Sends On and dim to 12% to all lighting controllers in group 7777.
    - Dim 50% (Mcast 7777) – Sends On and dim to 50% to all lighting controllers in group 7777.
    - Dim 99% (Mcast 7777) – Sends On and dim to 99% to all lighting controllers in group 7777.
- Highlight All – Highlight all doesn't send a command, but instead highlights all Devices in the Uncommissioned Device list with a yellow color. These Devices will only turn white again when a message is received. This function helps identify Devices which have dropped off the network, powered down, or are no longer in range because you have moved the antenna.
- Unicast Commands – Unicast commands are sent separately to each Device in the List. These only affects items in the Uncommissioned List.
    - All On (Unicast) – Turn on lights one by one in the Uncommissioned List
    - All Off (Unicast) - Turn on lights one by one in the Uncommissioned List
    - Identify All – Sends the identify command to all Devices in the Uncommissioned List. This is useful for bulk identification of non-lighting controller Devices, such a sensors and light switches. Typically, small LED indicator lights in these Devices will blink a few times when responding to this command.

- Bulk NAR – If a number of Devices in the Uncommissioned List are not responding to commands, or if they remain yellow highlighted after clicking the "Highlight All" option, you can try Bulk NAR. This is a time consuming function (2 seconds per Device), but is helpful to reconnect Devices.
    - When using this function, the screen will be non-responsive. Just wait up to 2 seconds per Device (e.g. 30 seconds for 15 Devices) and the screen will once again respond to user input.
- Locate (NAR) Via MAC - If you have a sticker for an item with the MAC address, you can enter the full 16 character MAC address and send a special "locate Device" message. This function is generally only used by Autani Support.
- Add Group (7777) - This function will add all Devices in the Uncommissioned List to Group 7777 so they can be controlled by the multicast commands (described above). This is useful for making sure that some Devices (particularly RCA / LG Devices) remain on the Network after you turn off the commissioning application.
- Remove Group (7777) - This function will remove all Devices in the Uncommissioned List to Group 7777 (described above).
- Send Away (Remaining) – This function will send away (one by one) each Device in the Uncommissioned Device list. The items will disappear from the list as each leaves. You may need to execute this command multiple times if sending away a large number of Devices, as this can disrupt message routing as Devices leave.
- Archive (Remaining) – This function will remove all highlighted Devices without asking them to leave. This method should only be used for powered down or removed devices, or in the event of Devices remaining after multiple "Send Away" failures.

5.2.5. Troubleshooting Device Joining

If Devices fail to appear in the Uncommissioned Devices list after a few minutes, use the following tips to mitigate these issues.

5.2.5.1. Increase Power to Antenna or Move Closer to Devices

Wait for the ANT Live option to fully transition to ANT Off before adjusting the Tx Power and then toggling back on. Give the antenna at least 5-10 seconds before transitioning back to Live after making changes.

5.2.5.2. Toggle Power to Devices

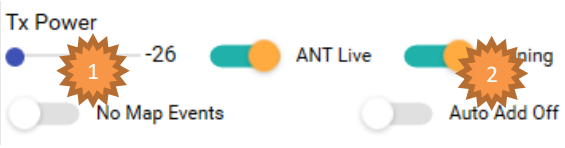
Many wireless controls devices will throttle their attempts to join new networks after a few days. This means that Devices will show up very slowly in the Uncommissioned Devices list even though you are very close to the wireless units.

The recommended method for joining Devices when they have been installed for some time is to have the appropriate personnel throw a breaker (off, then back on a few seconds later) for the specific area you are working in. All wireless radios in this area will typically join up quickly after this exercise.

5.2.6. Other Commissioning Options

Other options are available to speed up commissioning efforts.

1. The No Map Events / Add Map Events toggle changes the behavior of lights when they are moved from the Unconfigured Devices List to the Map. When set to "Add Map Events", lighting devices will automatically transition to an OFF state when they are pulled onto the Map. This will enable you to quickly tell which lights are already on the network and identified simply by looking for lights that are on.
2. The Auto Add Off / On option, when enabled, causes devices already on the network (from a previous session) to appear in the Unconfigured Devices List if any radio traffic is seen from those items, even if the Device was associated with the network from a previously unsaved commissioning job. Generally, this option should be left OFF unless instructed by Autani Support.

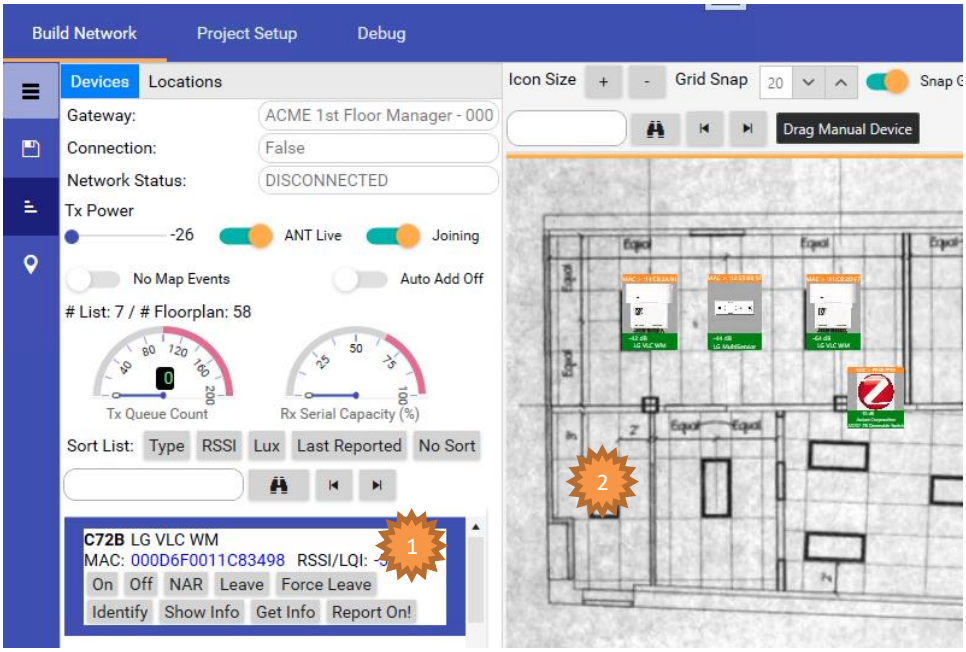


5.3. Placing Devices on the Map

5.3.1. Adding Device to Map

Devices are added to the map by dragging them from the Uncommissioned Device List onto the appropriate location on the Map.

1. Click and drag from the top right of a Device in the Uncommissioned Device List. If you click and drag, you will not accidently click any of the buttons on the Device.
    a. Note: If you are using a pen-based interface, the method is the same, just click and drag with the pen. However, if you are using a touch-based interface and your finger, you will need to rest your finger on the Device in the list for a second or two until an orange circle appears. You can then drag the Device onto the Map
2. Place the Device on the map by lifting your mouse button, pen, or finger.
    a. Note: Devices will not immediately Snap to Grid if you drop them. You need to slightly move the device a second time for the Device to be place on the invisible grid (if enabled). This is discussed in the next section.



5.3.2. Size and Snap Options

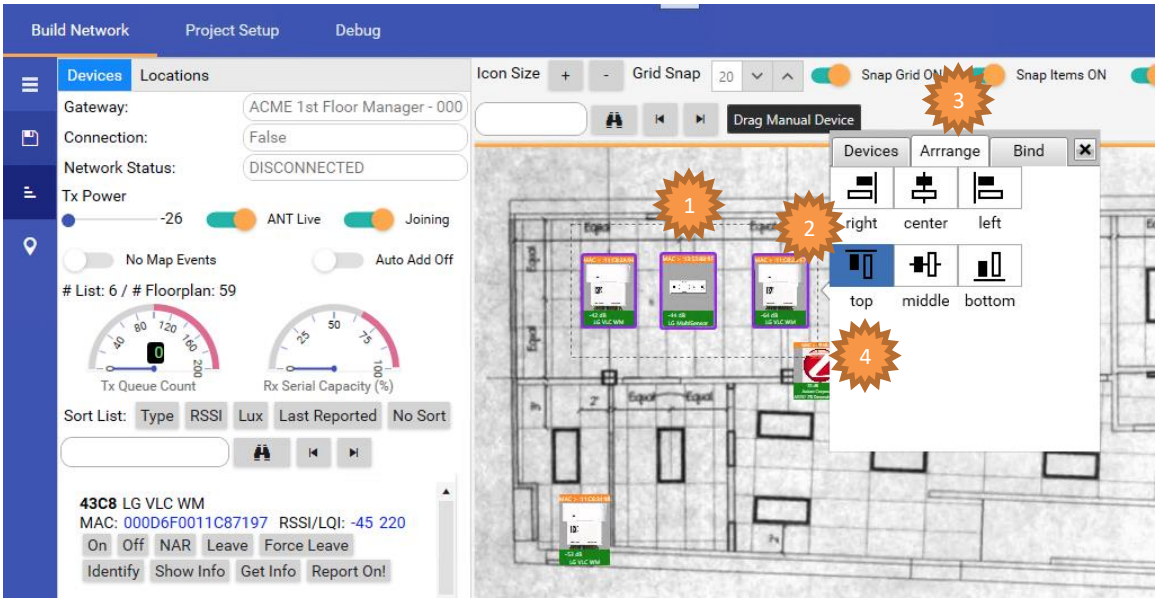
Sizing and Grid Snap Options are all discussed in detail in Section 3.3.5 - Diagram View (pg. 10). These affect how items can be moved on the Diagram and cleanly laid out on a regularly spaced, invisible grid.

5.3.3. Arranging Devices

You can further arrange Devices for a clean-look on the map using the Arrange options.

1. Draw a window around multiple Devices you want to line up on the map. You may end up using a different selection menu depending on whether you are using a touch, pen, or mouse interface. See Section 3.1 - Using Mouse, Touch, and Pen Interfaces (pg. 6) for more information. All the selected Devices will be highlighted in purple.
2. A small gear ( )will appear to the right of these Devices. Click the gear.
3. In the dialog that is displayed, select the Arrange option.

4. Select one of the align options. Here, we are selecting the “Align Top” option, which will make the top of all three selected items line up perfectly.



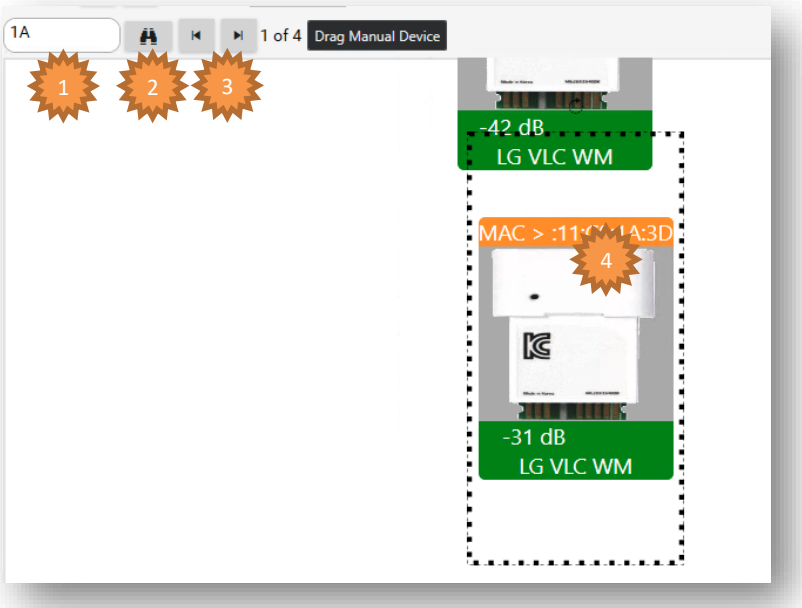
5.4. Working with Devices on the Map

Just as with the Uncommissioned Devices List, we can search for Devices and send commands to Devices on the Map.

5.4.1. Searching for Devices on Map

If you have placed multiple Devices on a Map, and you have some reason to search for a Device by a MAC address, you can use the Map Search function. For example, if you have a left-over sticker for a physical lighting controller, and you are not sure if it’s on the Network, you can search for a partial MAC address match.

1. Enter a full or partial MAC address. Do not enter any separator characters such as colons, etc.
2. Click the Search button (binocular icon) or hit the Enter key to search.
3. Use the forward / backward buttons to move through matching searches
4. The matching Device(s) are displayed one by one when you use the forward / backward buttons. You may need to zoom out to see the relative location of each device.

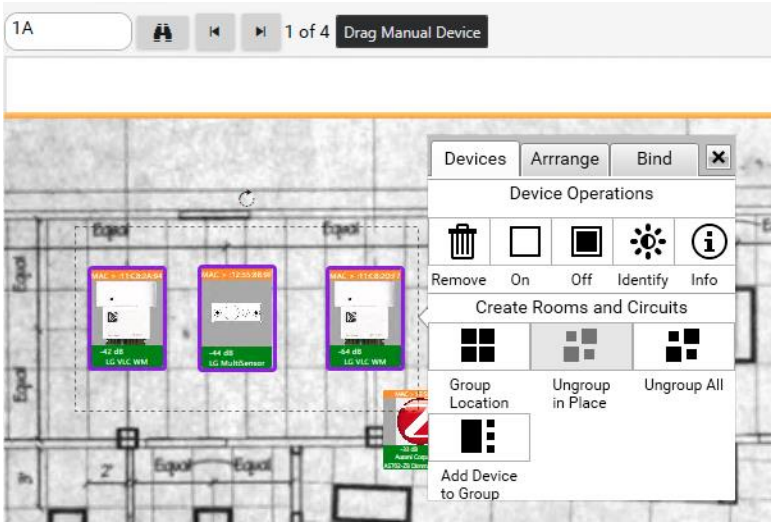


5.4.2. Common Radio Functions

When you select either one or multiple Device(s) on the map and click the gear icon (⚙) next to the Device(s), you bring up a dialog that will allow you to perform additional radio and grouping operations on the Devices. The grouping operations are defined further in Section 6 - Commissioning a Project – Associate Devices into Named Group (pg. 24).

Under the Devices Tab, you have the following options:

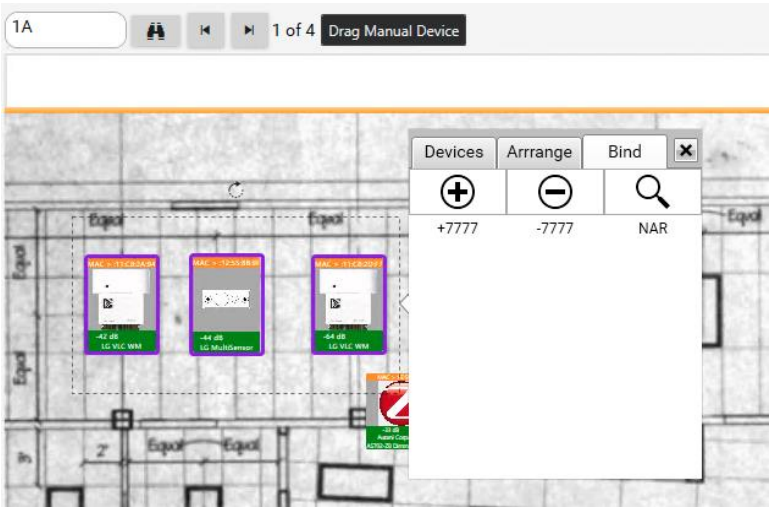
- Device Operations
  - Remove – Remove the Device from the Map and place back in the Uncommissioned Devices List. This will also remove any existing Groups associated with the Device
  - On – Turns all selected Devices On, if they are a lighting controller.
  - On – Turns all selected Devices Off, if they are a lighting controller.
  - Identify – Fires Identify for all Devices. If these are lighting controllers, the light will typically blink multiple times, and if another type of Device, any indicator LED lights on the Device will blink for approximately 10 seconds.
  - Info – Displays an info Dialog showing additional information on the Device. Exact information differs based on the type of Device.
- Create Rooms and Circuits
  - These options are discussed in detail in Section 6.3 - Manipulating Devices and Groups on the Diagram (pg. 25).



5.4.3. Less Common Radio Functions

Additional options are available in the Bind menu, which you will generally only need to use if instructed by Autani Support.

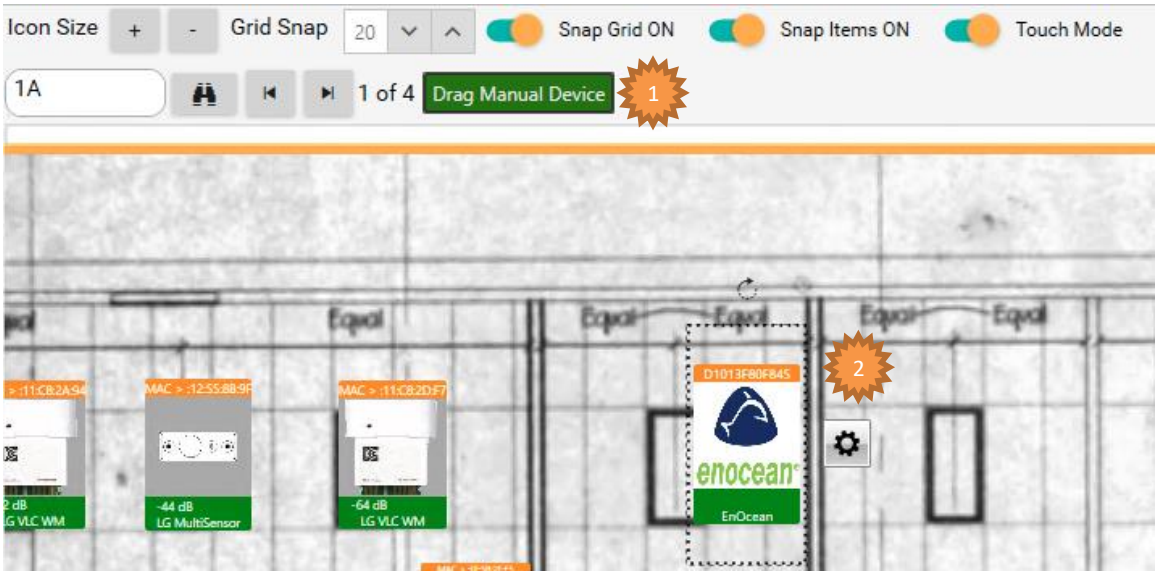
- Bind Menu
  - +77770 - Places the Device in multicast group 7777. This is generally only done for a small number of Devices that are configured to leave the network after a period of time if they aren't associated with a multicast group. You will be instructed by Autani Support to use this option on those Devices if needed (generally only RCA / LG Devices).
  - -7777 - Removes multicast group 7777 associations.
  - NAR – Sends a Network Address Request to a Device on the map. Generally this is only used for Devices on the Map if they are not responding to other messages. This can take up to 2 seconds per device, and will lock the user interface until ALL NAR messages are sent for each Device selected.

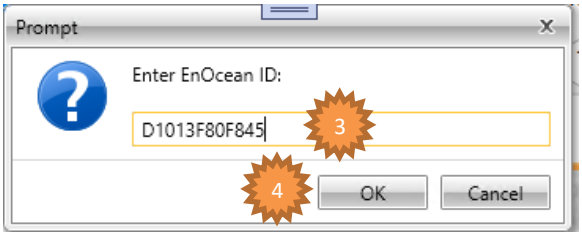


5.5. Adding Manual Devices

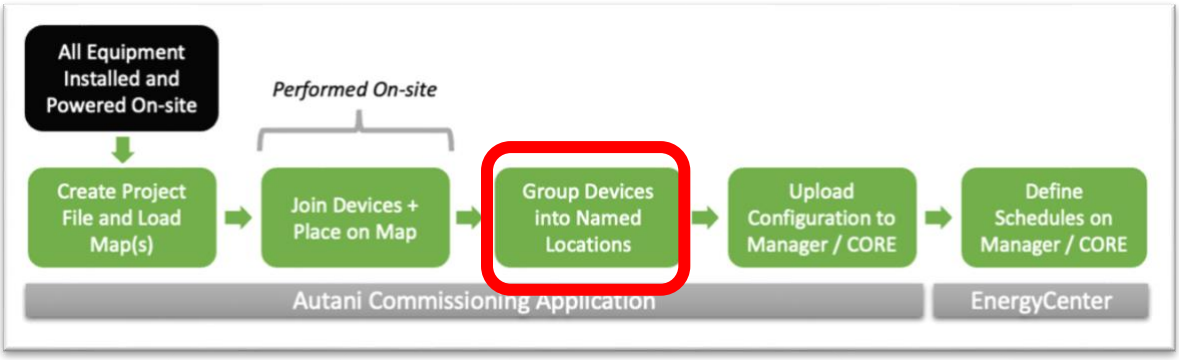
Manual Devices are those items that cannot be communicated to via the Autani Wand. They are currently only used for manual entry of EnOcean Devices. You will be instructed by Autani Support on the entry process for these Devices.

1. Drag the button “Drag Manual Device” onto the Map. See Section 3.1 - Using Mouse, Touch, and Pen Interfaces (pg. 6) for further detail on using different input Devices when dragging devices.
2. Drop the button onto the Map where the EnOcean Device is installed.
3. You will be prompted to enter the EnOcean Id. Type in the EnOcean ID that appears on the sticker on the Device. Optionally, you can use a barcode reader to scan the Device barcode into the text field.
4. Click OK to save your item, which is now displayed on the Map in the appropriate location.





6. Commissioning a Project – Associate Devices into Named Groups



6.1. Lighting Behaviors Overview

The goal behind the Autani Commissioning App is to enable rapid joining and commissioning of Zigbee-based devices (on the order of 400+ Devices per day). As a result, the emphasis is on simplified joining and labeling tasks. Advanced setup of schedule and multi-zone scene switch configuration must be performed later on a Manager or CORE, but these tasks can be done either offsite or onsite as required.

The simplest concept for a lighting zone within the Autani Commissioning App is a group. The behavior is quite simple:

All fixtures within the group will use the same one of these three behaviors

- Smart On/Off:
  - All fixtures within the zone will turn on / turn to the high dim level when any occupancy sensor in the zone detects occupancy.
  - Any switch in the group turns on all fixtures to full brightness and can manually dim the zone.
- Background Level:
  - All fixtures within the zone will turn to a low dim level when any occupancy sensor in the zone detects occupancy.
  - Fixtures with multi-sensors will turn to a high level when detecting occupancy directly under that fixture.
  - Any switch in the group turns on all fixtures to full brightness and can manually dim the zone.
- Independent:
  - All multi-sensors will turn on independently when they detect motion
  - Any switch in the group turns on all fixtures to full brightness and can manually dim the zone.

Meanwhile, the main purpose of the Autani Commissioning App is to define these groups. Applying the appropriate behavior (Smart On / Background Level / Independent) can be batch applied when configuring the schedule associated with the Group on the Autani Manager via Autani.net.

6.2. Typical Usage Scenarios

Generally, it is recommended to wait until all Devices are on a Map prior to performing Grouping. Grouping Devices on the Autani Commissioning App does not require the Autani Wand to be plugged in or an active wireless connection to Devices.

One recommended usage scenario is:

- Optimize time spent on-site, using a connected Autani Wand transceiver
  - Join all Devices and quickly identify device install location
  - Place Devices on the Map
- Off-site (or simply later in the day after joining devices)
  - Turn off the antenna and disconnect
  - Group Devices

This usage scenario is optimized for travel commissioning scenarios where a commissioning agent can spend most of their time on-site getting Devices to join the network(s) as well as verifying the physical positions of Devices. They can spend a small amount of time each evening reviewing and grouping devices while off-site, requiring about 10-15 minutes per Manager or CORE to quickly associate Devices into Groups.

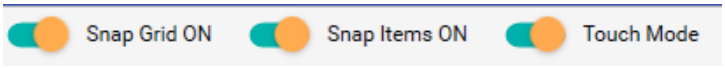
6.3. Manipulating Devices and Groups on the Diagram

6.3.1. Adding Devices to a New Group

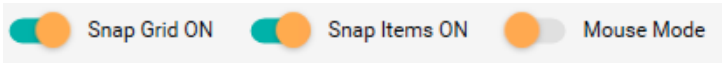
Adding Devices on a Map to a new Group is quite simple. The following example shows how you can quickly multi-select Devices on a Map to quickly implement.

1. Drag a window to cover those Devices you can select in a rectangular region without overlapping other Devices not in the Group. See Section 3.1 - Using Mouse, Touch, and Pen Interfaces (pg. 6) for more information on selecting a rectangular selection with alternate interfaces.
    a. Note: You do not need to surround a Device to select it. Any Device even partially captured by the rectangular window is selected.
    b. Once you have selected Devices, they are highlighted in a purple outline
2. There are two different methods to select additional items without fitting them in a rectangular window
    a. Method #1: Right Click / Use Pen Button / Long Touch Additional Items
        i. Right clicking with a mouse will automatically add the selected item to whatever items are already selected.
        ii. Holding down the button the side of a Microsoft Surface Pen while clicking will emulate the right click event.
        iii. Long touching (press the item and hold your finger without moving) items will also add them to the currently selected list.
    b. Method #2: Switch to Touch Mode
        i. The primary difference Touch Mode and Mouse Mode is that each additional “click” or “touch” in Touch Mode is additive when selecting items. This means that selecting a new Device while another Device is already selected will result in BOTH devices being selected. In Mouse Mode, selecting a second device will automatically deselect the previous entry.
        ii. Mouse Mode / Touch Modes selectors appear at the top right of the Map widget:

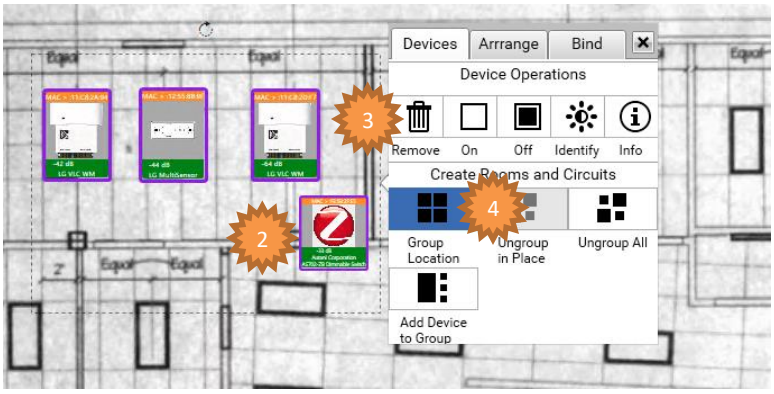
Touch Mode Enabled

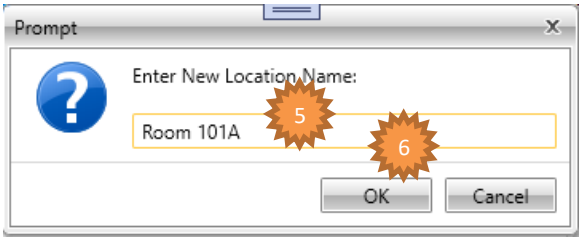


Mouse Mode Enabled



3. Click the gear icon (⚙) to the right of the selected area. If you don’t see the gear icon, you may need to zoom out further when selecting items so there is room to the right for it to display on-screen.
4. Click the Group Location button
5. Enter the Group Name
6. Click OK to save the Group Name.





The Devices are now placed in a Group, meaning that occupancy and switch behaviors of all Devices in the Groups will follow one of the three definitions that appear in Section 6.1 - Lighting Behaviors Overview (pg. 24). These behaviors will only be applied in the last step (on the Autani CORE or Manager); however, these can be applied to large swaths of fixtures very quickly.

6.3.2. Selecting Devices in Groups

Once items are placed in a Group, the system will automatically select every Device in the Group when you select any Device in the Group.

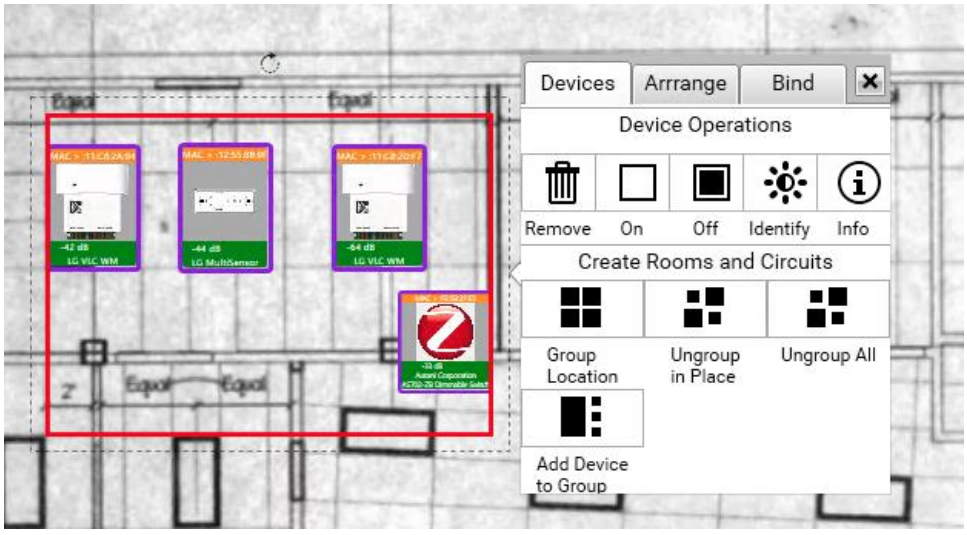
Once you have selected an entire Group, the Group is surrounded with a red highlighted box.

- In Mouse Mode, clicking one of the items a second time (after selecting the entire group) will result in only the single item remaining selected.
- In Touch Mode, click on of the items a second time will result in that one item becoming unselected and every other item remaining selected.

6.3.3. Moving and Deleting Devices from Groups

There are several grouping options to assist users in moving and rearranging Devices between Groups. These all appear when opening the Devices – Create Rooms and Circuits dialog from the gear menu when selecting items (⚙)

- Create Rooms and Circuits – Functions for Grouping / Ungrouping / Modifying Existing Groups
    - Group Location – Groups all selected Devices into a single, new Group. If any of these Devices already belong in another Group, they will (without warning) be removed and placed in this new Group.
    - Ungroup in Place – This option is reserved for future usage and should not be used at this time. It is intended to work in scenarios with nested Groups, removing the inner Groups.
    - Ungroup All – All selected Devices are removed from whatever Group they are currently a part of
    - Add Device to Group – If a single Group is already selected (and highlighted in a red window), you may select additional ungrouped Devices (using right click or other methods described in Section 3.1 - Using Mouse, Touch, and Pen Interfaces (pg. 6)) and then click this option. This will add the ungrouped Devices into a new Group.

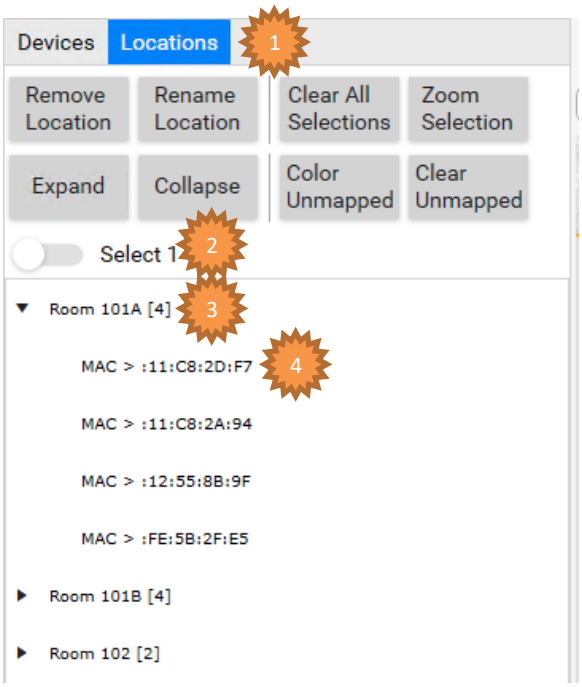


6.4. Working with the Locations Tab to Review

The Locations Tab allows you to review existing Group definitions on the current network.

1. Navigate to this area by clicking the Locations Tab
2. Optionally, modify Multiselect behaviour.
    a. Note: Clicking on items in this list will cause them to be selected in the Map. Switch between the Select 1 and Multiselect options by clicking the radio button. In Select 1 mode, clicking on items deselects the previous selection while Multiselect continues to add new items to the previously selected items.

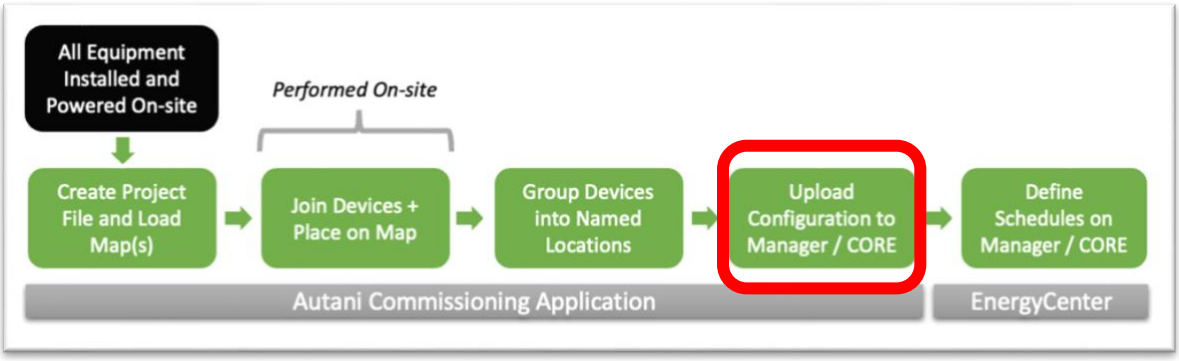
3. Expand any Group to inspect the MAC address of the Group members. Click the Group will select the Group on the Map.
   a. Note: the number of Devices in each Group is shown to the right of the Group name in brackets.
4. Clicking any item in a Group will select that item on the Map



The various buttons available in this tab operate on the selection you have made in the tree.

- Remove Location – Removed this Group. All items under this Group become ungrouped.
- Rename Location – Rename the Group selected; the Group names will eventually become Location Names on each of the Managers / COREs so spelling and capitalization will eventually be important when looking at the facility in Autani's EnergyCenter product.
- Expand – Expands all Groups in the tree view.
- Collapse – Collapses all items in the tree view
- Clear All Selections – If any Devices in the Map are already selected, this removes that selection.
- Color Unmapped – This function highlights all items in the Map that are not in a Group in bright red. Typically, all Devices should be placed in a Group prior to importing into the Managers / COREs. The only potential exceptions are Devices that don't function in the context of a Room / Location, such as Range Extenders and EnOcean Gateways. These Devices function across multiple rooms and can remain ungrouped.
- Clear Unmapped – This removes any highlighting applied via Color Unmapped.

7. Commissioning a Project – Uploading Your Configurations



7.1. Uploading to the Manager

7.1.1. Prerequisites Before Uploading

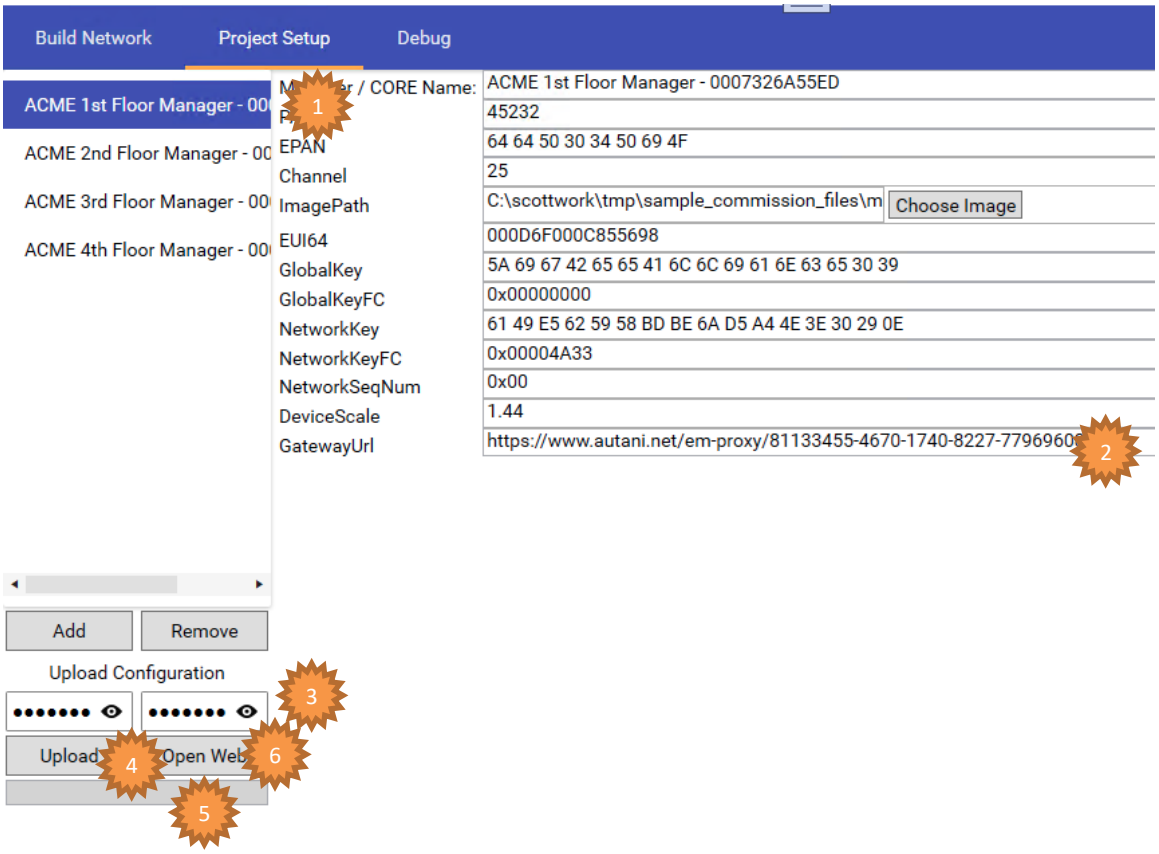
- Prior to uploading, you should ensure that you have turned off AND unplugged your Autani Wand. You can turn off the Antenna from the Build Network Tab by clicking the ANT toggle once and waiting until it toggles to ANT Off. Note: this will automatically turn off Joining as well.

- All Devices should be fully joined to the networks that you will upload as well as placed on the Diagram and placed in an appropriate Group.
- You should be done with configuration for this network. The Autani Commissioning App does not support further changes once you've performed a batch upload. Switching back to this network in the future could cause serious issues requiring bulk device manual resets.
- Finally, your laptop or tablet should have an active internet connection that will be used to upload the configuration to Autani.net and to the designated Manager or CORE.

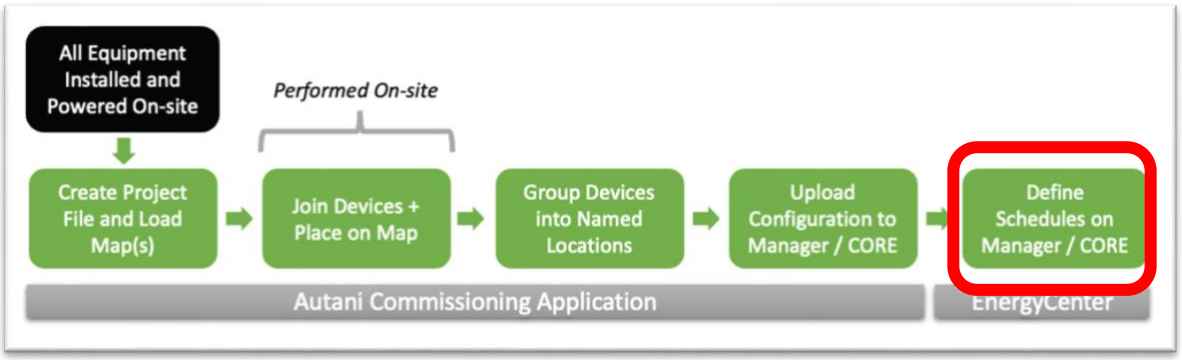
7.1.2. Uploading Data to Manager

Data can be uploaded from the Project Setup tab.

1. Select a Manager / CORE that you will be uploading. Ensure that you are selecting the proper network.
2. Ensure that the Gateway URL is defined for this network. If not, you can obtain this information from Autani Support.
3. Enter your username and password for this system. These values are not saved along with the configuration file.
4. Click the Upload button. You will be prompted to save the file an additional time to ensure that your configurations are not lost.
5. You should see the message "Uploaded" if the file is successfully uploaded.
6. Finally, click the Open web button. This will open a web browser to the upload page to finish configuration on the Manager. If you are prompted to login at this page, you can login, and then press the button on the Commissioning App a second time to reopen the window.



8. Commissioning a Project - Finishing Commissioning on the Manager/CORE



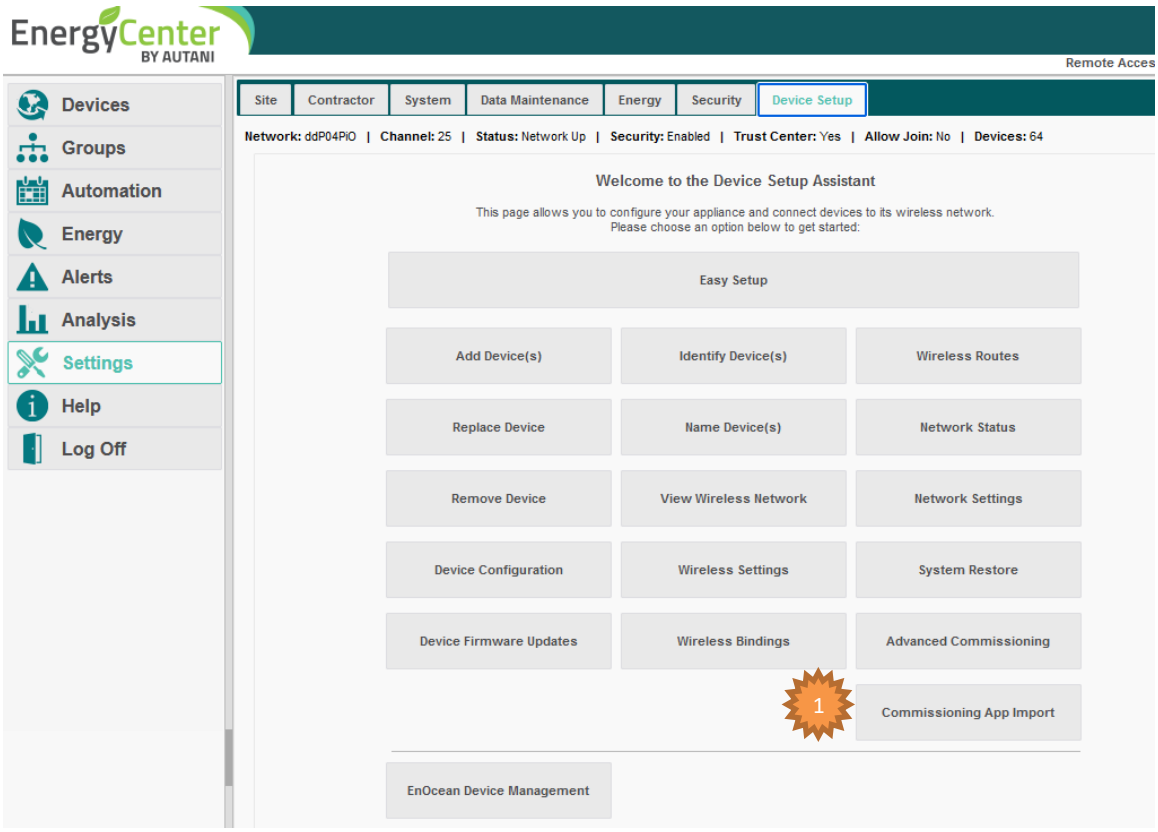
8.1. Finishing on the Manager

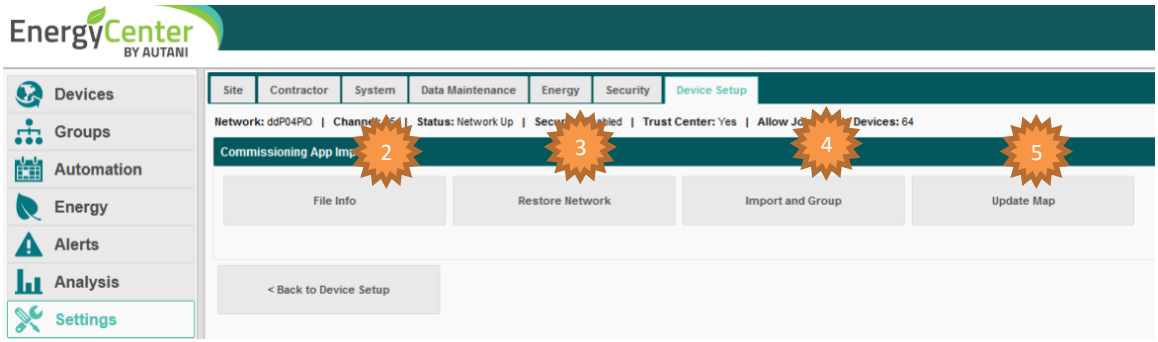
Scheduling information and Virtual Devices (which allow multiple fixtures to be controlled as a single lighting fixtures) must be configured on the Manager or CORE that the configuration file was uploaded to. These steps are necessary so that lights turn off / on seamlessly in large areas without lags or missed fixtures.

8.1.1. Importing from the Configuration File

1. You can finish the configuration either from the page launched on the Autani Manager / CORE in the previous section, or you can manually login to the Gateway and navigate to the Settings -> Device Setup -> Commissioning App Import option.
2. After clicking this button, you are in the Import screen. From here, you will click File Info to load the file and verify that devices are associated and loaded with the file.
3. Next click the Restore Network button. This will set the network parameters of the Manager or CORE to the same values used on the Autani Commissioning App when you joined all the Devices.

4. Next, click the Import and Group button. This will load the Groups settings for each of the Devices and verify that the Devices are joined to the new Gateway. You will need to click this button a few times over 5-15 minutes; over this period, you will see log files indicating that more and more of the Devices are joining the new Gateway. Finally, the message “All devices are on the network, labelling is complete” will be displayed.
5. Finally, press the Update Map button once all Devices are loaded from the previous step. This will import the Map file and place all the Devices on the Map view, which is available from the Groups -> View Tab in the interface.



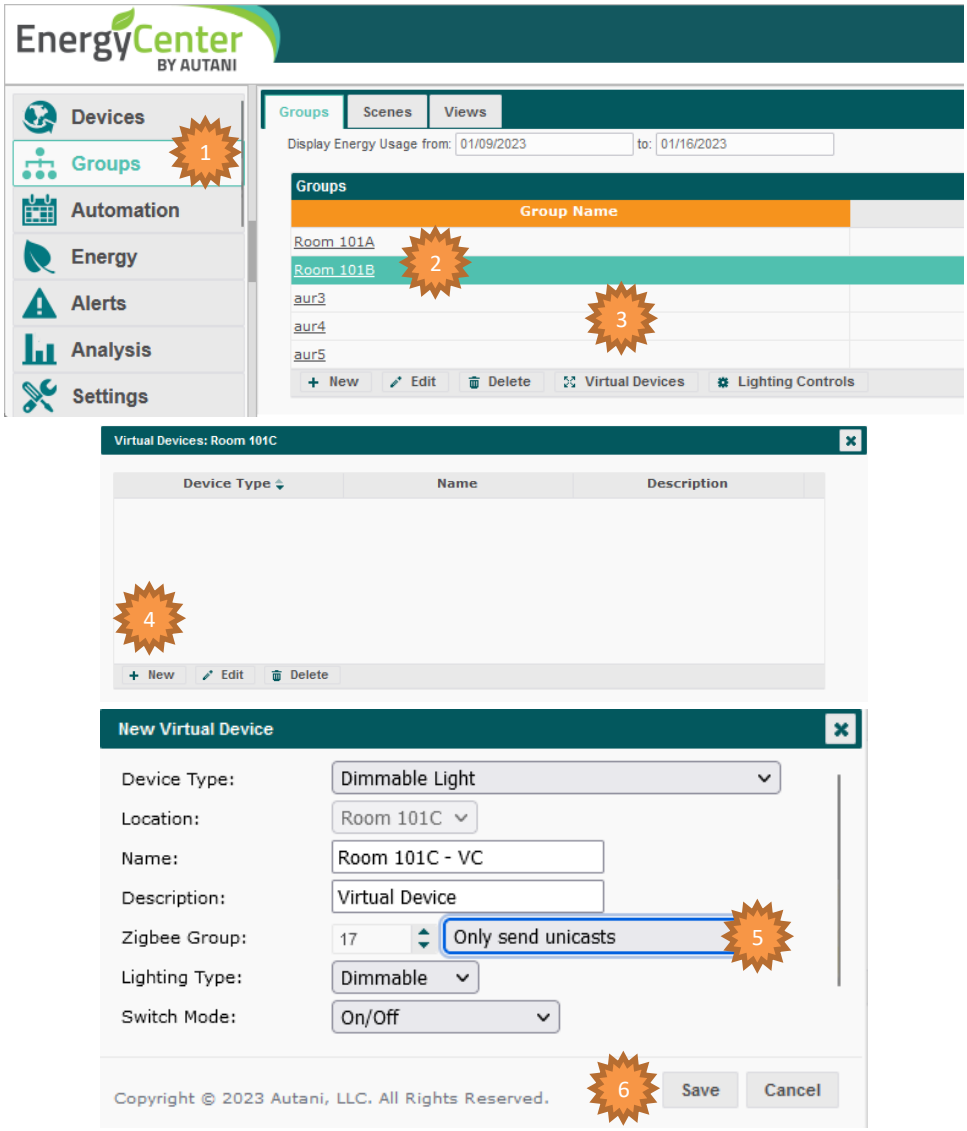


8.1.2. Adding Virtual Circuits

Virtual Circuits must be manually created for EACH location imported in the application.

1. Navigate to the Groups Tab
2. Select a location by clicking row for that location. DO NOT click the hyperlinked text, as this will open a dialog box for viewing the Group, and we are currently adding a Virtual Device.
3. Click the Virtual Devices button.
4. Click the New Button from the Virtual Devices dialog

5. On the New Virtual Device dialog, accept most of the standard options. The primary setting to change is the "Only Send Unicasts" / "Only Send Multicasts" setting. You should choose based on the following guidelines:
    a. If the location has more than two lighting controllers, choose the "Only Send Multicasts" option.
    b. If the location has 1 or 2 lighting controllers, choose the "Only Send Unicasts" option.

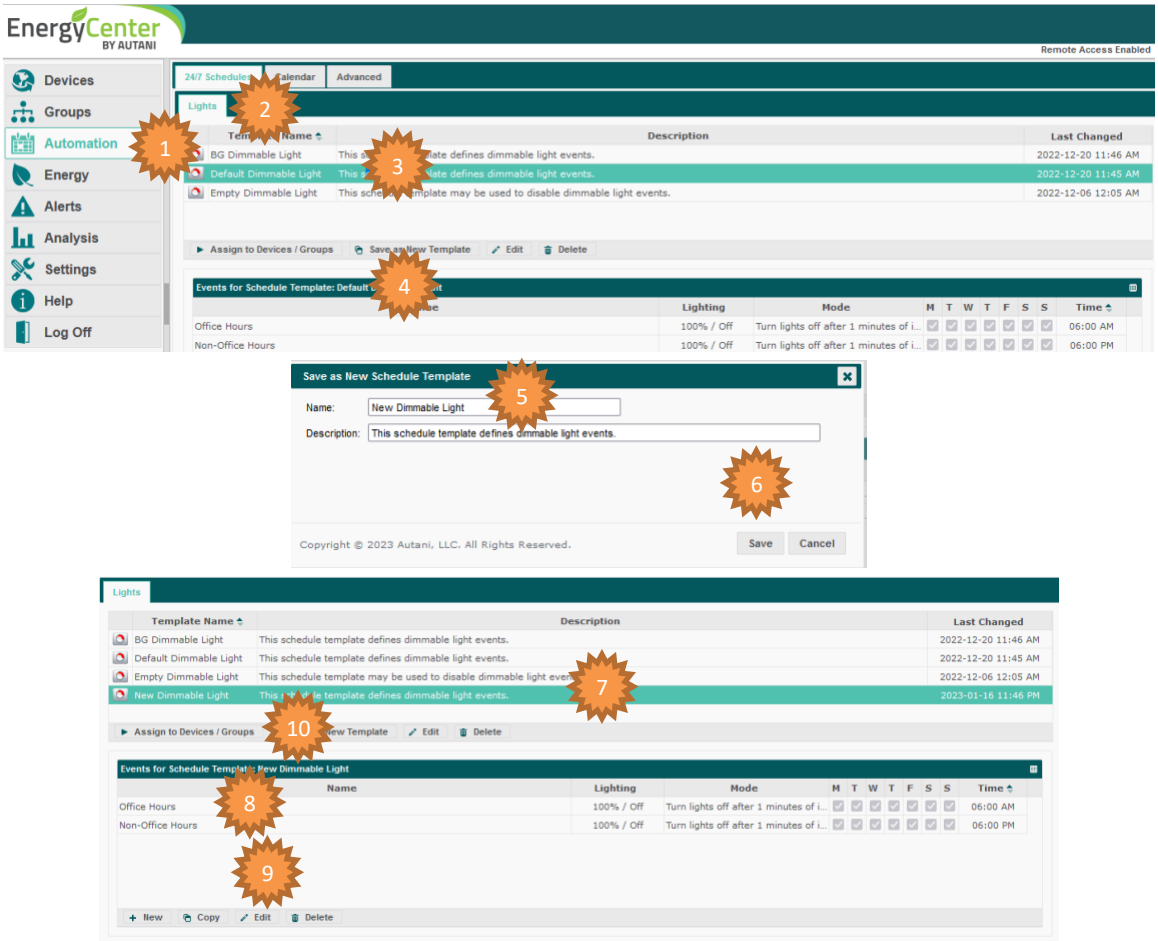


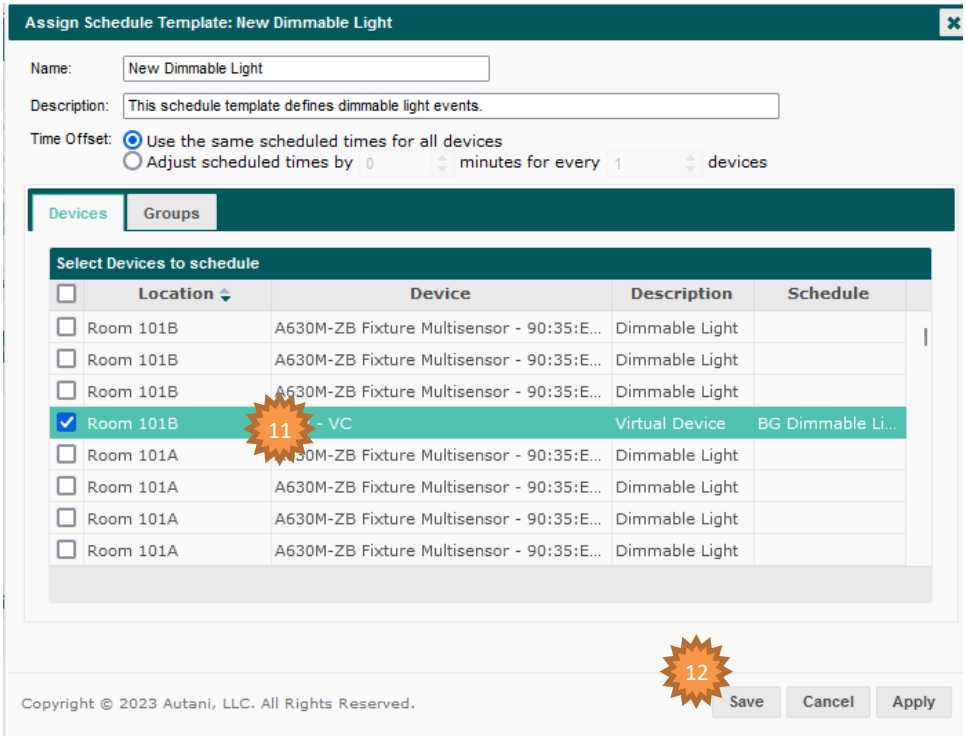
8.1.3. Adding Schedules

When working with most Dimming Lighting Controllers, you can choose a schedule based on the Default Dimmable Light template.

1. Select the Automation navigation option on the left-hand Navigation Bar.
2. Select the Lights Tab.
3. Select the Default Dimmable Light template.
4. Select the Save as New Template option to make a copy of this template. You will assign this copied template to newly imported fixtures.
5. Name the new template.
6. Save the template.
7. Select the newly created template.
8. Select each of the schedule times
9. Click Edit to edit each of the scheduled times.

10. Finally, once the scheduled time and behaviors are setup, you need to assign the schedule to the fixtures. With your newly created schedule updated and selected, click the Assign to Devices / Groups button.
11. A dialog is presented allowing you to select the Devices to be associated with this schedule. You should only choose the Virtual Devices you've created (see the expression "Virtual Device" in the description). Check all the Virtual Devices associated with your newly imported Groups.
12. Click the Save button to push out the schedule template to all the selected Devices. If you wanted to have different types of schedules for different types of locations, you'd repeat these steps, creating a different template for each type of schedule, and you'd separate associate this schedule to different Virtual Devices in the previous step.





8.1.4. Wrapping up Commissioning

At this point, the batch commissioning process has been completed. Additional tweaks to the system commissioning are covered under the standard Autani Manager and CORE documentation available in the online help for an Autani Manager or CORE. Additionally, you can contact Autani Support during the commissioning process for assistance with the configuration.

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