

QxControl™ User Manual

Version 4.3



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Qumulex, Inc.
qumulex.com

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Getting Started

If you have not yet initialized your Gateway or created users, please refer to our Quick Start Guide before continuing. This guide is available to our authorized partners in the Qumulex Partner Portal, in the “Docs” folder.

Once you are ready to start using QxControl, click on the link in your welcome email, or the application can be accessed via the following URL:

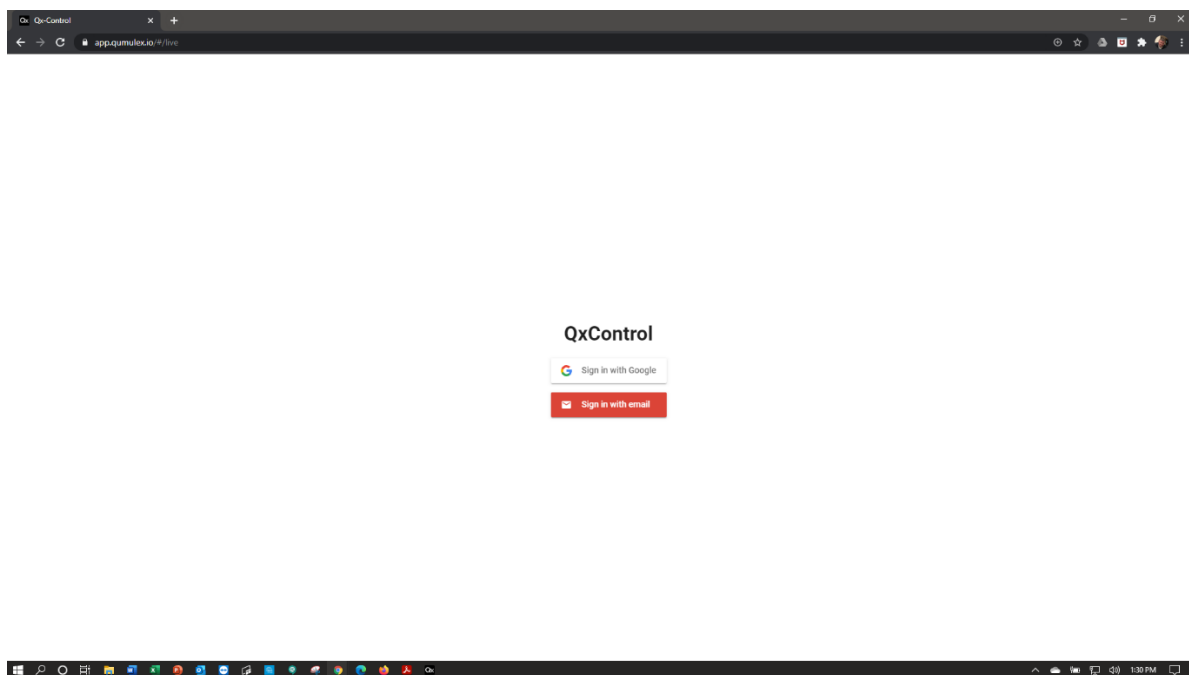
<https://app.qumulex.io>

QxControl is flexible and easy to use, almost any modern browser will work with our application and will provide the same experience on both Mobile and Desktop devices. You can use a Windows, Mac, Chrome OS, or Linux based Operating Systems without any significant change to your experience. For mobile devices, both Android and iOS are supported.

Please Note: Older/Legacy Active-X based browsers, such as Internet Explorer, are not able to work with the modern JavaScript needed to build the QxControl user experience. In the example of Internet Explorer, its replacement (Microsoft Edge) should be used instead.

Logging in For the First Time

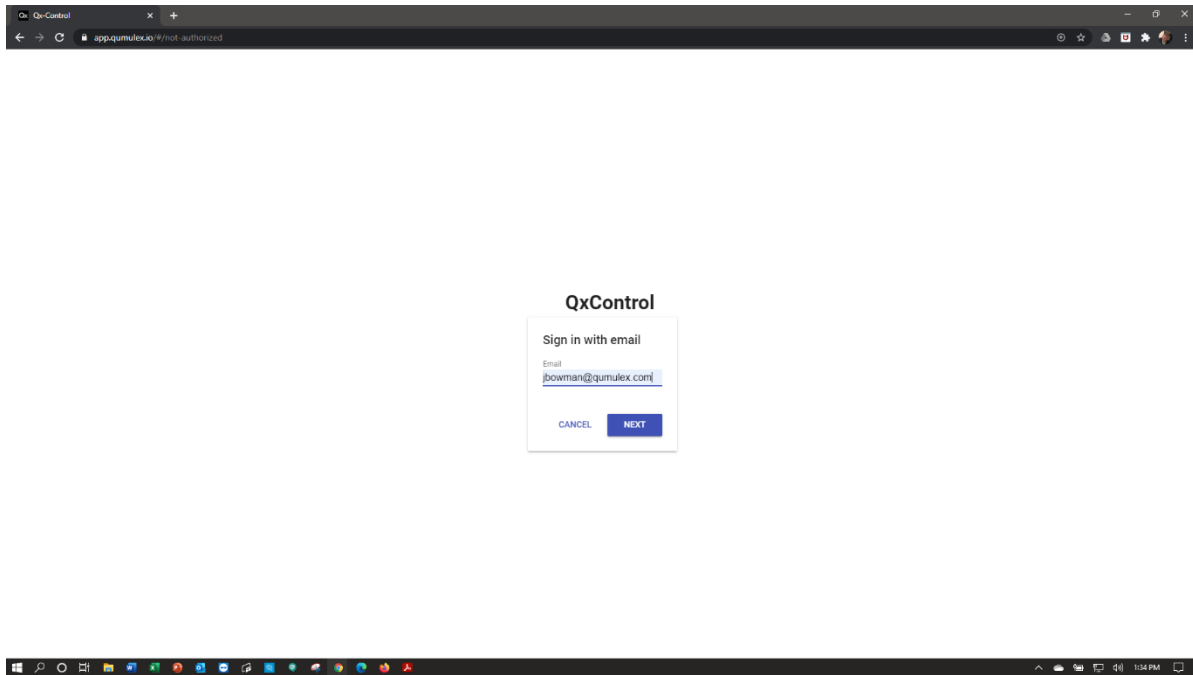
Step One: To log in the first time, open your browser and enter the address <https://app.qumulex.io> . In this example, we are using Google Chrome:



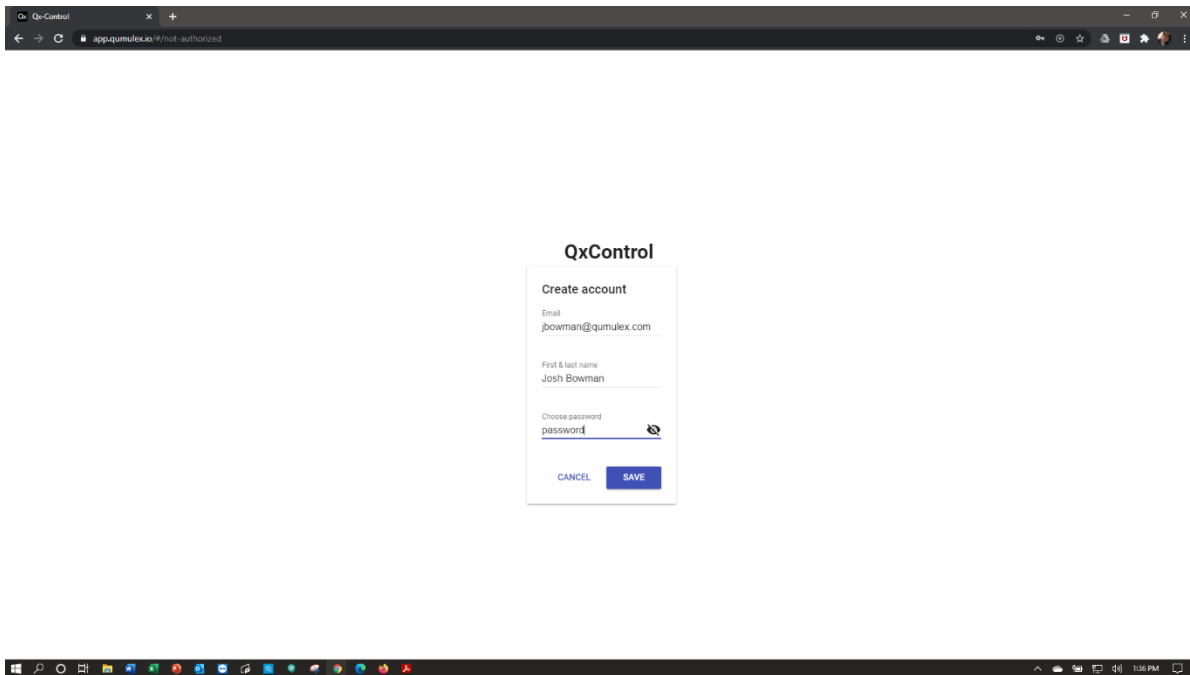
This will bring you to the first-time user log in page. You can choose to log in using your Google profile or use your email address. For this example, we will use our email address.

Step Two:

Enter the email address used by your system administrator to create your user profile:

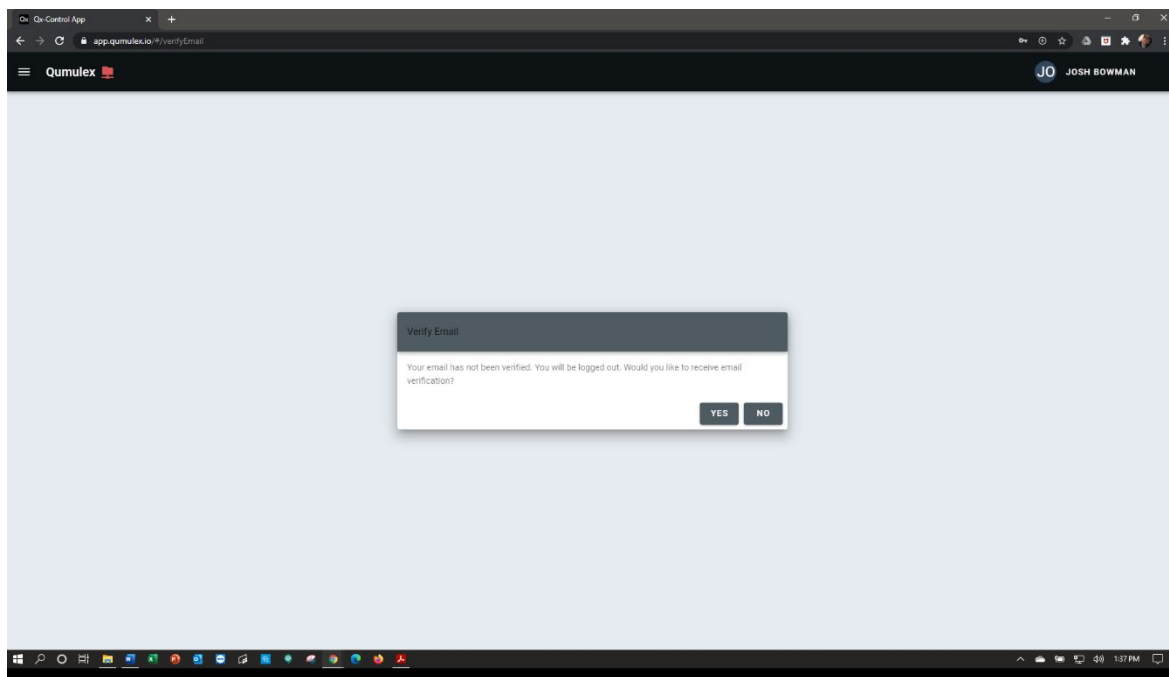


This will bring you to the "Create account" page. Again, use the correct and case sensitive email address provided by your system administrator and for the first and last name. You will then create your own password and choose "Save".

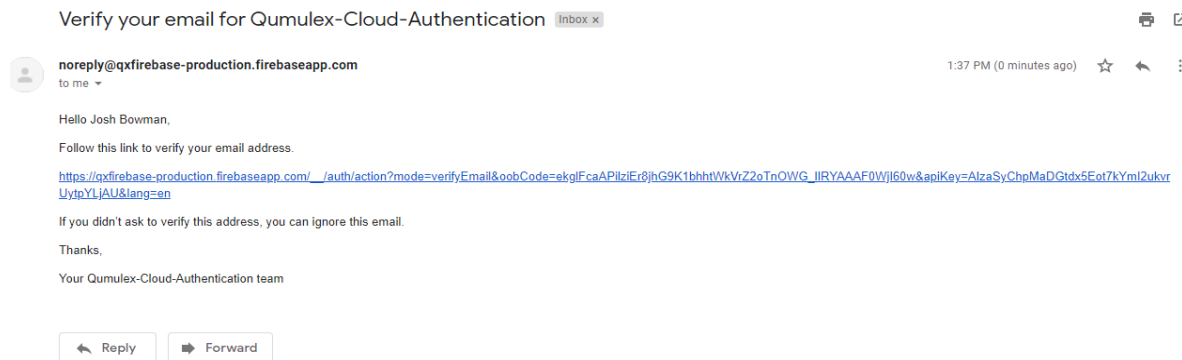


Step Three:

Click “Yes” to verify your email address.



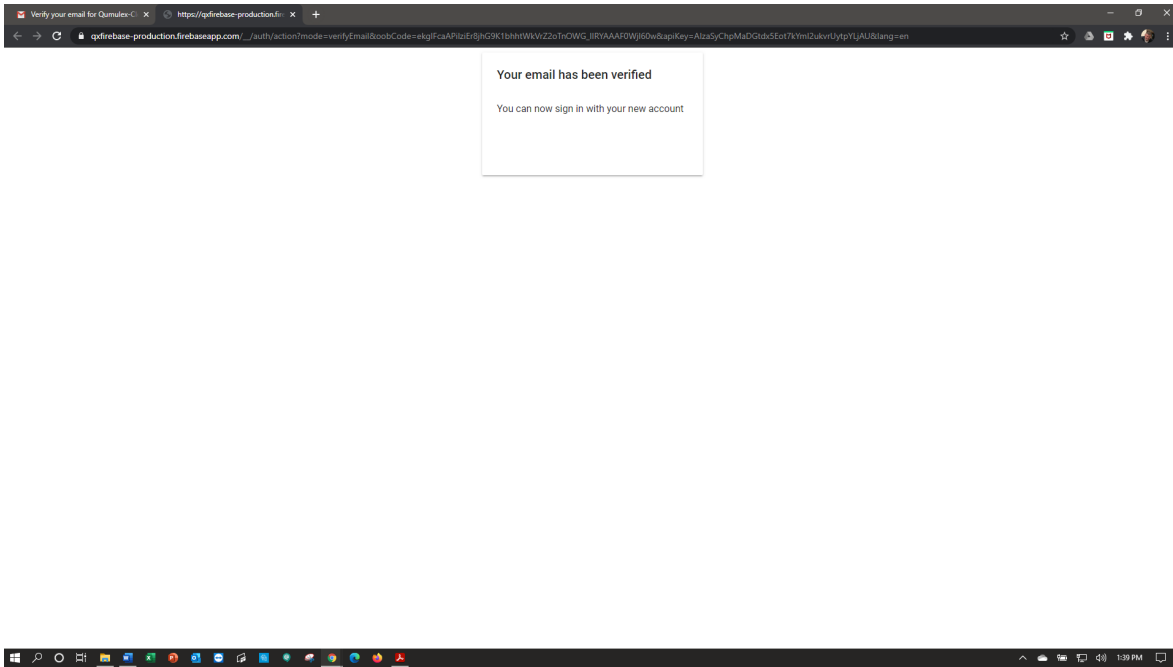
You will then receive an email at the specified email address. You must click on the link within the message to verify your email address.



If you do not receive the email, verify that you used the correct email address in QxControl and check your spam folder.

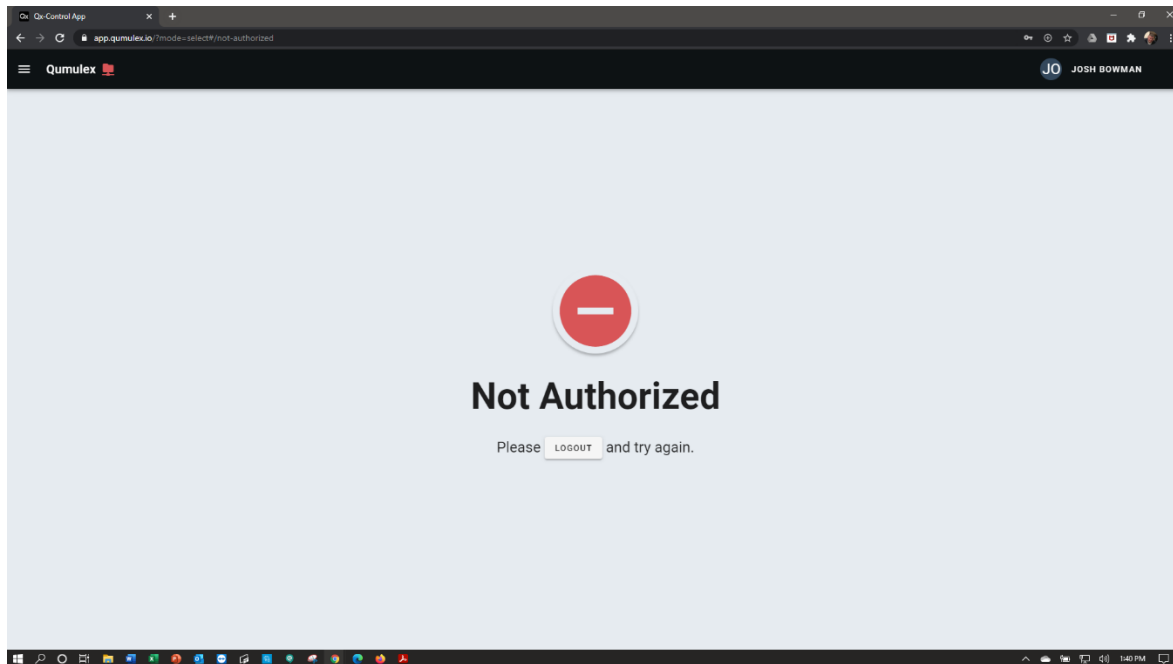
Step Four:

Once you have clicked on the link you will receive this message indicating you are successfully authorized. You may now return to <https://app.qumulex.io> and log in to the service!



Common First Time Log in Issues

Oops! If you receive this message after attempting to log in, something is wrong.



If you receive the “Not Authorized” error page, here are the common reasons and how to resolve:

- 1) Consult with your system administrator to ensure they correctly entered your email address and name.
- 2) Please verify that your system administrator assigned you a “Role” in QxControl. This is required for access to the application.
- 3) Please verify with your system administrator that you are a valid user in QxControl. The user authentication system will not stop you from creating a log in, even if you are not yet a user in the QxControl. You will still be allowed to verify your email successfully. You will however see the “Not Authorized” error once you attempt to log in as there is no user in QxControl to authenticate you with.

If you are still unable to access QxControl after completing these steps, please contact your authorized Qumulex partner for help.

Logging in For the First Time: From a Mobile Device

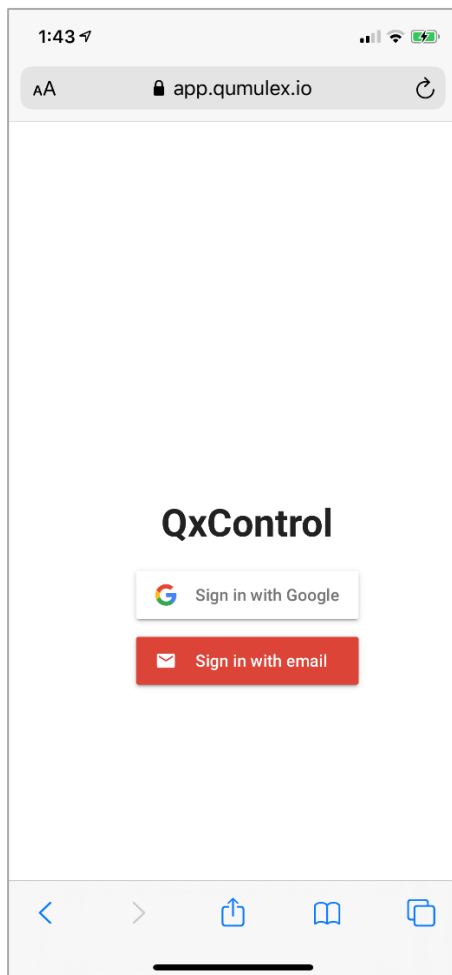
One of the many advantages of QxControl is that you get the same user experience on a mobile device as you do when using your desktop system or laptop. Another advantage is that you do not need to download and configure a mobile app. You will simply use your internet browser just as you would on your PC, for example.

While this is very intuitive and easy to do, here are a few quick tips to get your mobile experience started off right.

Please note: This example uses an Apple iPhone but also works great with Android devices.

Step One:

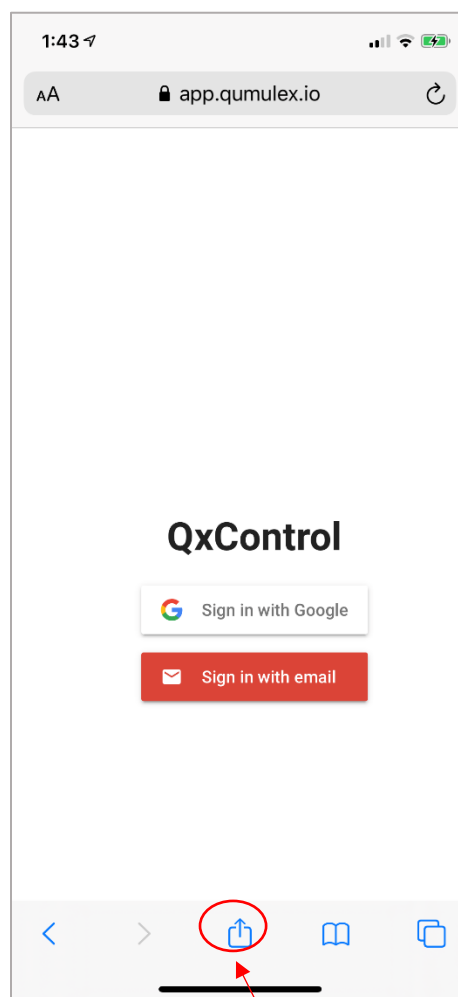
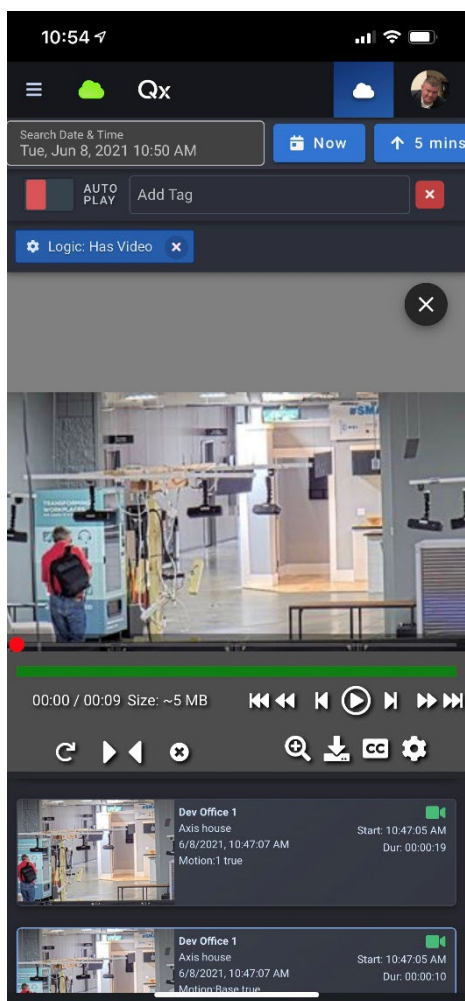
To log in the first time, click on the link in your welcome email, or open your mobile browser and enter the address <https://app.qumulex.io> . In this example, we are using Apple Safari:



Use the same email and password as you used to setup your access from a computer, or follow the same steps as noted on pages 4 through 8 to set up you log in credentials.

Step Two:

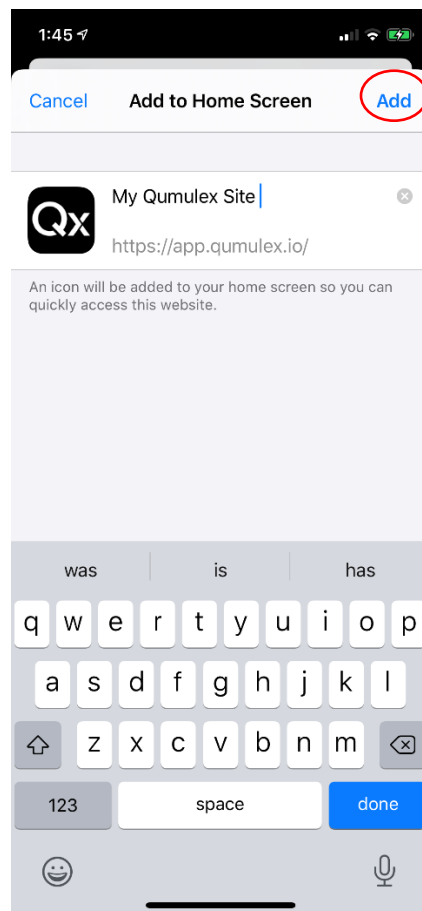
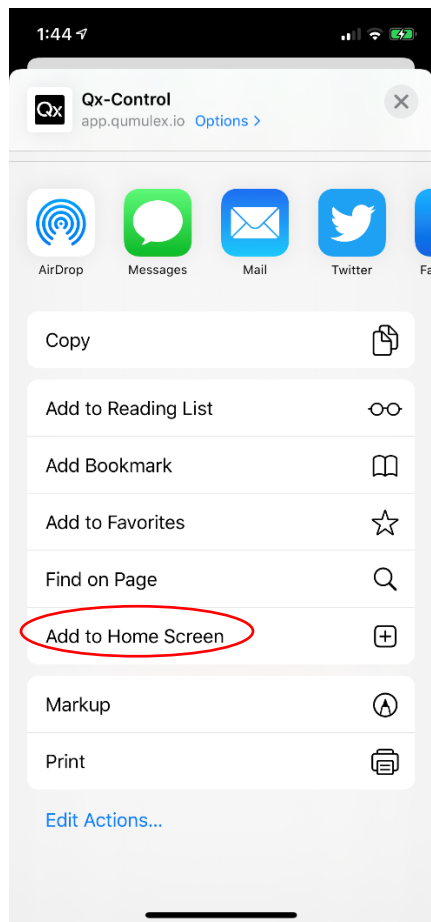
Once you are logged into QxControl, we want to create a shortcut on your device to allow quick and easy access to QxControl.



Open a new tab and go to <https://app.qumulex.io> . In this example using an iPhone, we can access the “Share” Menu using the icon that resembles a square with an arrow at the top.

Step Three:

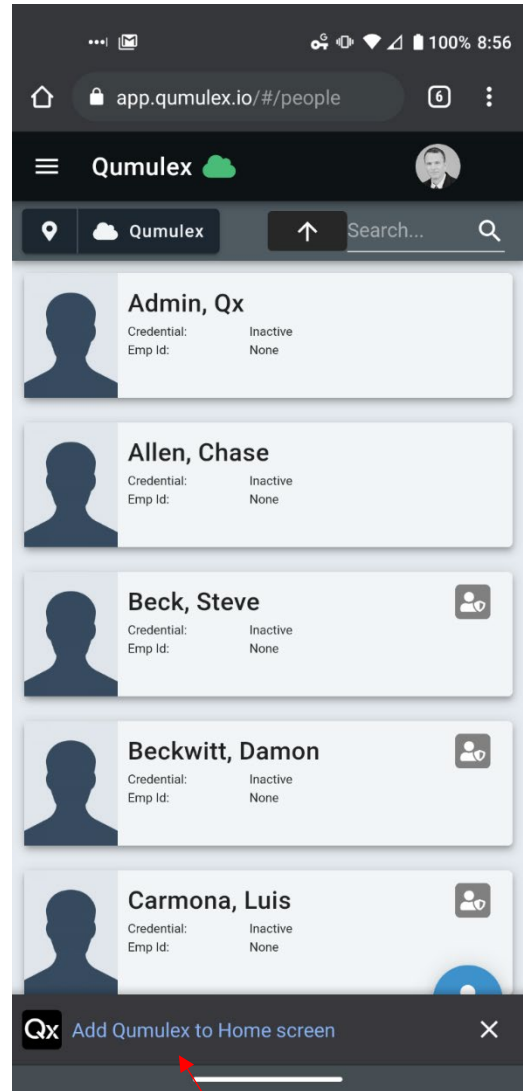
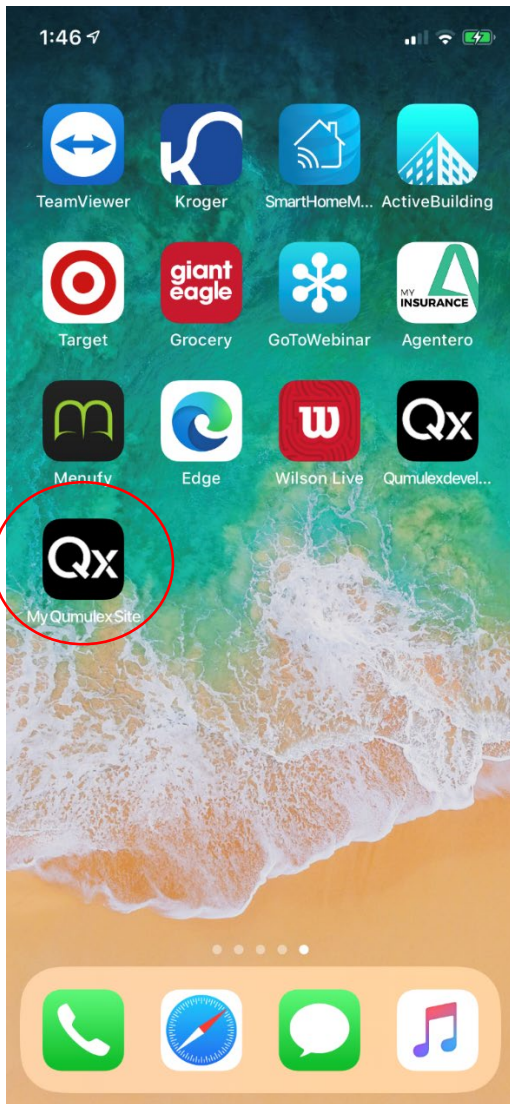
You will now see the “Share” Menu. Select the option for “Add to Home Screen”.



This will present the “Add to Home Screen” menu. Enter the name you would like to see below the shortcut icon and press “Add” to submit your shortcut to Home Screen.

Note: For iOS devices this procedure works in Safari, however the Google Chrome app will not support Add to Home Screen. In Google Chrome you will need to save the Qumulex site as a Bookmark.

You will now have an icon that you can use to click and enter the Qumulex site. This allows you to experience the ease of using a mobile App without the need to download and configure one. You will still be using the mobile browser.



Note: For an Android device, you will see the option to add to Home screen at the bottom of your webpage view.

Using the application

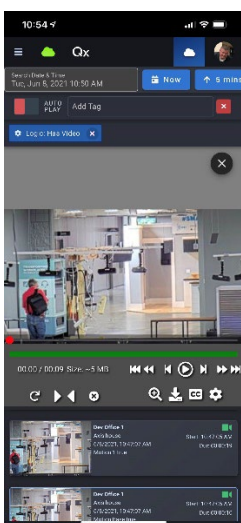
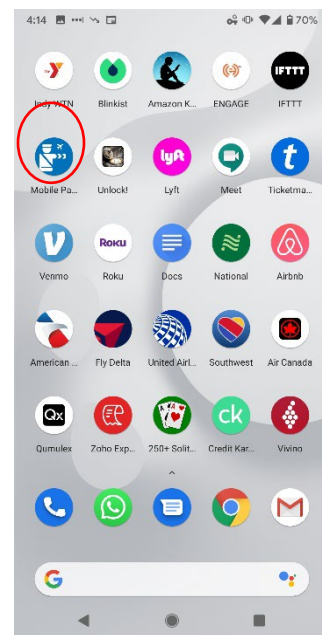
Simple to use

QxControl is a progressive web app (PWA). This means that it is the same application on every device, computer, tablet, and phone. PWA's are the next generation of application with several benefits over more traditional solutions that have a Windows PC-based browser app, a Mac version, IOS app and Android app, which in its time was an improvement over the fat client PC or Mac application.

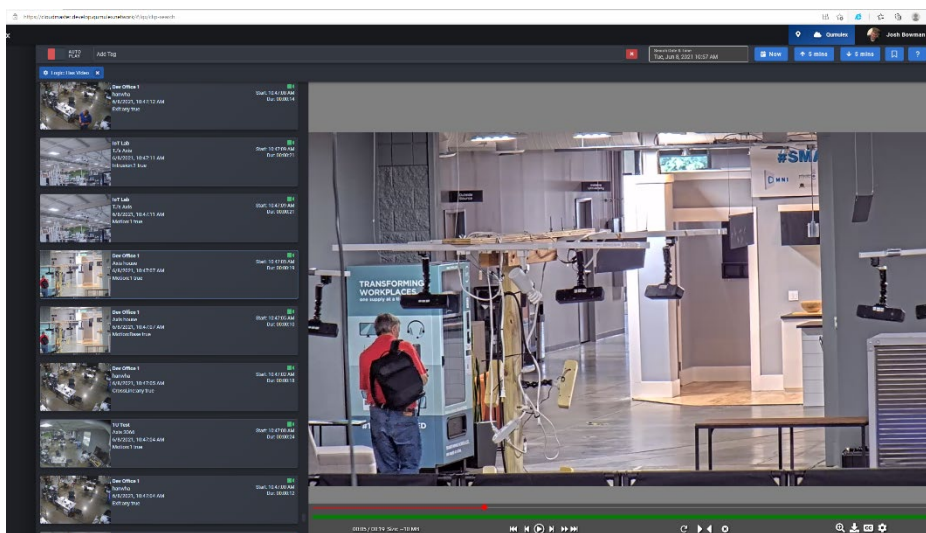
The first key benefit of a PWA is that there is only one app. Only one app to learn and support with the same features and the same experience across all devices. A PWA also means that there is nothing to install on a Mac or PC, just open a browser and browse to <https://app.qumulex.io>.

On iPhones, iPads or Android devices just browse to the same link. For convenience on any mobile device, our app will offer an 'Add Qumulex to home screen' option that will put an app icon on your home screen (see the screenshot on the right) so it feels just like an app.

One of the keys that make PWA's work is that the app will adapt itself to the display size of the device to provide the best experience. A good example of this is the Navigation bar will auto-collapse on smaller screens but still be available by clicking on the hamburger icon.



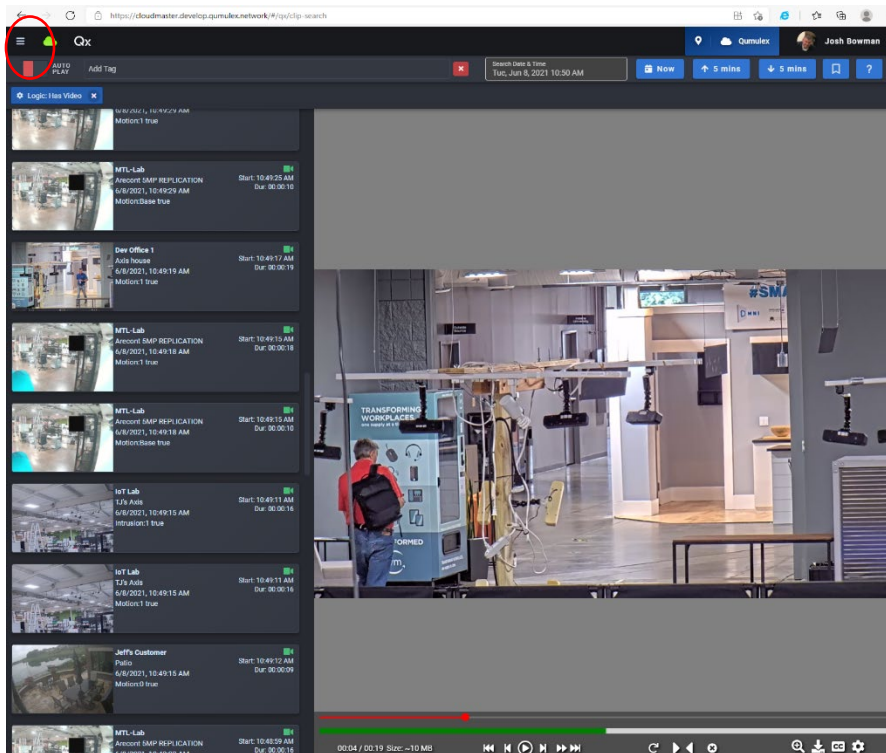
Mobile



Desktop

On a device with a smaller display or when the browser has been made a small enough size, the navigation menu gets tucked away. To Navigate through the QxControl application and jump to a different page, simply tap the hamburger icon (circled in red) to unhide and then tap again to collapse and regain full view of your screen once you have made your selection.

The menu can also be hidden and will automatically hide when the display area is narrow enough, even on a larger screen.



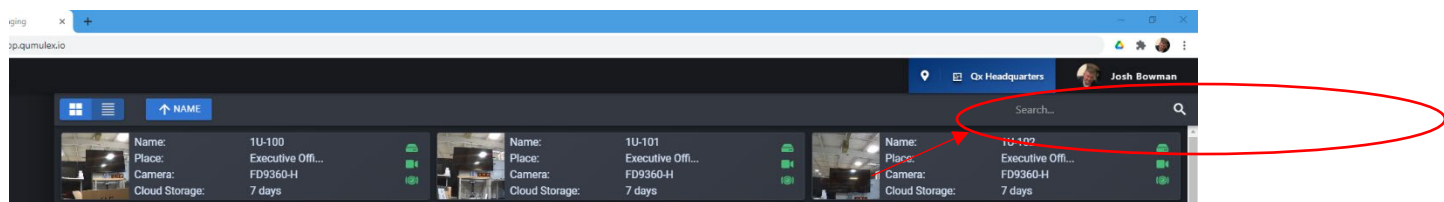
Most items can be edited by double clicking on them. Otherwise click or tap to select the item such as a camera, then click or tap the desired action.

Navigating QxControl

Using QxControl is an intuitive and simple process. Here are some of the features built into the user interface to help guide your experience.

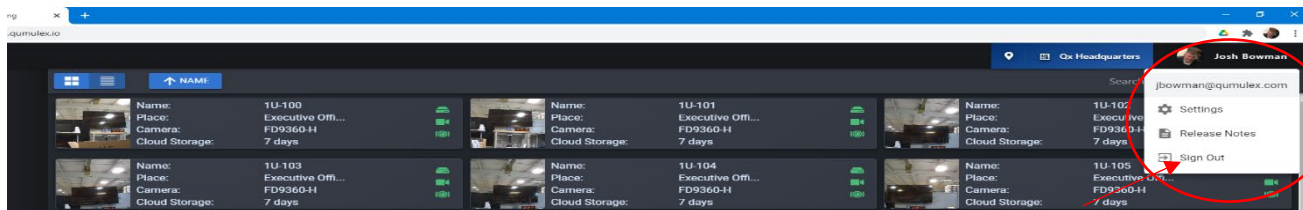
Search Bar

Most pages have a search bar in the upper right corner. Typing in the search bar will automatically search across many fields of information. For example, on the People page, the search will look across first name, last name and employee id all at the same time.



User Menu

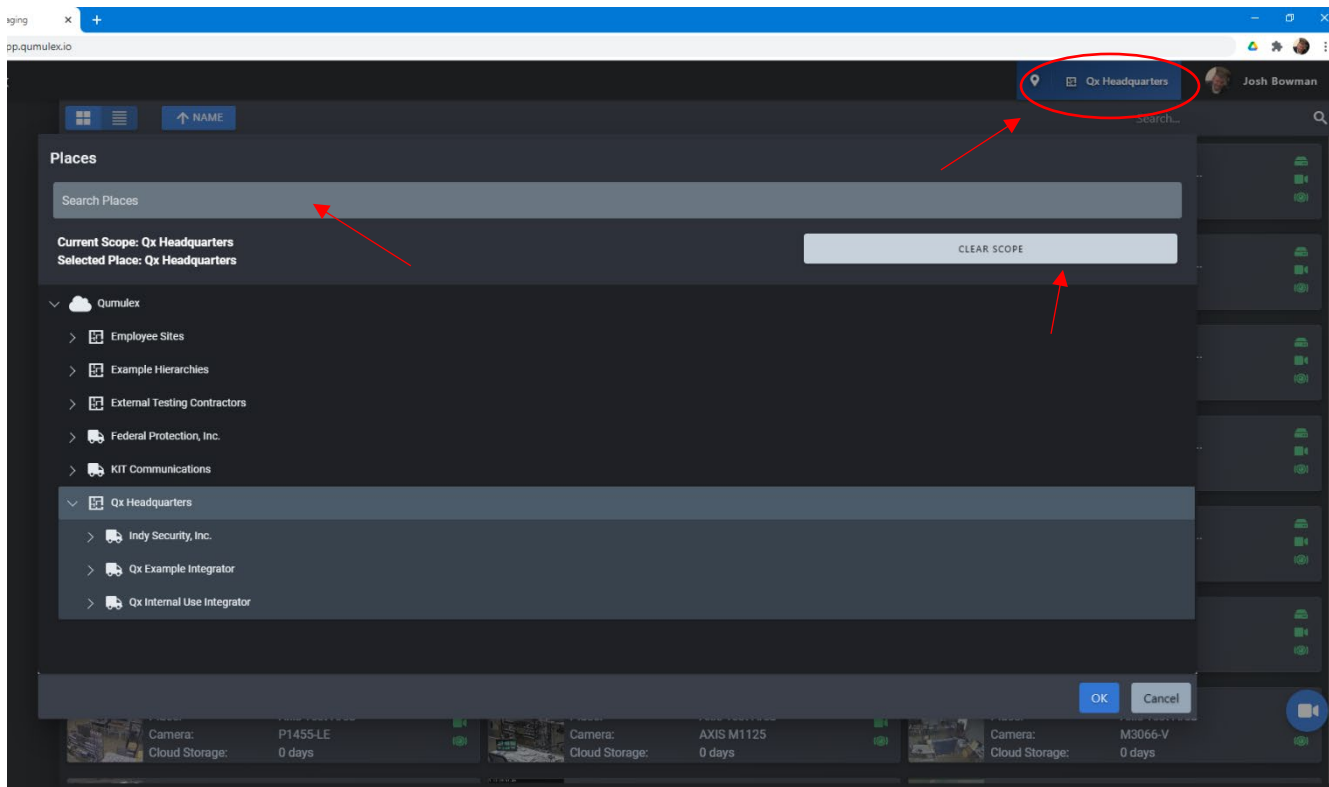
Also located in the upper right is the user menu which is accessed by clicking on the username or avatar. The user menu has three options: “settings”, “Release Notes” and “sign out”. Choosing “settings” gives you access to user specific settings such as allowing a default view to be set or not. This is also where you access the software build info for your site. “Release Notes” will show you the latest features and options provided in recent releases, and choosing “sign out” logs you out of QxControl on all devices and requires you to log back in.



Scope Selector

At the top right of every page that you navigate to is the “Scope Selector”. This will always be labeled with the current scope you have selected in your hierarchy. In our case, the current scope selected is named ‘Qx Headquarters’ so that is what you see reflected on the places button. The Places Menu enables you to change or set the scope (i.e., how to select what sites you are working with) without having to leave the current page. You can also use the “Search Places” search bar to easily find sites in a large system.

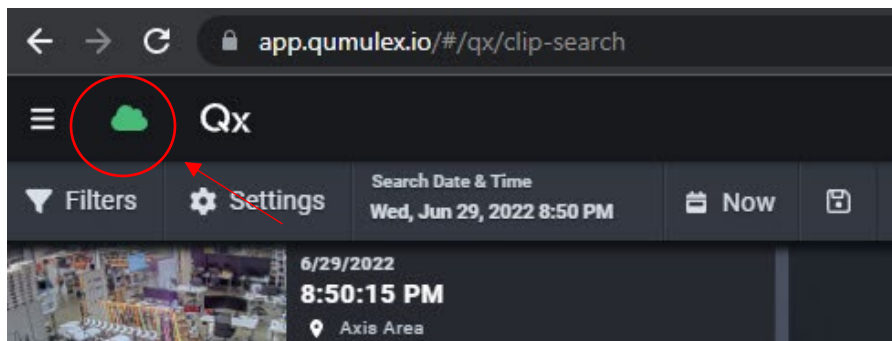
Choose “Clear Scope” to move back to the highest level of your hierarchy and see all sites and areas again.



Cloud Status Icon

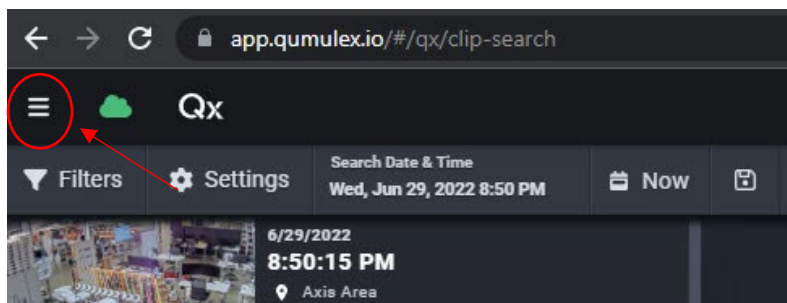
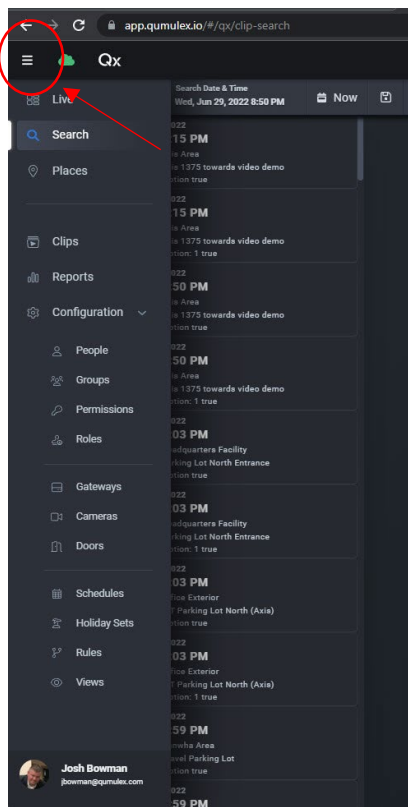
To the top left of the Qx Control App is the Cloud Status icon. This is a “non-clickable” icon that displays the status of QxControl. A green icon indicates that the service is online, and everything is working properly. A red icon indicates that the service is offline or there is a problem.

Note: If there is a system wide update taking place, you may also see a red icon even though QxControl will still be operating properly. This will resolve once the update is complete and return to a green status. You will then also be prompted that an update is available to you.



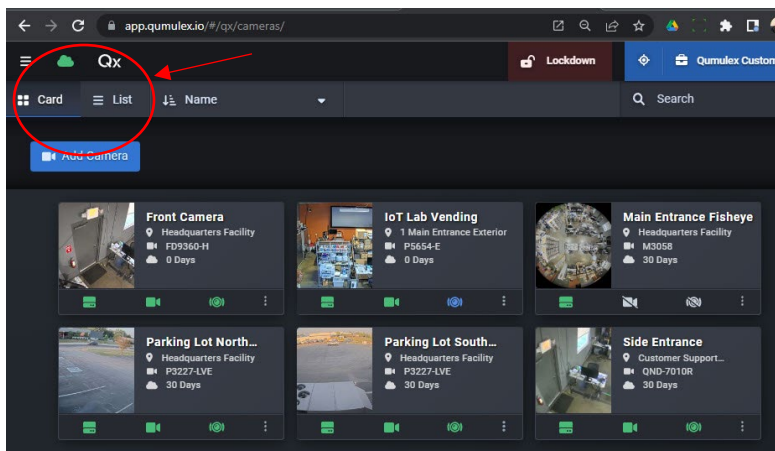
Navigation Menu/Hamburger Icon

The Navigation Menu is located on the left side of the screen. This is your primary menu for navigating to the various Application Areas available in QxControl. The “Hamburger Icon” is represented by three lines at the top of the Navigation Menu and is used to either hide or reveal the Navigation Menu.

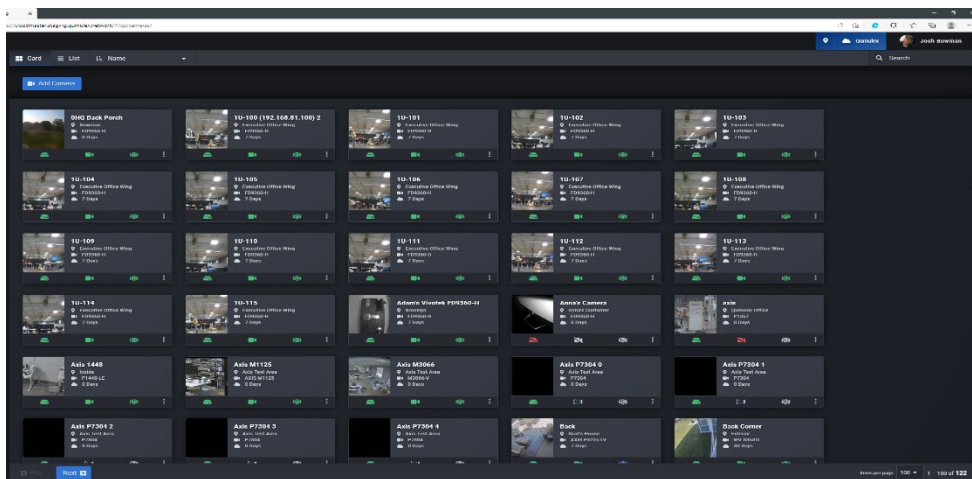


Card View/List View Buttons

There are several Application Areas that offer the choice of a “Card View” or “List View”. These are typically found in Application Areas that contain People or Devices such as the Cameras, Gateways and People pages. On these pages you can find the Card and List View Buttons at the top of the screen centered above the view.



The information presented in both options are largely the same. The Card View offers a bit more detail and visual feedback. The List View may be better suited in larger systems where you would like to show more devices on the screen than Card View allows. Here is an example of both to offer a contrast between the two:



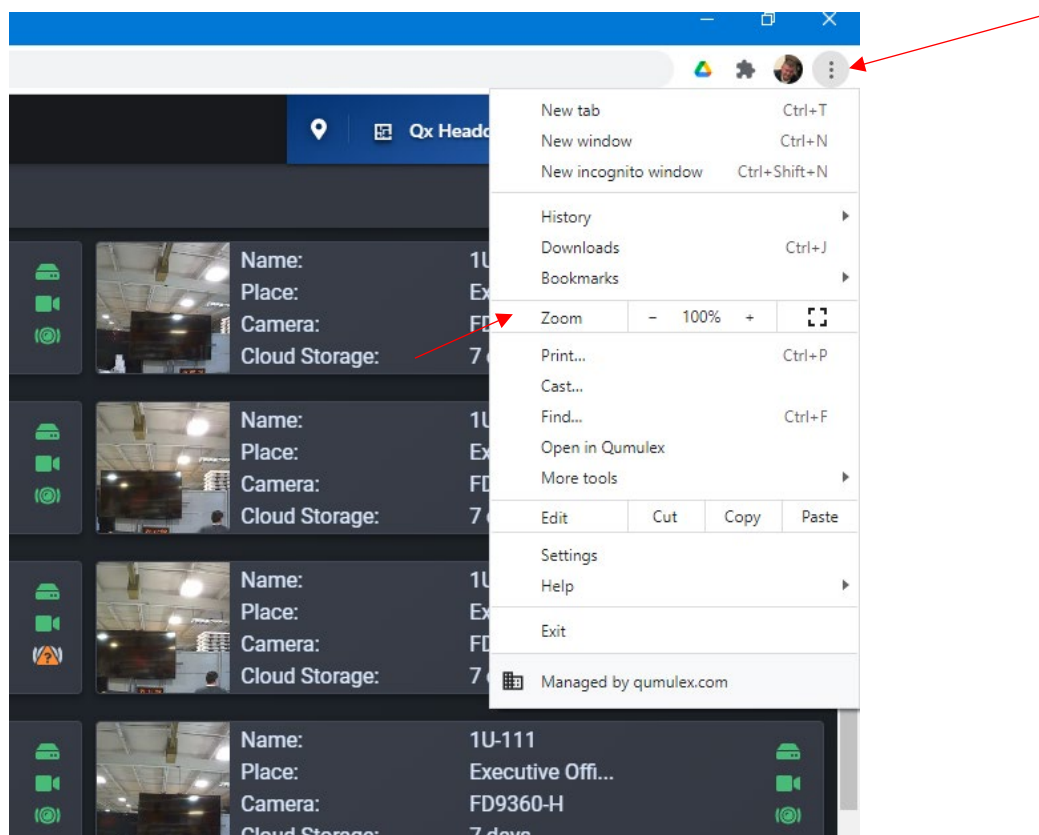
| Name | Floor | Status | IP Address | Make | Model | Serial Number | Camera | Refresh | Disabled | Status | Device Name |
|--------------------------|-----------------------|--------|---------------|--------|---------|---------------|----------|---------|----------|--------------|-------------|
| 010-Dark Perch | Room 101 | Online | 192.168.0.143 | VOGTEK | P3200H | 00021811036 | 0202 | 0 Days | ✓ | Connected | All |
| 10-100 (192.168.0.100) 2 | Executive Office Wing | Online | 192.168.0.100 | VOGTEK | P3200H | 000218100CF | 0202 | 7 Days | ✓ | Connected | All |
| 10-101 | Executive Office Wing | Online | 192.168.0.101 | VOGTEK | P3200H | 000218100J0 | 0202 | 7 Days | ✓ | Connected | All |
| 10-102 | Executive Office Wing | Online | 192.168.0.102 | VOGTEK | P3200H | 000218100K1 | 0202 | 7 Days | ✓ | Connected | All |
| 10-103 | Executive Office Wing | Online | 192.168.0.103 | VOGTEK | P3200H | 000218100L2 | 0202 | 7 Days | ✓ | Connected | All |
| 10-104 | Executive Office Wing | Online | 192.168.0.104 | VOGTEK | P3200H | 000218100M3 | 0202 | 7 Days | ✓ | Connected | All |
| 10-105 | Executive Office Wing | Online | 192.168.0.105 | VOGTEK | P3200H | 000218100N4 | 0202 | 7 Days | ✓ | Connected | All |
| 10-106 | Executive Office Wing | Online | 192.168.0.106 | VOGTEK | P3200H | 000218100O5 | 0202 | 7 Days | ✓ | Connected | All |
| 10-107 | Executive Office Wing | Online | 192.168.0.107 | VOGTEK | P3200H | 000218100P6 | 0202 | 7 Days | ✓ | Connected | All |
| 10-108 | Executive Office Wing | Online | 192.168.0.108 | VOGTEK | P3200H | 000218100Q7 | 0202 | 7 Days | ✓ | Connected | All |
| 10-109 | Executive Office Wing | Online | 192.168.0.109 | VOGTEK | P3200H | 000218100R8 | 0202 | 7 Days | ✓ | Connected | All |
| 10-110 | Executive Office Wing | Online | 192.168.0.110 | VOGTEK | P3200H | 000218100S9 | 0202 | 7 Days | ✓ | Connected | All |
| 10-111 | Executive Office Wing | Online | 192.168.0.111 | VOGTEK | P3200H | 000218100T0 | 0202 | 7 Days | ✓ | Connected | All |
| 10-112 | Executive Office Wing | Online | 192.168.0.112 | VOGTEK | P3200H | 000218100U1 | 0202 | 7 Days | ✓ | Connected | All |
| 10-113 | Executive Office Wing | Online | 192.168.0.113 | VOGTEK | P3200H | 000218100V2 | 0202 | 7 Days | ✓ | Connected | All |
| 10-114 | Executive Office Wing | Online | 192.168.0.114 | VOGTEK | P3200H | 000218100W3 | 0202 | 7 Days | ✓ | Connected | All |
| 10-115 | Executive Office Wing | Online | 192.168.0.115 | VOGTEK | P3200H | 000218100X4 | 0202 | 7 Days | ✓ | Connected | All |
| Annex M125 | IT | Online | 192.168.0.125 | VOGTEK | P3200H | 000218100Y5 | 0202 | 7 Days | ✓ | Connected | All |
| Annex Camera | Annex Customer | Online | 192.168.0.190 | VOGTEK | P3200H | 0002181190F | 0202 | 0 Days | ✓ | Connected | All |
| 008 | Customer Office | Online | 10.101.0.200 | AOS | P1307 | ACC080C708 | 5.80.2.4 | 0 Days | ✓ | Disconnected | None |
| Annex 1448 | IT | Online | 192.168.0.147 | AOS | P148-LL | ACC080A482 | 6.40.4.1 | 0 Days | ✓ | Connected | All |

Adjusting for Optimal Viewing

While using QxControl you can make a few small adjustments to make full use of your browser interface and to tailor the experience to your own preference.

Adjusting the Browser Resolution

Depending on the size of your monitor, you may want to adjust the “zoom level” of your browser. This will allow you to “zoom out” and make full use of a larger monitor, or for a small monitor you could “zoom in” to make smaller images easier to see. Each browser may place this function in a different place, but every browser should have this option. For example, here is how to make this change in Google Chrome:



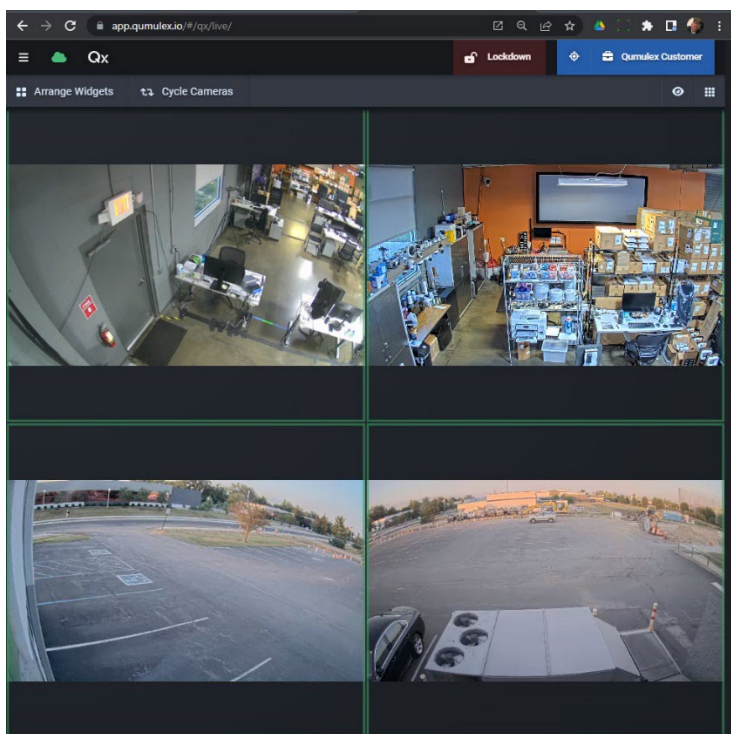
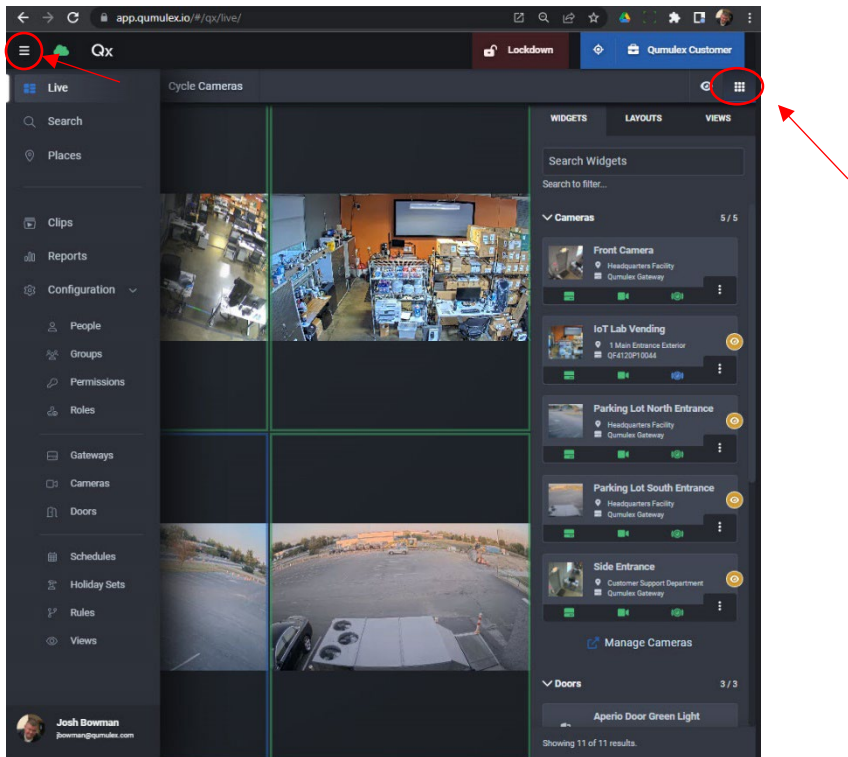
Adjusting the Browser Size

Similar to adjusting the resolution, you may also want to adjust the size of the browser to make full use of your screen, or you may also want to reduce the size to share with other applications on a larger screen.

There are two ways to do this. The easiest and most common method is to use your mouse and drag the edge of the browser window to the size you prefer. You can also use shortcut commands, such as pressing “F11” for full screen when using a Windows device.

Adjusting the QxControl View

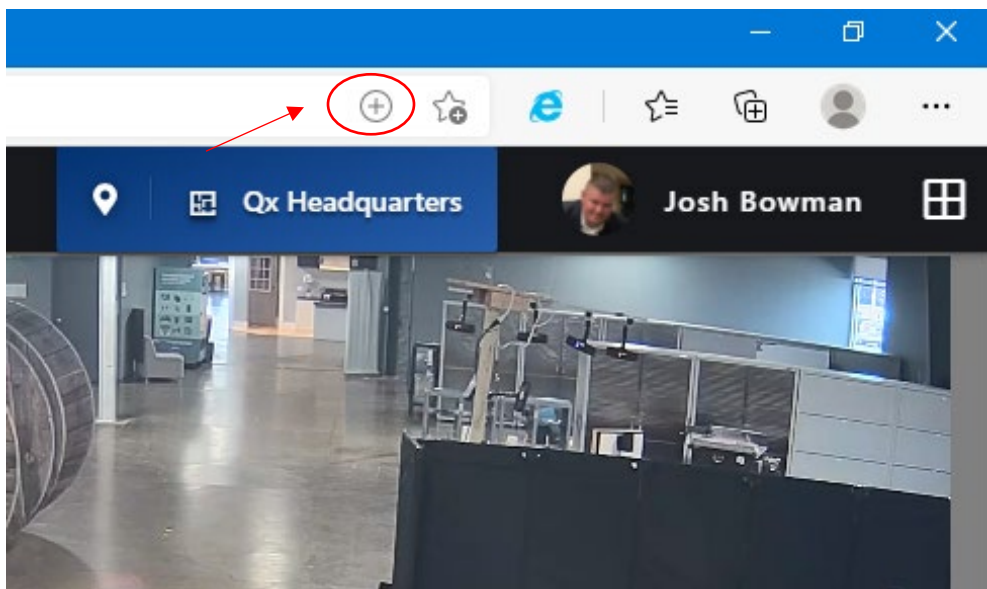
You can also adjust QxControl to enhance your viewing experience. Using the “Live” page as an example, you can use the hamburger icon in the top left to collapse the menu view and make full use of the view. You can also collapse the resources menu in the top right, and you can also use the “F11” command to expand the browser to full screen. Here is an example using Google Chrome where we will use all three of these methods:



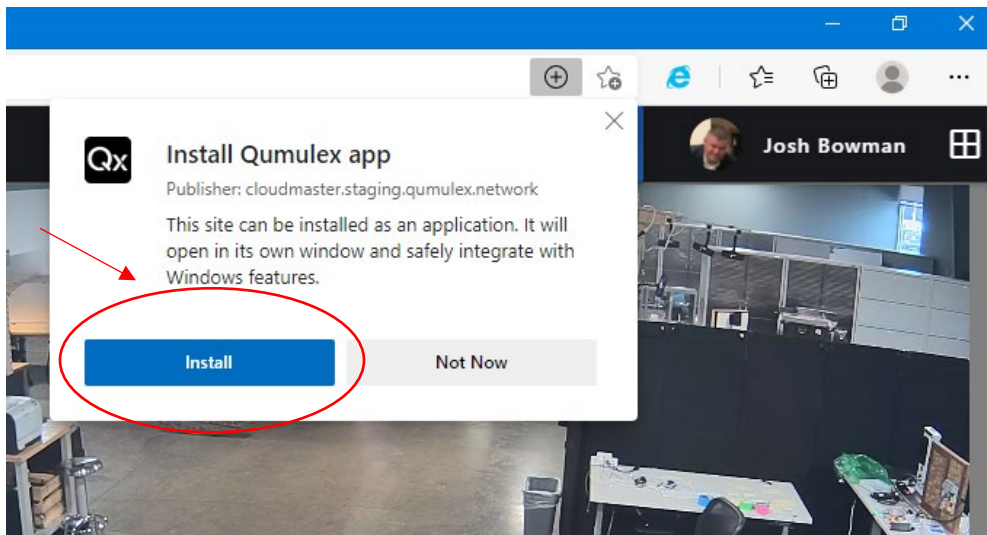
Installing the Browser Extension

Another option to achieving a full screen browser view, without using the F11 command, is to install the available browser extension. This will also provide you a desktop shortcut and a dedicated browser instance, meaning that you will not share the QxControl tab with other browser sessions. On a Desktop or Laptop this is a similar procedure to the shortcut process using a mobile device. If your browser is PWA compatible, you will see a small “plus” symbol on the far-right side of your URL/Address bar in the browser. In this example we will install the Microsoft Edge extension, as Edge is already PWA compatible.

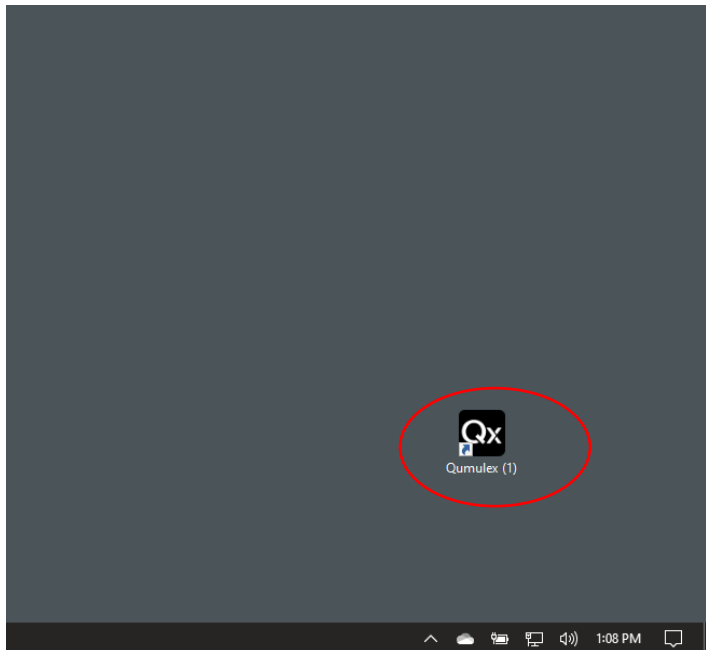
Step One: Select the Edge extension icon:



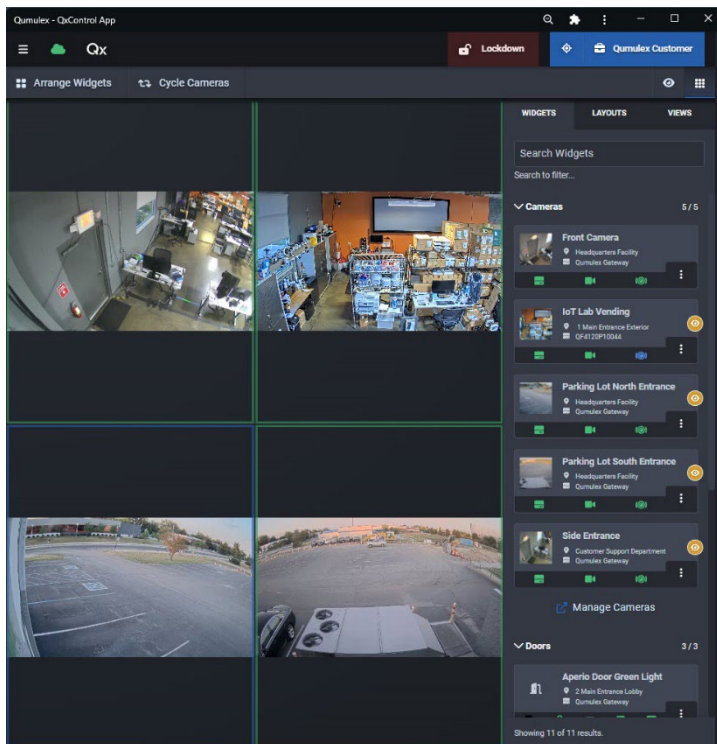
Step Two: Select the option to “Install”



Step Three: You will now have a “Qx” icon on your desktop. Open this shortcut to use the extension.



Success! You are now able to use the browser extension!

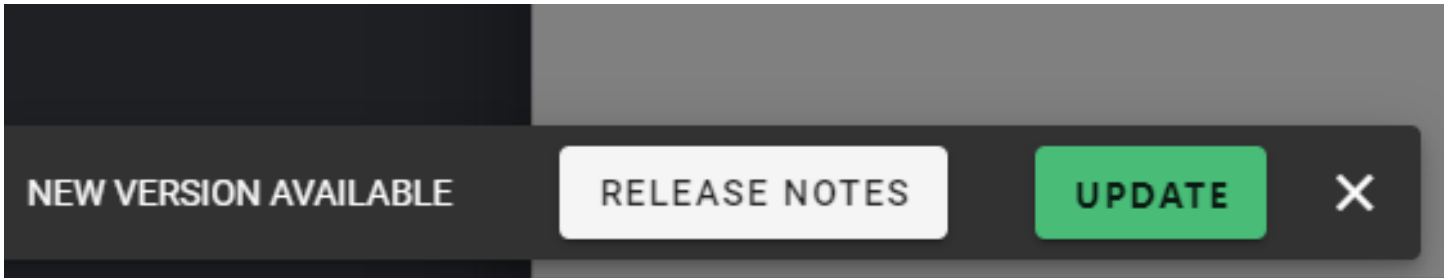


Note: This is not a separate software program. This is simply an extension of your browser that allows easier access via a shortcut, provides a dedicated browser instance to avoid “tab sharing” and allows a more intuitive full screen experience. As described earlier in this guide, use the “share menu” on your mobile device to create this same experience on your mobile device.

Updating the Browser Client

Updating your browser client to the latest version is simple and easy. When the QxControl software has been updated (both Cloud and On-Premises), you will receive a notification to update to the latest version. Simply click on the “Update” button to complete this process.

If you wish to see what is new in this available update prior to updating, click on “Release Notes”.



The Browser will refresh during the update, and then you will be returned to QxControl. Easy!

Please note: If you use multiple browsers, you will be asked to update in each type of browser that you use.

Best Practices for Mobile Operation

As a progressive web app, QxControl is designed to offer the same experience, regardless of whether you use the app on a desktop or mobile device. However, there are some inherent differences between the two types of devices and how they operate.

This section offers best practices for using QxControl on mobile devices that will help you have the best possible experience on mobile.

Mobile Device Compatibility

QxControl is compatible with supported devices using either iOS or Android operating systems. It is important to remember that “supported” means that the device is still new enough that it is eligible to receive OS updates from the manufacturer.

Once a device has been deemed “end of life” by the manufacturer, it is no longer going to be compatible with QxControl. QxControl is a progressive web app and will need the device to be current for all components to operate correctly.

You can verify the status of your device here:

For Android Devices, start by choosing your Manufacturer from this page:

<https://support.google.com/android/answer/3094742?hl=en>

For Apple Devices:

iPhone

<https://support.apple.com/guide/iphone/supported-models-iphe3fa5df43/ios>

iPad

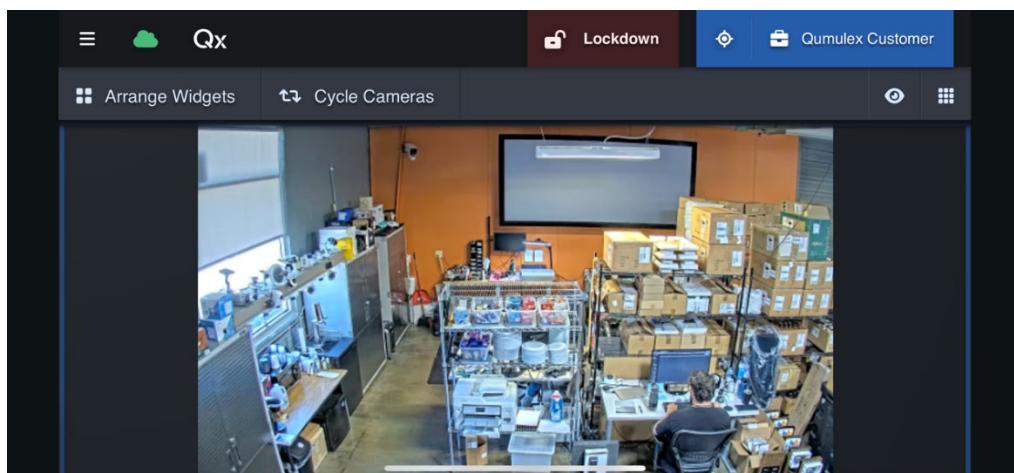
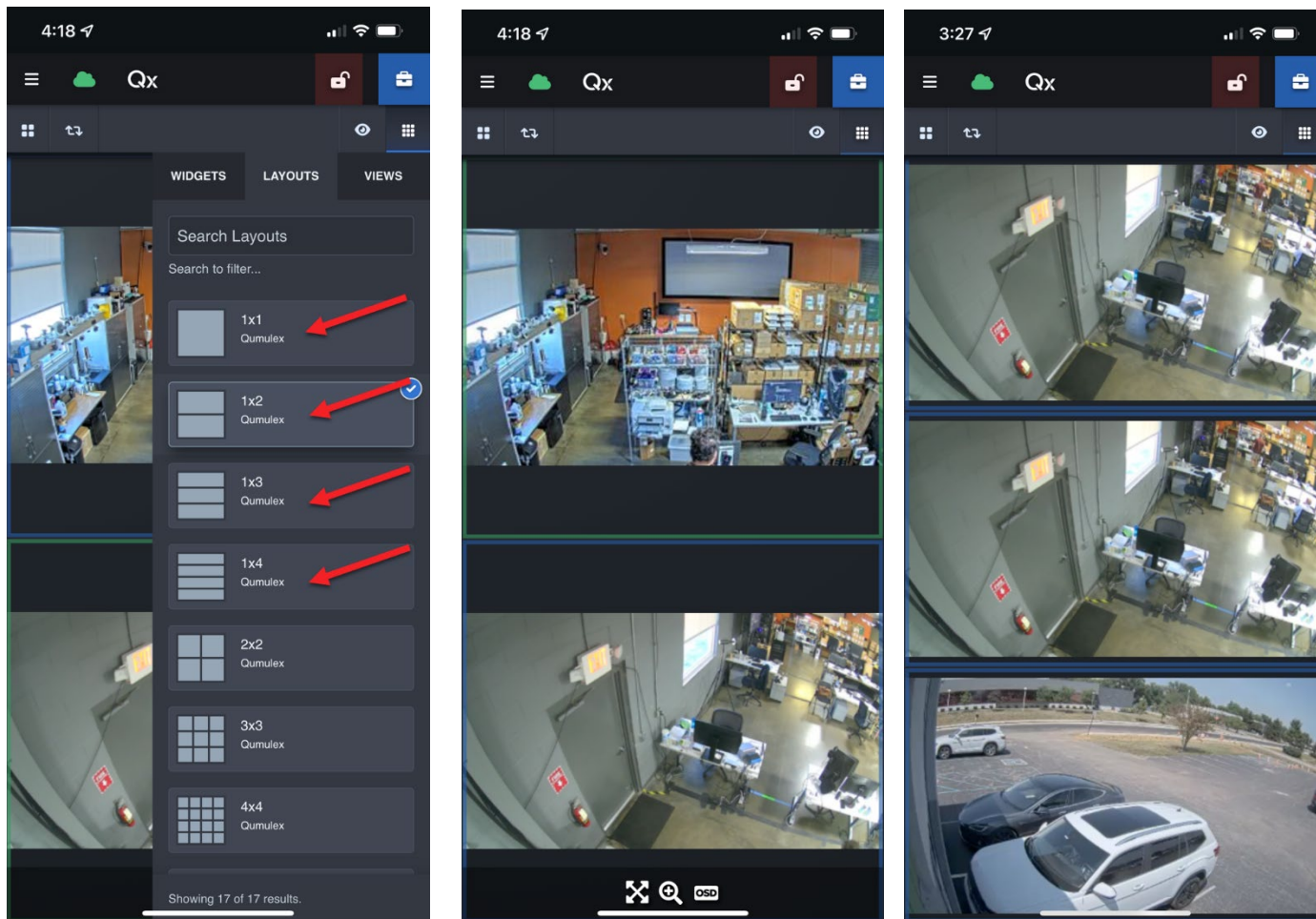
<https://support.apple.com/guide/ipad/supported-models-ipad213a25b2/ipados>

These manufacturers will typically support mobile devices for a very long time. If you have an older device however, it may be beneficial to check the links above if you are having performance issues or if features are not working consistently or correctly.

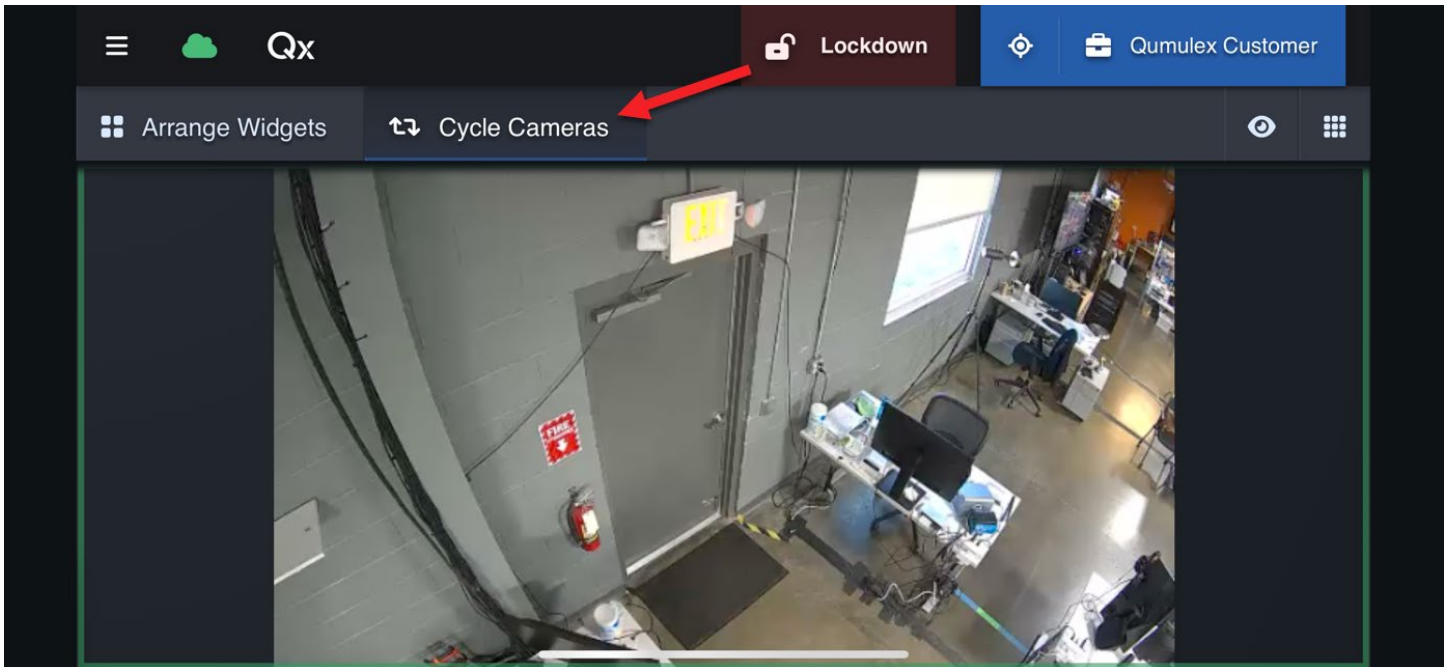
Using Mobile Layouts

Qumulex has added and will continue to add layouts that are friendly to use on mobile devices. While you can use any desired layout or view that is saved in QxControl, the aspect ratio combined with the smaller screen size will make larger layouts difficult to see.

When you are selecting views from the Live Pane, 1x1, 1x2, 1x3 and 1x4 are the views that work best on mobile screens (1x1 works best in landscape, 1x2/1x3/1x4 in portrait) :



Another good strategy when viewing on a mobile device is to use the Cycle Cameras button in a 1x1 and quickly flip through the available cameras. This helps you quickly see each camera that is available to you and is also a quick way to work through all cameras and find a real-time event after receiving an alert.

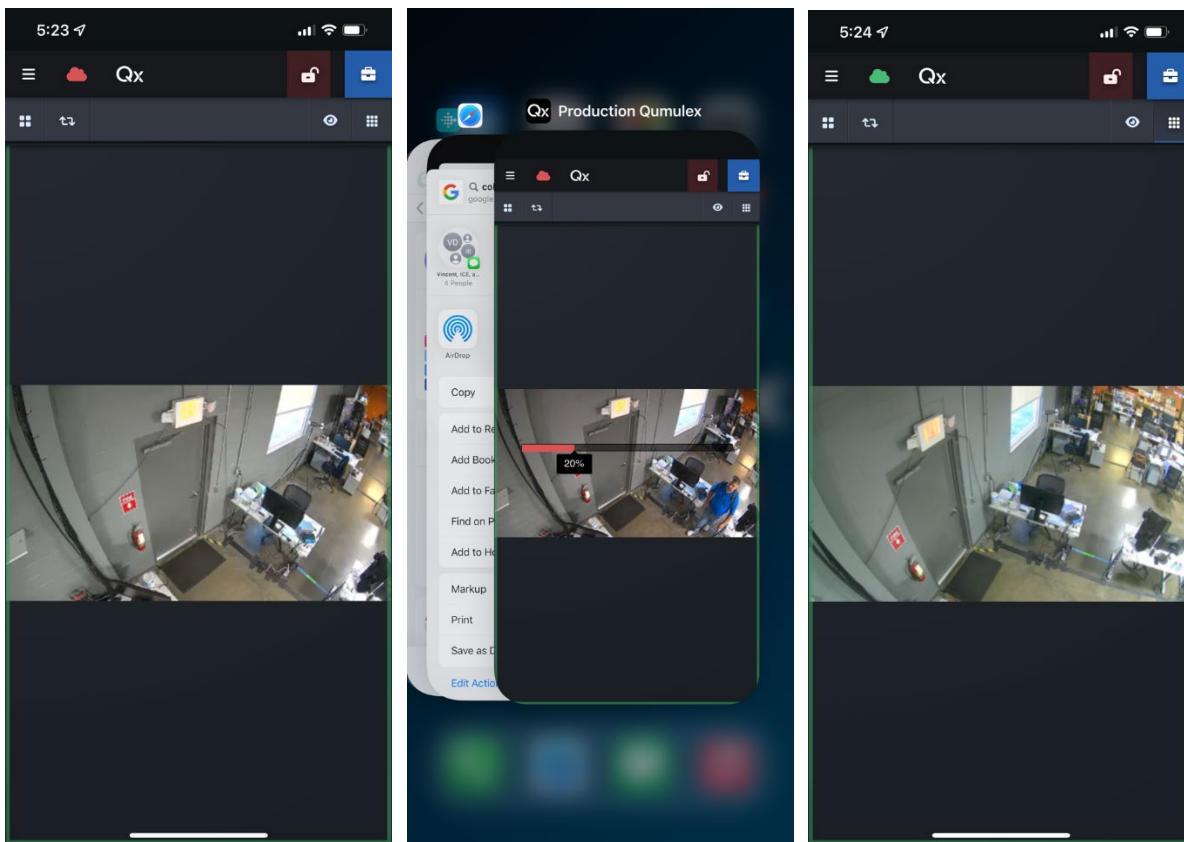


PWA-Specific Considerations

In this section we will highlight a few factors to consider when using mobile. Because we deliver in a PWA app versus a traditional mobile app, there are many benefits such as being able to use common browsers and always being up to date and in-synch with the desktop app. While this is beneficial, there may be a few actions that you are not accustomed to unless you have used other PWA-based apps. Here are a few tips to ensure the best experience.

- (1) Be sure to save the app to your home screen. This will allow the app to behave more like a mobile app and will remove the traditional bookmarks, addresses and other items that take up valuable real estate on your screen. It will also place a shortcut with the QX icon that makes it easy to locate. This also prevents you from using a bookmark or typing in our web address to enter the app. Often, time is of the essence when you want to view video or events. Instructions on how to do this are located in this chapter under “Logging in for the first time: From a Mobile Device”

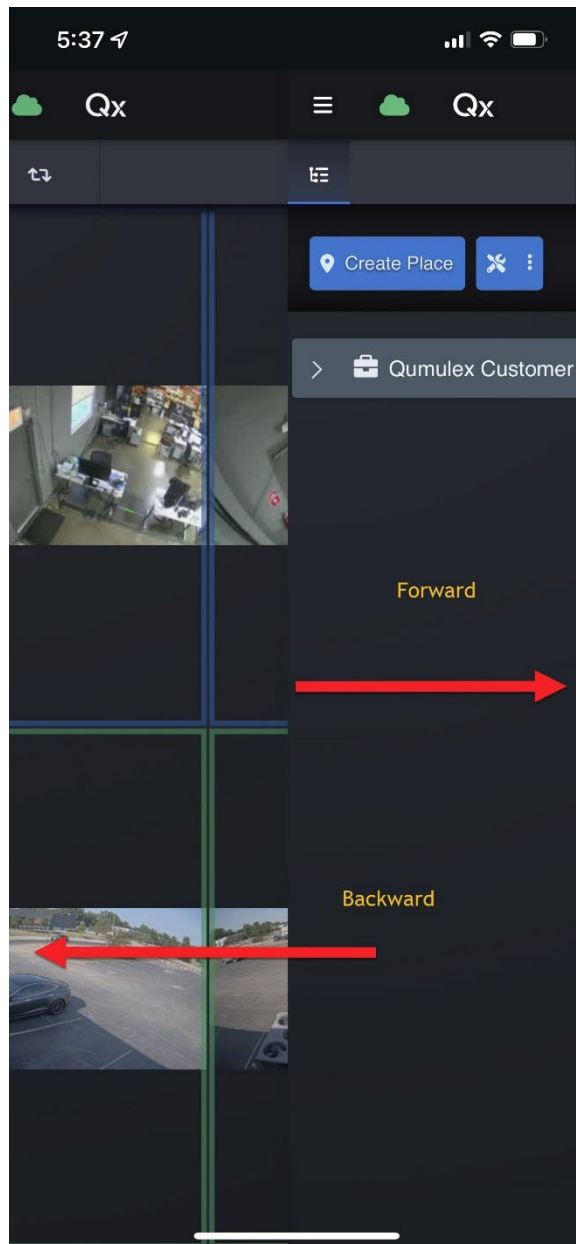
- (2) Sometimes you will see a Red Cloud indicator and video seems to be stuck. If your site is working properly on another device your connection to the service may need refreshed. This can happen on any mobile device but seems to be most prevalent on certain iPhones. To refresh you simply need to reboot the PWA app by pulling upward on the bottom of the page until you see the cards open for each running app, then flick upward to close it.



After doing this procedure you will now see a green cloud and video is restored. Note: the process of rebooting an app may vary on Android devices depending on what manufacturer you use. Consult the device manual for instructions.

- (3) You can use swipe gestures to page forward and backwards, like a page forward or backward arrow button would work. This makes it easier to navigate on mobile. Simply use your finger to swipe right or left in order to use the swipe gestures.

In this example, I have navigated to places from Live, and I am able to swipe left to return to Live without opening the left-hand toolbar:

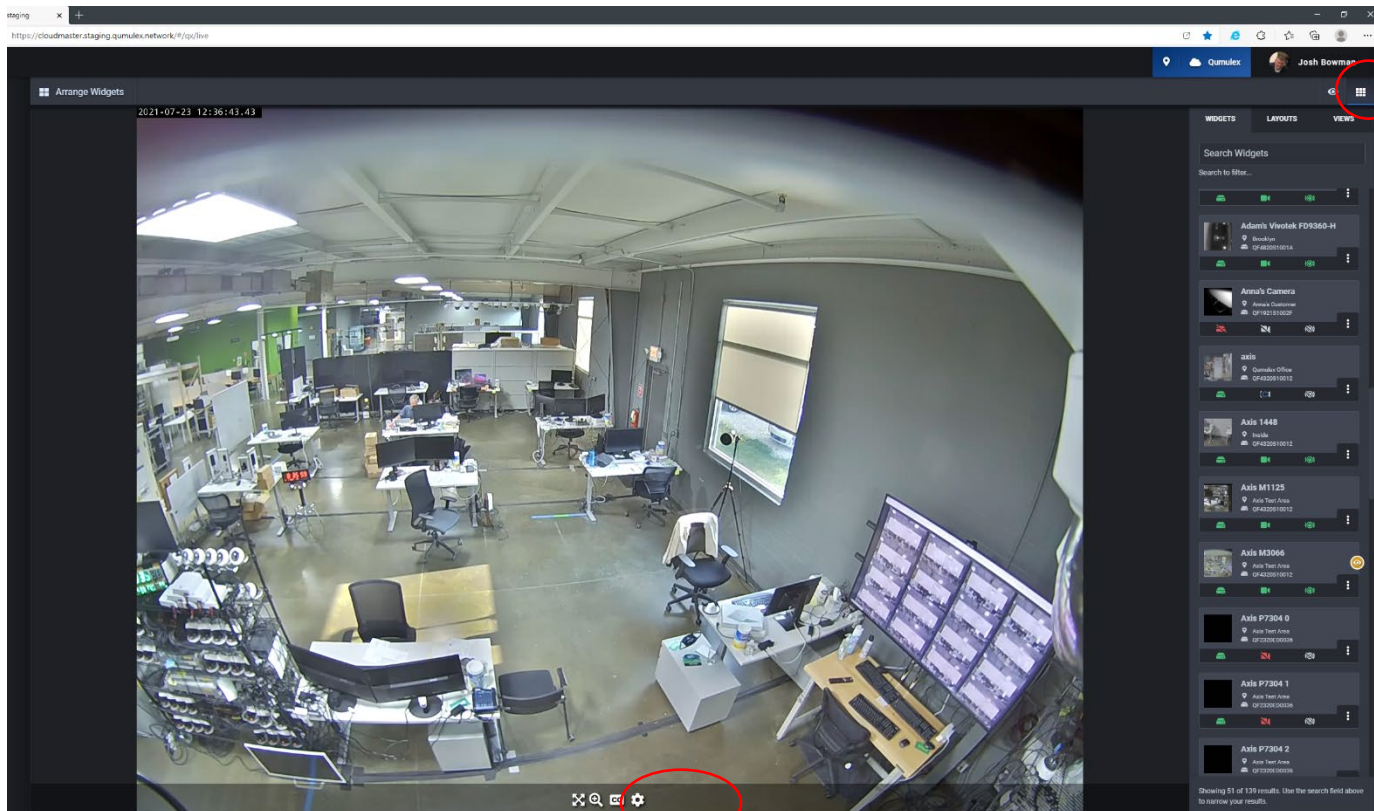


Application Areas

Live

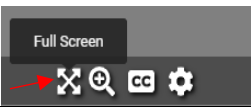
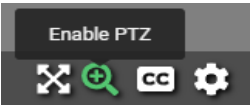
The live page is where cameras and events can be monitored, and doors can be operated. Live also allows various status and performance related information to be tracked and displayed with Data Charts. This is accomplished through the available corresponding widgets. Widgets are sorted and classified as “Cameras”, “Doors” and “Other”. The Widgets available will depend on the current scope, such as the site or area you have selected in Places.

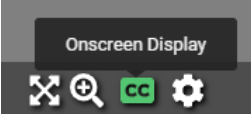
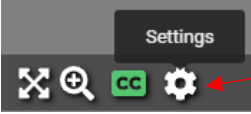
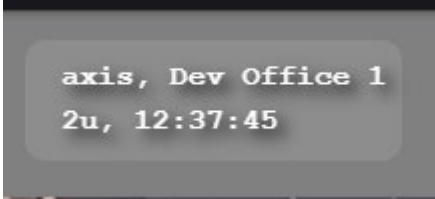
Use icon at the top right (circled in red) to open the Live Tray and select Widgets for the layout, change the layout or to access the saved views.

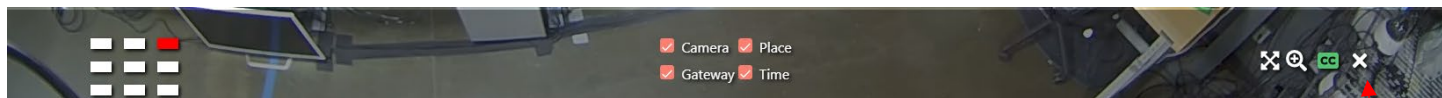
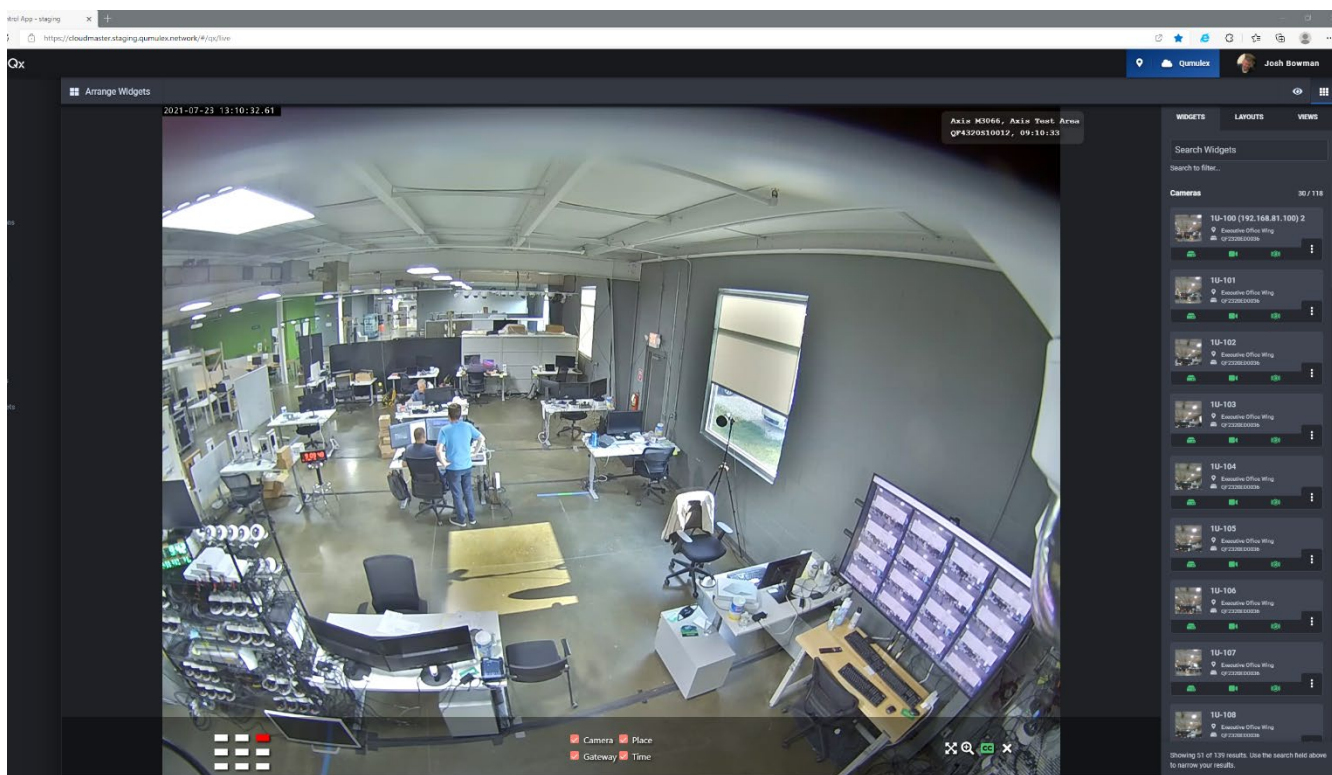


Live Actions

The following actions are available in the live actions menu. Hover your cursor over the menu to reveal the options:

| Action | Result |
|---|--|
| <p>Full Screen</p>  | View the video in full screen |
| <p>Enable Digital PTZ</p>  | Enable Digital PTZ function. Allows you to scroll inward to zoom in, outward to move out and move the mouse cursor (or pinch on mobile) to change the field of view and to choose where to zoom. |

| | |
|---|---|
| <p>Onscreen Display</p>  | <p>Displays details on screen. Choose what information to display on screen, and where, in the settings menu (detailed below)</p> |
| <p>Settings</p>  | <p>Choose what information is displayed on screen when Onscreen Display is enabled. Also allows you to choose where on the screen the information will be displayed.</p>  |



Choose Where to display

Choose What to Display

Close Settings

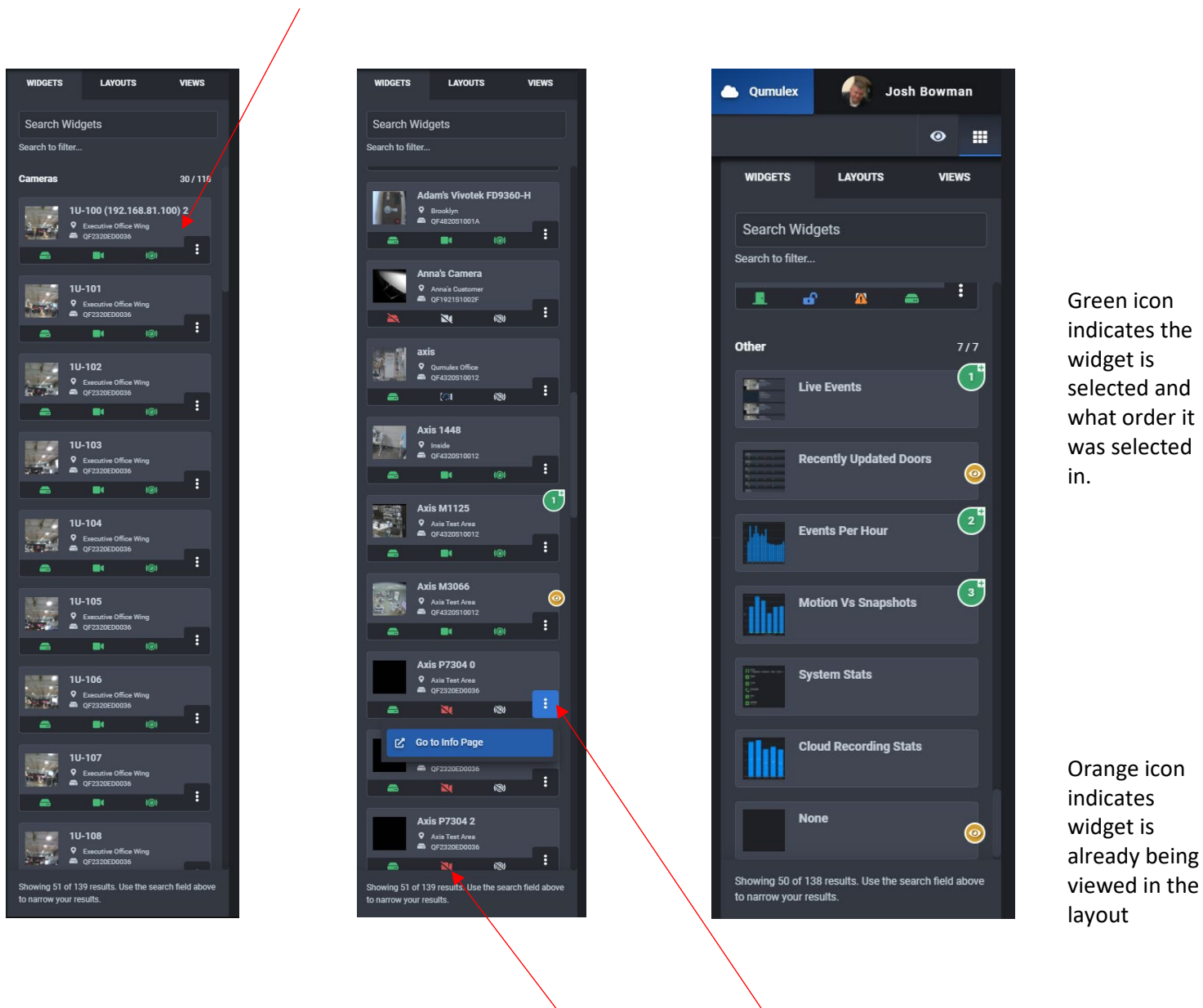
Live Features

There are several features that are unique to the Live viewing page of QxControl. In this section we will cover each in more detail.

Live Tray: Widgets Tab

The cameras, doors, and data charts available for viewing on the Live viewing page are referred to as “Widgets”. Widgets can be cameras, doors, events, or data charts. This approach allows you to do much more than just view live cameras. You can create your own dashboard or command center using any of these available Widgets, rather than be limited to a predefined version.

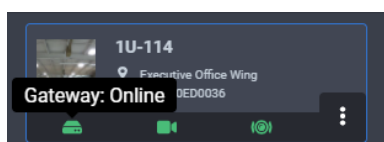
To select an available Widget simply click and hold, and then drag the Widget into your layout.



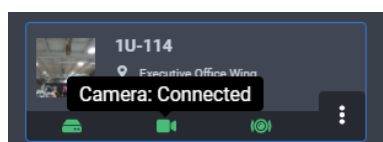
The Widget cards themselves also offer feedback on the status of the devices. You can also choose actions from the 3-dot menu, such as going to the info page of a camera (as shown above). You will also see a green icon when selecting widgets and a number indicating how many you have selected. The orange eye indicates this widget is already in view.



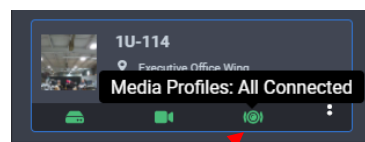
Camera Widgets are used to view cameras in a layout. In addition, the camera widget provides information about the camera itself.



This icon indicates Gateway status.

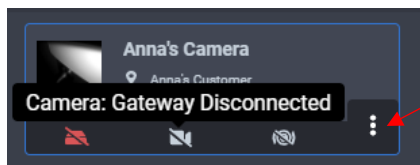


This icon indicates camera status.

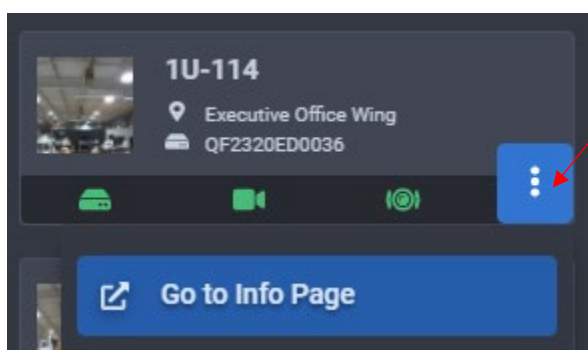


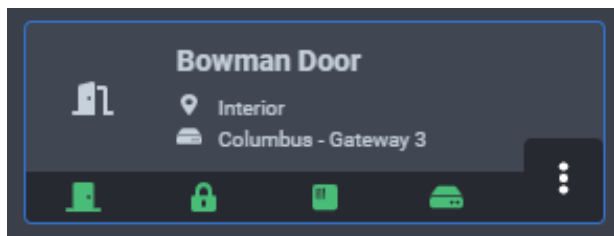
This icon indicates media profile status.

For a Gateway, the status will either be green, or red. Green indicates the Gateway is online, red indicates the Gateway is offline. In the case of the Gateway being red, the camera and media profile statuses will be grayed out.

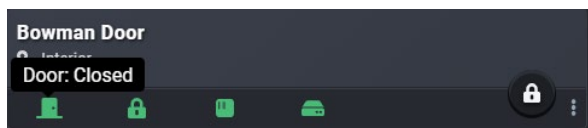


By choosing the 3-dot menu in the lower right of the Widget, you will be presented with the actions menu. For camera Widgets this will present the option to be taken directly to the camera's info page. The cameras info page gives you access to cameras settings.





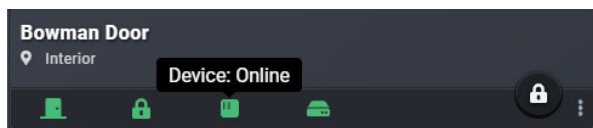
Door Widgets are used to view a door status and allows you to operate the door from the Live page.



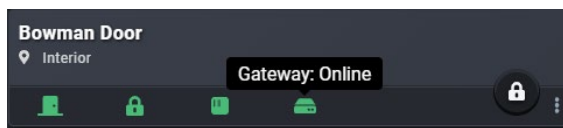
This icon indicates door status.



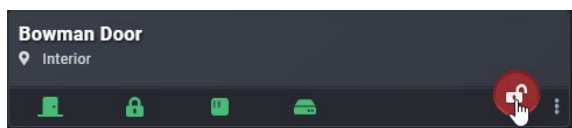
This icon indicates lock status.



This icon indicates door controller status.



This icon indicates Gateway status.

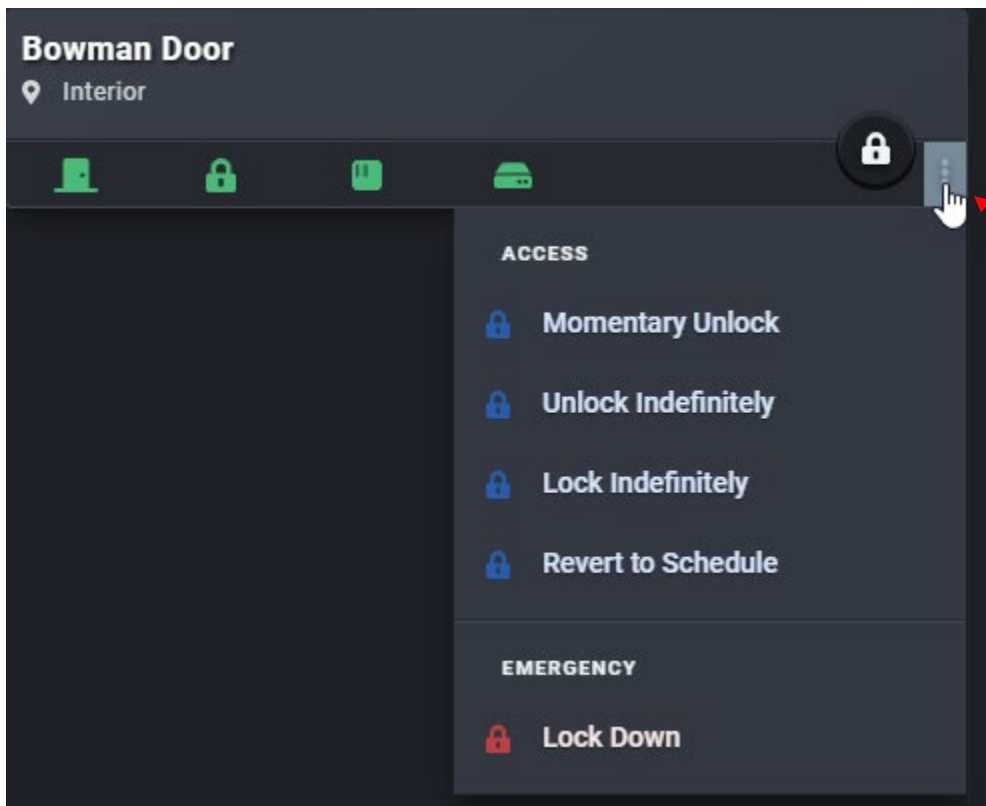


Use the padlock button to pulse unlock the door.



You will see the lock icon status change and the padlock button will also change color to show the door is unlocked.

Note: The length of time for the pulse unlock function to last will correspond to the “Access Time” setting. To configure this and other door settings visit the Doors page and select the door you wish to edit. Then choose “Edit Door” from the top menu.



While active in your layout, the 3-dot menu gives you several additional options to operate the door.

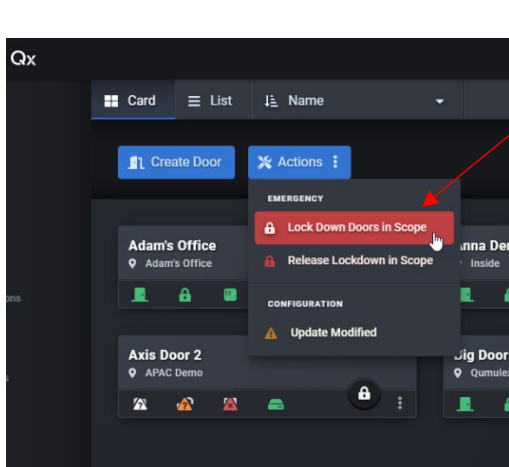
Momentary Unlock: This is the same as choosing the padlock button. This will pulse unlock the door.

Unlock Indefinitely: This will unlock the door and will not revert to locked until initiated by user prompt.

Lock Indefinitely: This will lock the door and will not revert to unlocked until initiated by user prompt.

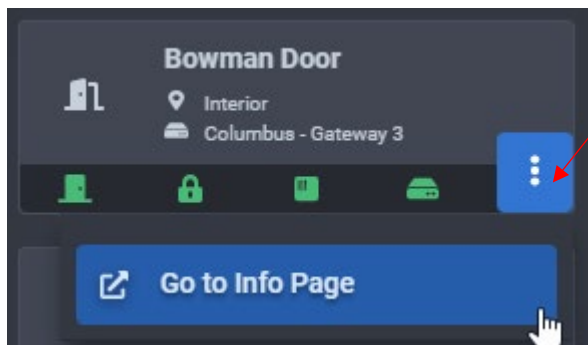
Revert to Schedule: This is the prompt used to return to the door schedule and cancel Lock/Unlock Indefinitely.

Lock Down: This will initiate a Lock Down of THIS DOOR ONLY. To initiate a scope-wide lockdown, choose “Lock Down Doors in Scope” from the top “Actions” menu of the Doors Page. See example below:



Note: User Scope will affect what doors are available!

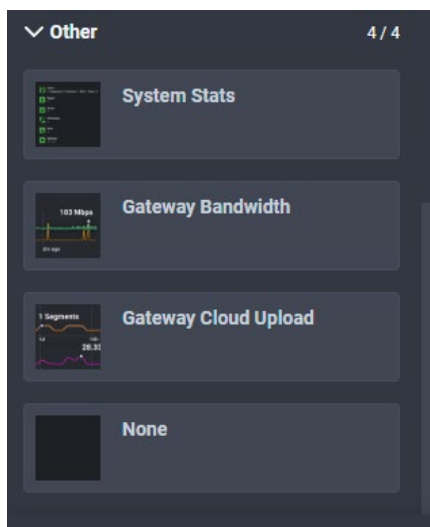
By choosing the 3-dot menu in the lower right of the Widget prior to dragging the widget into your layout, you will be presented with the actions menu. Like camera Widgets, this menu will present the option to be taken directly to the door's info page where you can operate and edit the door.



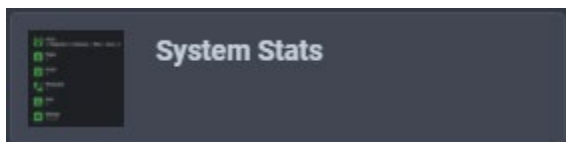
Widgets Tab: Other

The final group of widgets located in the widgets tab is “Other”. This is where you will find widgets that offer data charts, system status and recent events. There is also a widget labeled “None” that you can use to create empty cells in your layout.

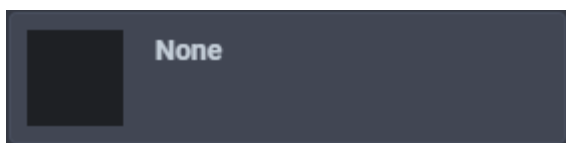
Note: The data shown by these widgets are affected by the selected Scope. Changing your scope will revise what data is displayed.



System Stats: This widget displays the total number of Places, People, Groups, Permissions, Roles Assigned, Gateways, Cameras, Doors, Views, Schedules, and Holiday Sets at your current Scope. For devices such as cameras or Gateways, you will see the number of online versus offline devices as well. For the subject icon green indicates everything is online, Yellow some are online, red is all offline. For Gateways and cameras, the number of online devices is presented in green font and offline in red.

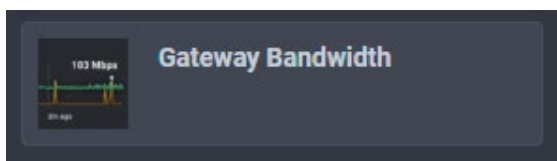


None: This widget is used as a blank filler to clear a cell in a layout if you wish to display nothing in that cell.



Gateway Bandwidth: This widget is used to display the bandwidth being received or transmitted by a Gateway. You will first choose the Gateway you want to monitor. Then you will see two graph lines for data being received by the Wan port and the LAN port, measured in Mbps. You can choose the Gear icon to choose Transmitted bandwidth per Network Port. You can also choose to enable or disable either NIC Port and you can also choose to enable the Wire Guard bandwidth (VPN) or Cloud Upload.

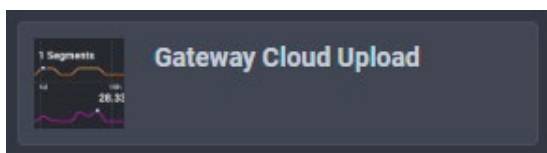
The graph itself can be adjusted to monitor in Seconds, Minutes, Hours or per day by choosing the options at the top of the Widget.



Gateway Cloud Upload: This widget is used to measure Gateway queue depth metrics. This is useful to examine how much buffering is being used and displays if you are streaming to the cloud service in real time or if data is being buffered. This could be due to bandwidth throttling schedules, available internet speed, or network speed. This tool is helpful in making sure that the expected results are being achieved.

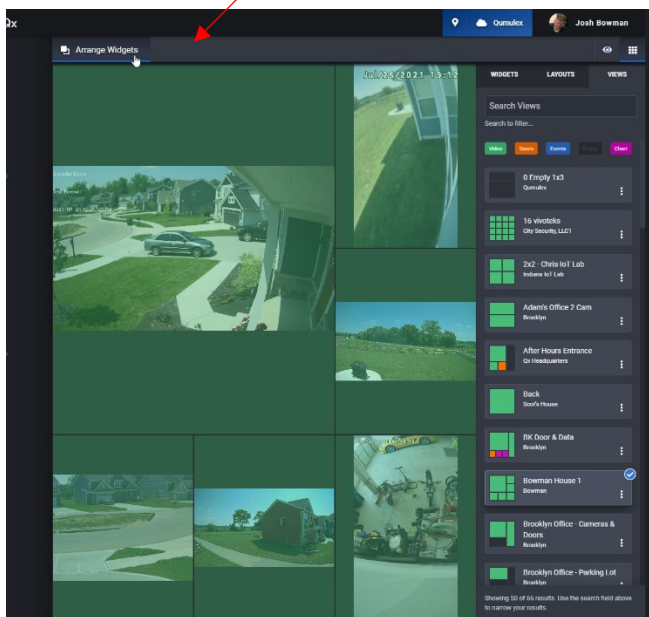
You will see three metrics, (1) Sent data, (2) Queued data, (3) Total data. Choose the gear icon to choose between bytes or seconds, and to choose another Gateway if desired.

The graph itself can be adjusted to monitor in Seconds, Minutes, Hours or per day by choosing the options at the top of the Widget.

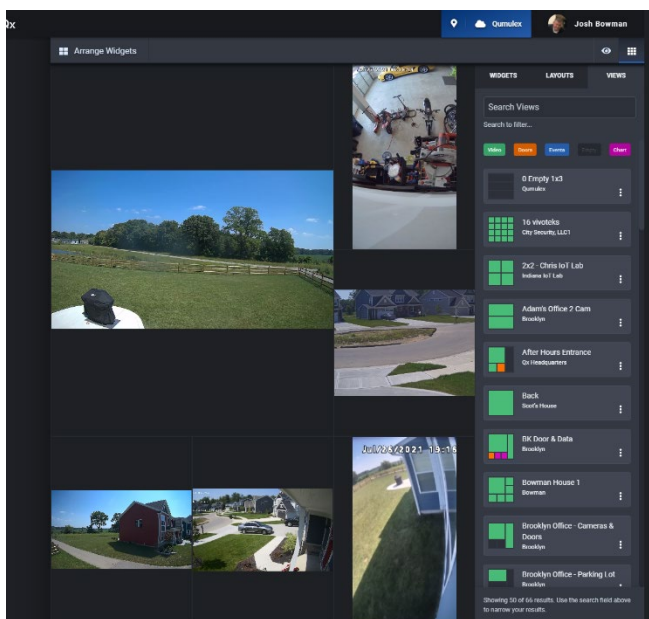


Arrange Widgets

While we are talking about widgets, another great tool to discuss is the “Arrange Widgets” feature. This allows you to rearrange the widgets that are already being displayed in your layout. To begin arranging the widgets choose the “Arrange Widgets” button in the top left of your screen. This will present the green overlay and you are now in edit mode.



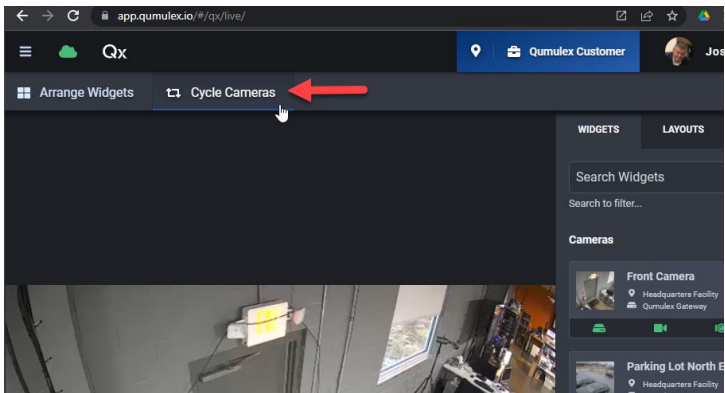
Then simply choose a widget and begin dragging into another cell. Once complete, click on the “Arrange Widgets” button once more to return to your Live layout.



Success! The camera widgets in this example have been re-arranged as desired.

Cycle Cameras

Adjacent to the Arrange Widgets button is another useful function known as “Cycle Cameras”. This feature will rotate to the next available camera each time you press the “Cycle Cameras” button. This is very useful when you want to see what is happening and are not sure what cameras are available or which camera may be displaying activity you want to see.



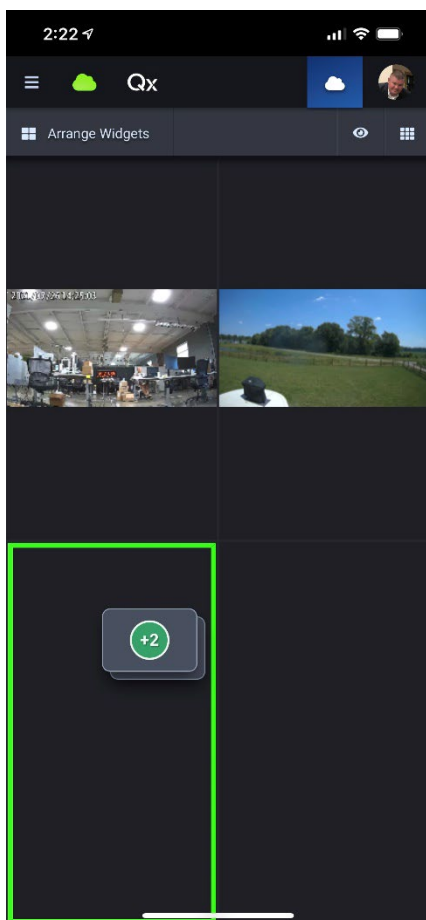
This feature is also very useful when checking for live activity on mobile, allowing you to easily cycle through all available cameras while staying in a 1x1 layout.

Loading Widgets on a Mobile Device or Touch Screen

From a mobile device or touch screen this is a drag and drop action very similar to using a mouse on a desktop. The primary difference is that on a touch screen device you will need to utilize a “long press” to initiate the selection.

To initiate the long press, click and hold from anywhere inside the desired widget until you see the green box appear in a layout cell. If you release your hold, the widgets tab will re-appear, and you can now select more widgets by a single touch on each.

You can see in the example on the left, we have two empty cells and we have selected two more widgets to drop into the layout. The number of widgets selected is indicated in the green circle icon “+2”.



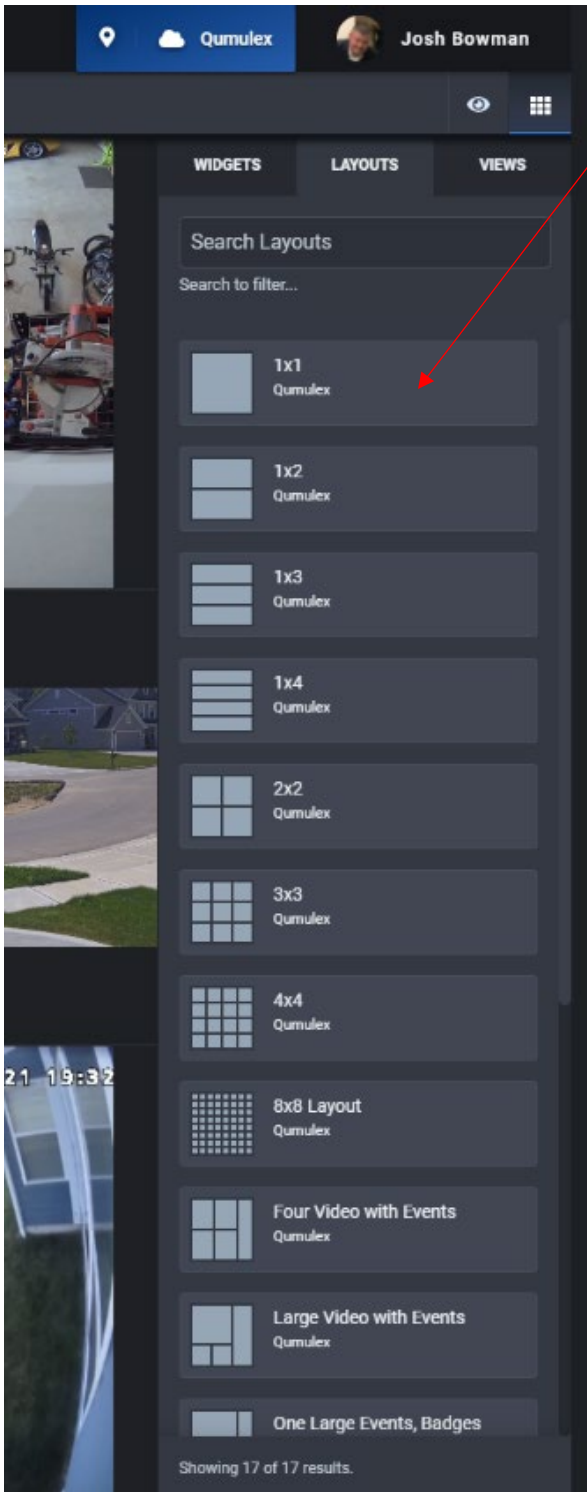
In the example on the right, we can see that the two additional widgets selected have been populated into the layout as desired.

Note: If you select more widgets than cells available for your layout, you will receive a warning message and you will not be able to select any additional widgets. To increase the number of available widgets simply change your selected layout to an option that includes the required number of cells.

Live Tray: Layouts

The next available option in the Live Tray is “Layouts”. This is where you can choose from a large variety of predefined layouts for live viewing.

To select an available Layout simply click once on the desired layout. Widgets already active in your active Layout will populate automatically into the new one.

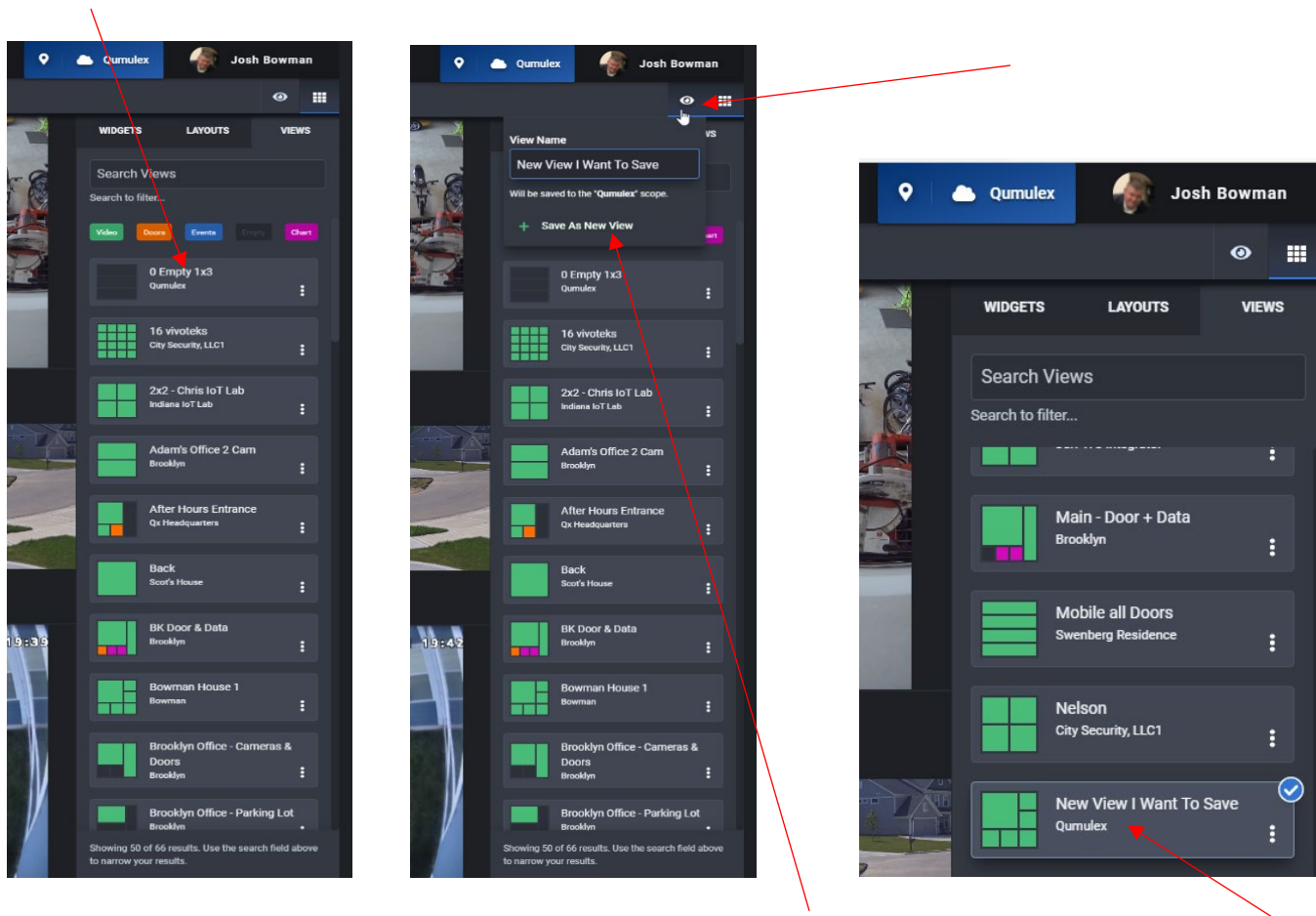


Live Tray: Views

The third and last available option in the Live Tray is “Views”. This is where you can choose from any of the saved views that are available at your Scope level. You can also update a saved view and edit from this tab.

Saved views are color coded to show what type of Widgets are contained in the saved view. At the top of the saved view window, you will find a legend that explains the color coding.

To select an available View simply click once on the desired View. Widgets saved to this View will populate automatically. This process is identical on a Mobile or Desktop device.



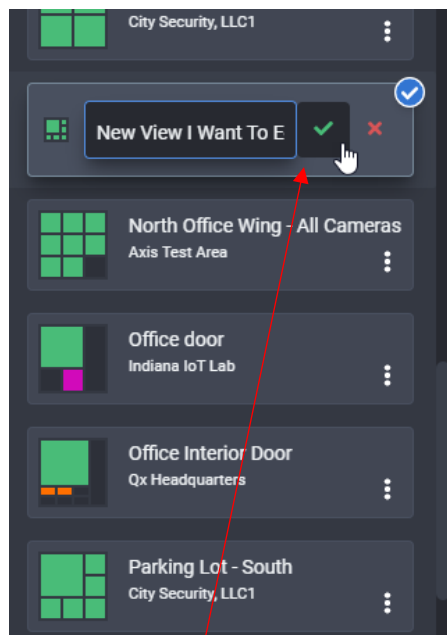
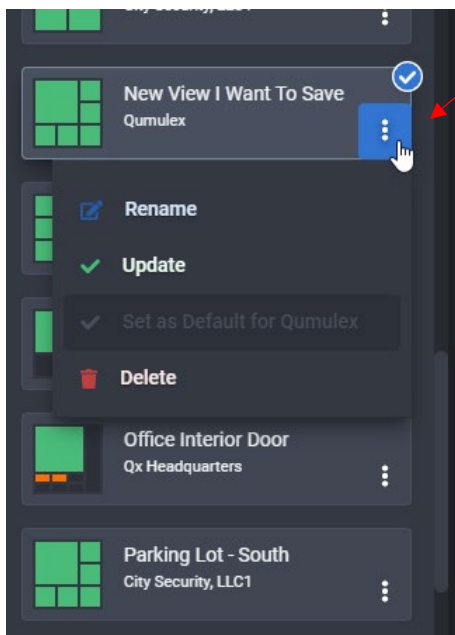
Live Tray: Create a Saved View

Creating a saved view is easy! If you want to save the current view first select the “Eyecon” to the left of the Live Tray button. Then type a name for your view in the dialog and choose the “Save As New View” button marked with a green plus symbol.

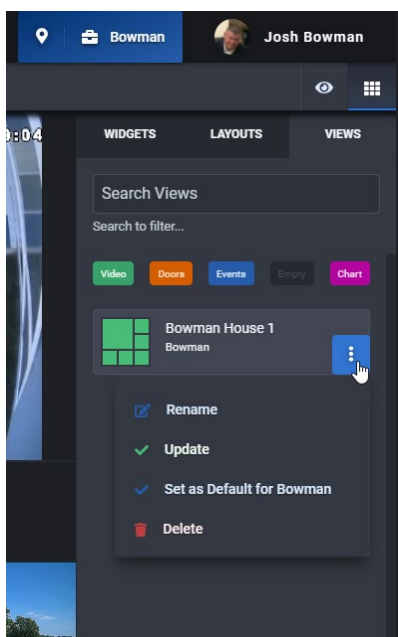
This process is identical on a Mobile or Desktop device.

Live Tray: Edit a Saved View

Editing a saved view is also very easy! You can edit the name and update a saved view without leaving the Live page. To start editing a saved view, choose the 3-dot menu of the view you want to edit:



To rename the view, choose rename, type in your new name and then choose the green checkmark to save your change, or the red x to cancel.



In addition, the 3-dot menu allows you to choose the following actions:

Update: This allows you to update the existing saved view if you have changed or re-arranged widgets.

Set as Default: Make this saved view the default for your current scope.

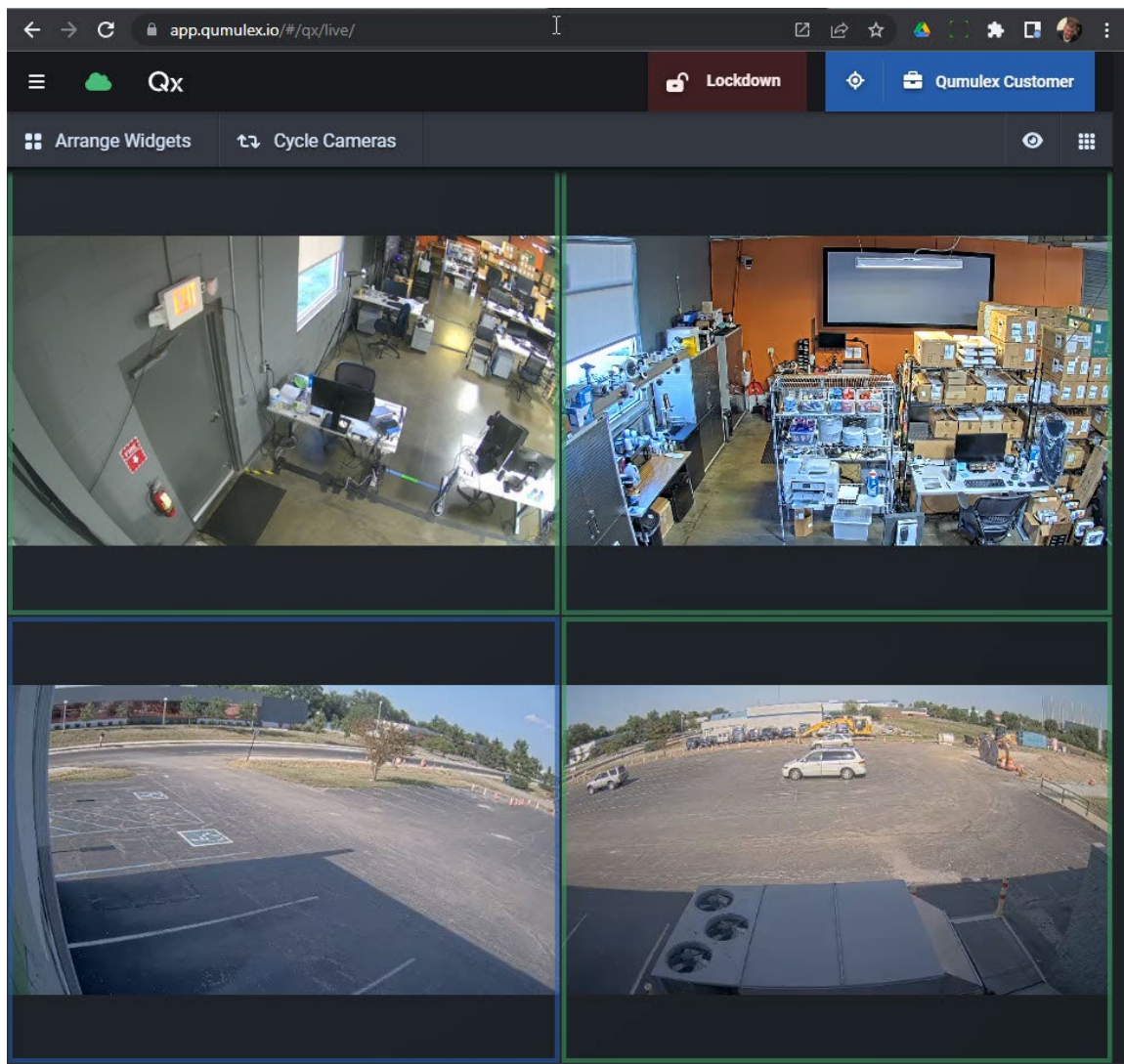
Delete: Delete the saved view if it is no longer needed.

Video Borders

Video Borders are used to indicate event or recording status while viewing live video. This is included anywhere you can view live video, not just on the Live page.

Blue – Indicates that a motion event is occurring.

Green – Indicates that Continuous Recording is scheduled and is occurring as scheduled.



This can be a very helpful tool when troubleshooting recording. In the example above, a car has driven past the parking lot and you can see that QxControl has properly received the searchable event as the border has changed to blue.

The other three cameras are recording as scheduled on continuous, but there is no event occurring, so they are green.

Note: If there is no recording scheduled, or no event is detected, you may see no border colors present.

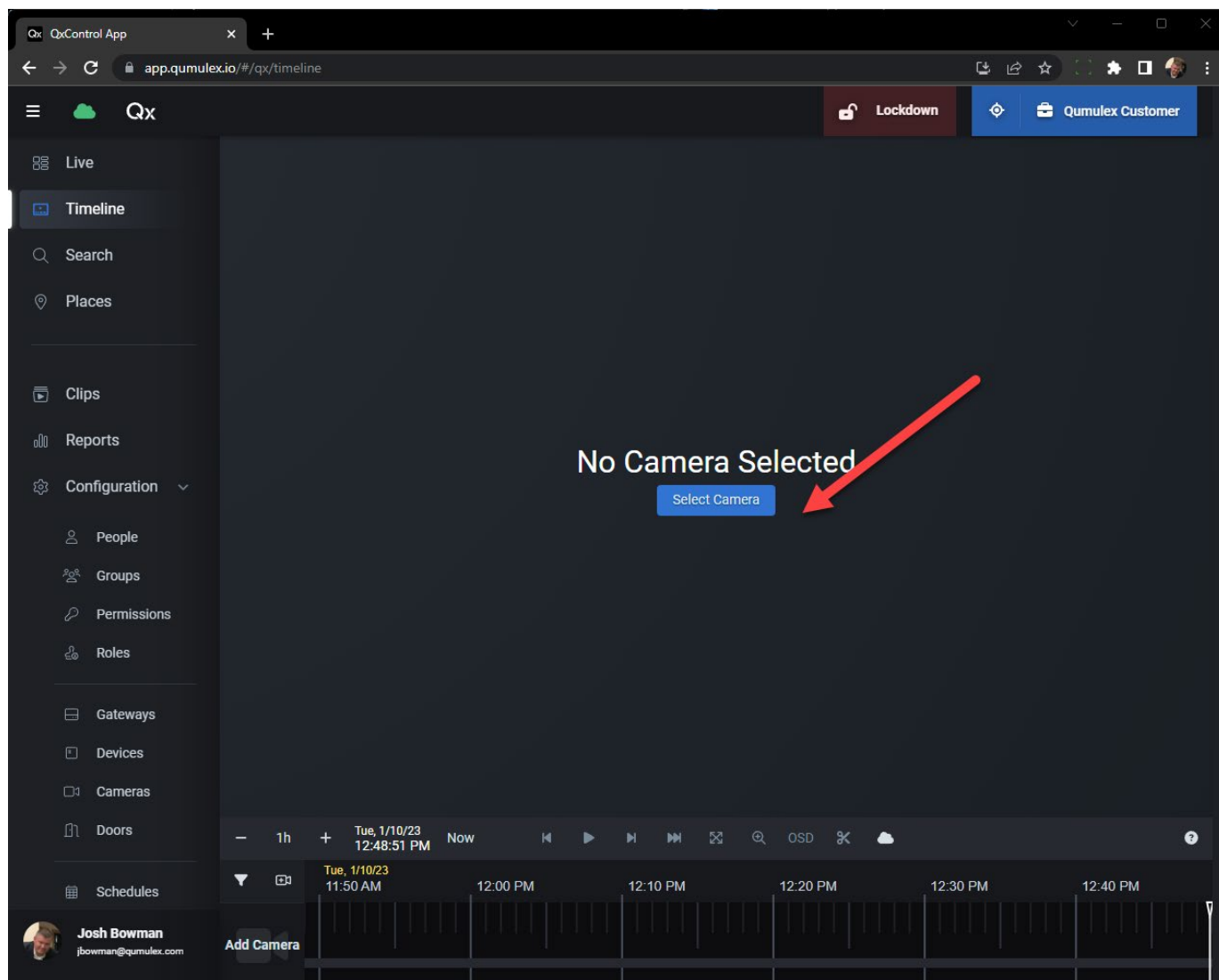
Timeline

Timeline is a search page that allows you to search both events and continuously recorded video. This feature allows you to select the desired camera, and then use many of the same filters that are also available on the Search page. Some of the highlights that we will cover for Timeline:

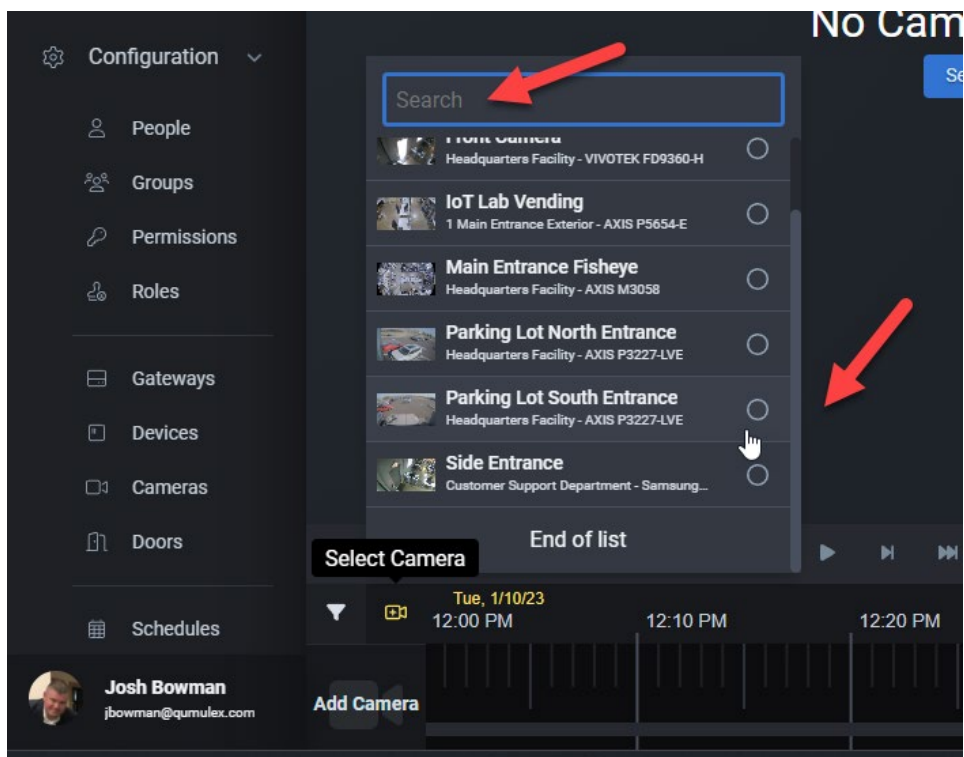
- How to select a camera and appropriate filters.
- How to change the time scale.
- Using the Legend to understand what the graph colors mean.
- How to choose between playing video from the cloud service or from the Gateway.
- How to export video from Timeline.

Basics of Timeline: Choosing a Camera and Filters and using the Player Functions

The first step in using Timeline is to choose the camera you want to search. Start by clicking the ‘Select Camera’ button:

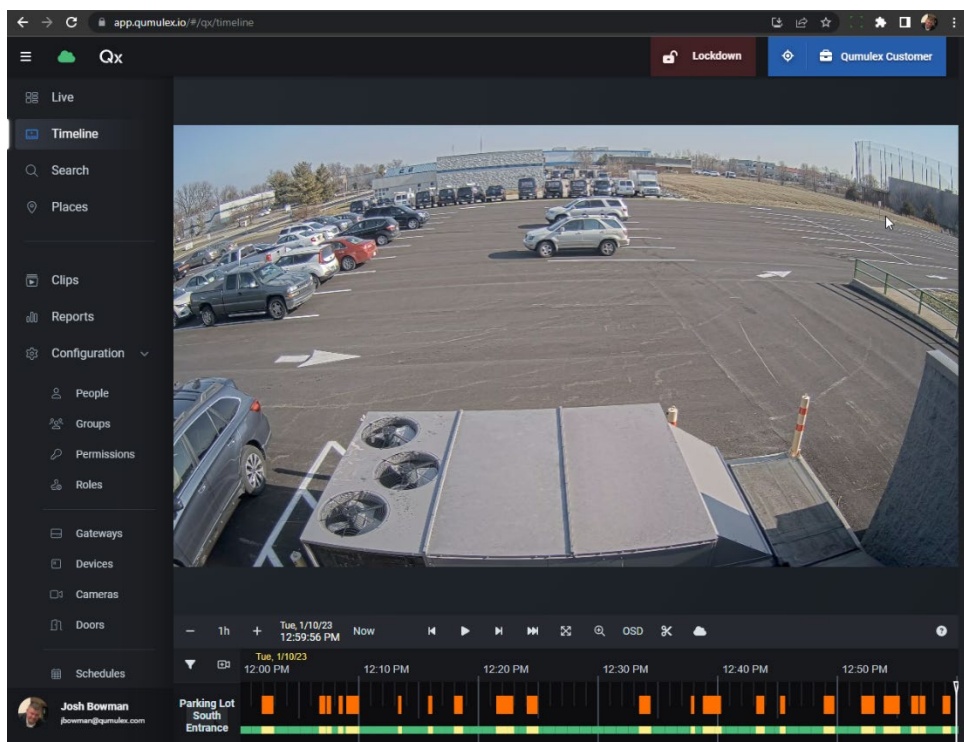


Next, you can either scroll to choose the camera desired or search for a specific camera using the “Search” box:

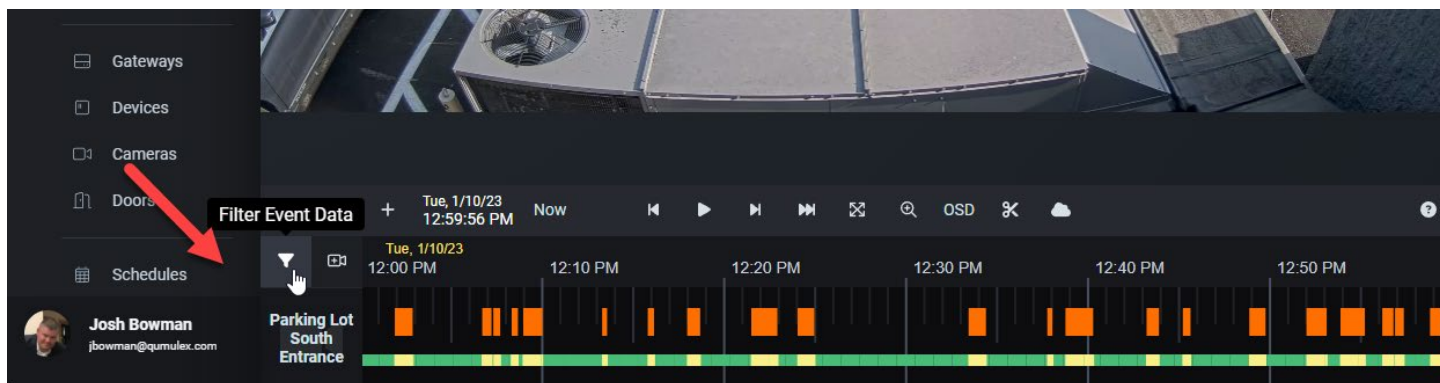


Note: In this release of QxControl, you can only select one camera at a time when using Timeline.

Next, you will see the camera view displayed and events will be shown in the timescale graph line.

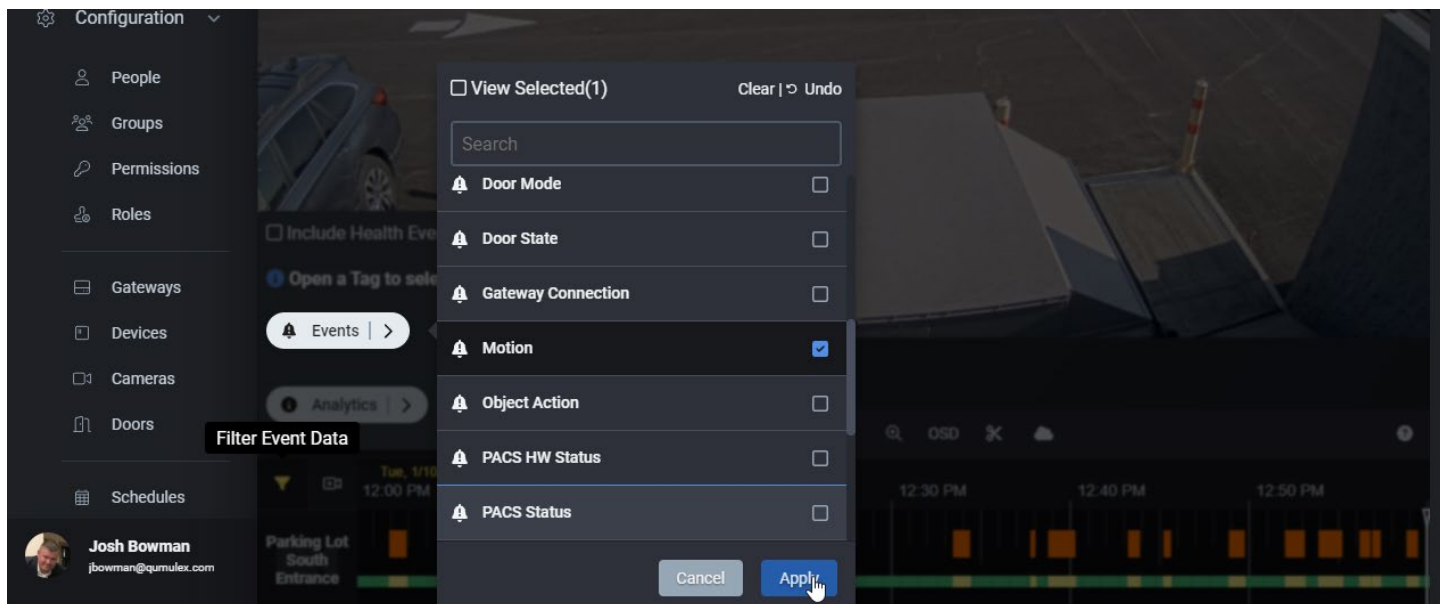


Now that you are seeing all events we will discuss how we can narrow down to specific events that you may be looking for. To begin this process you will need to choose “Filter Event Data” to the lower left:

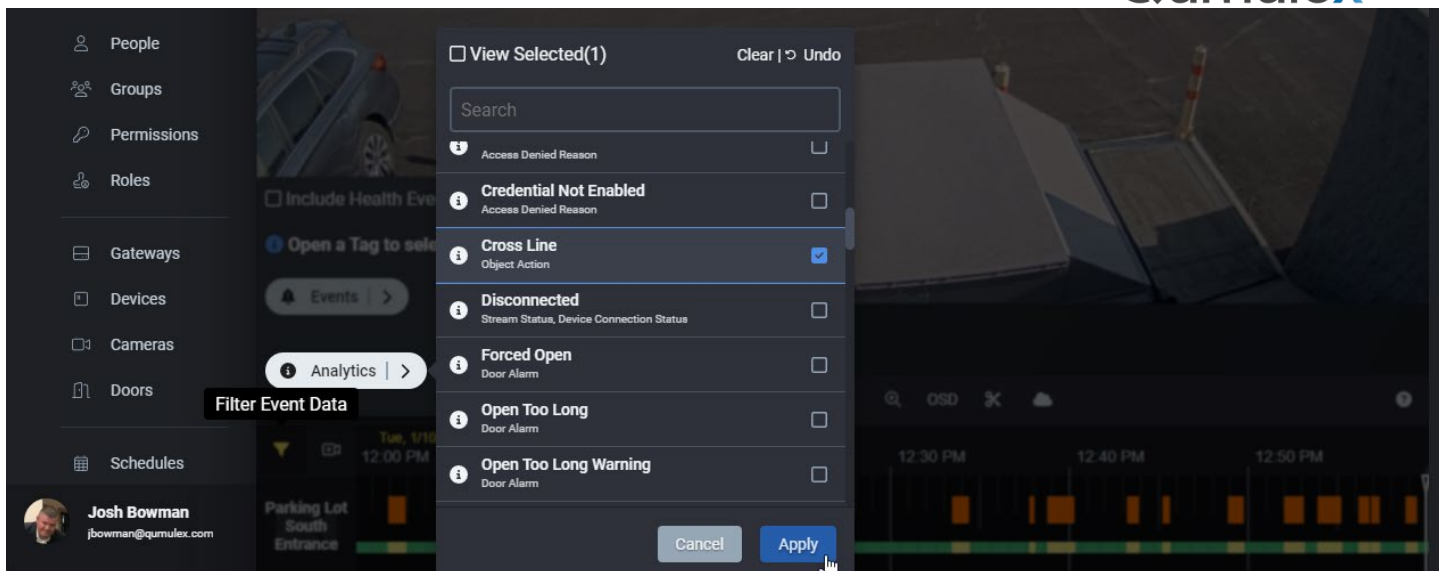


Next, you can choose from Events and/or Analytics that are available from the camera. These are the same options you will also see on the Search Page.

Note: (1) You must enable the analytics in your camera’s web interface for QxControl to receive analytic events. (2) All possible analytics and events will be listed, please consult the specifications of your camera to determine what events are available from your specific camera.



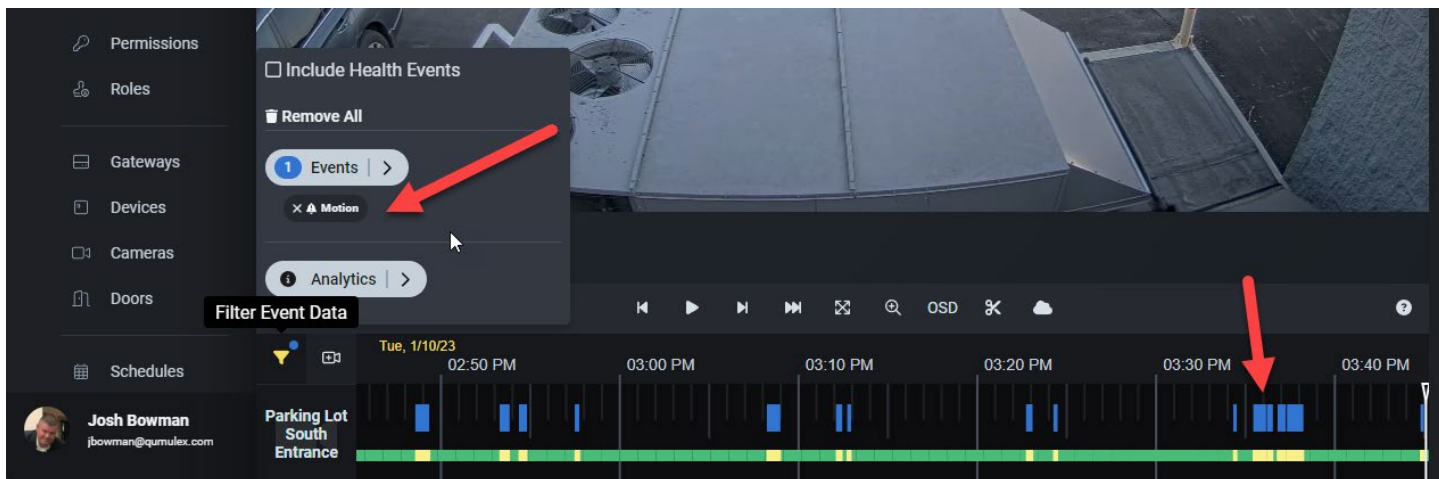
You can see in this example we chose Events > Motion, but you can also combine with other events or Analytics, such as Crossline:



Be sure to choose “Apply” after making each selection to apply the Filter(s).

Note: Be careful not to choose two or more Filters that would negate each other, because they do not typically occur at the same time. When choosing multiple Filters, you will only be presented with events that include all Filters selected. If you receive no results, start by reducing the number of Filters.

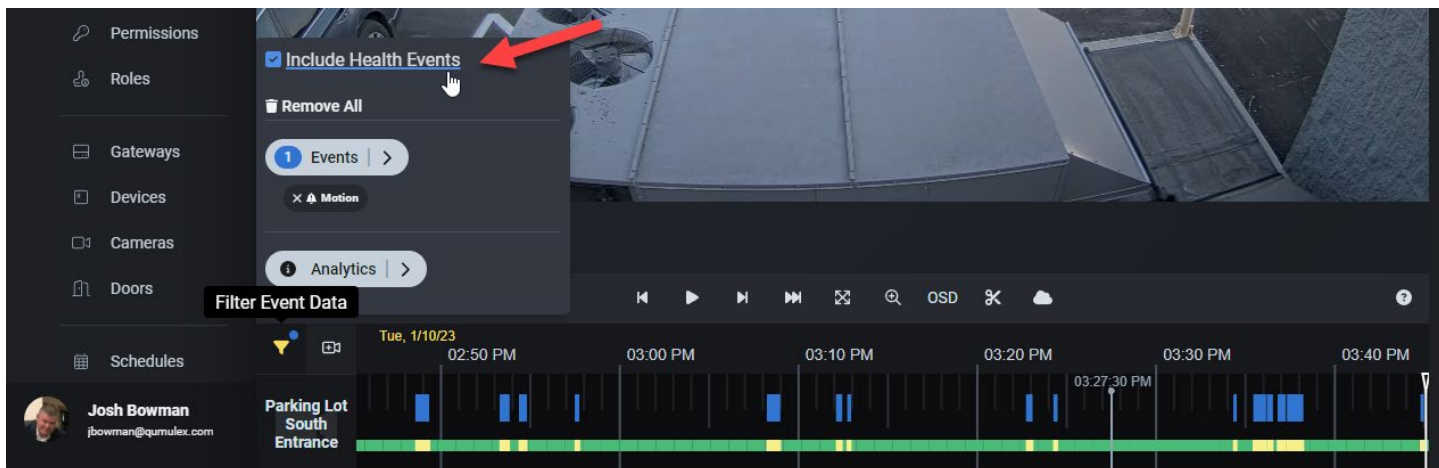
Now that we have selected our desired Filter, you will see the Filter listed in the Filters Menu:



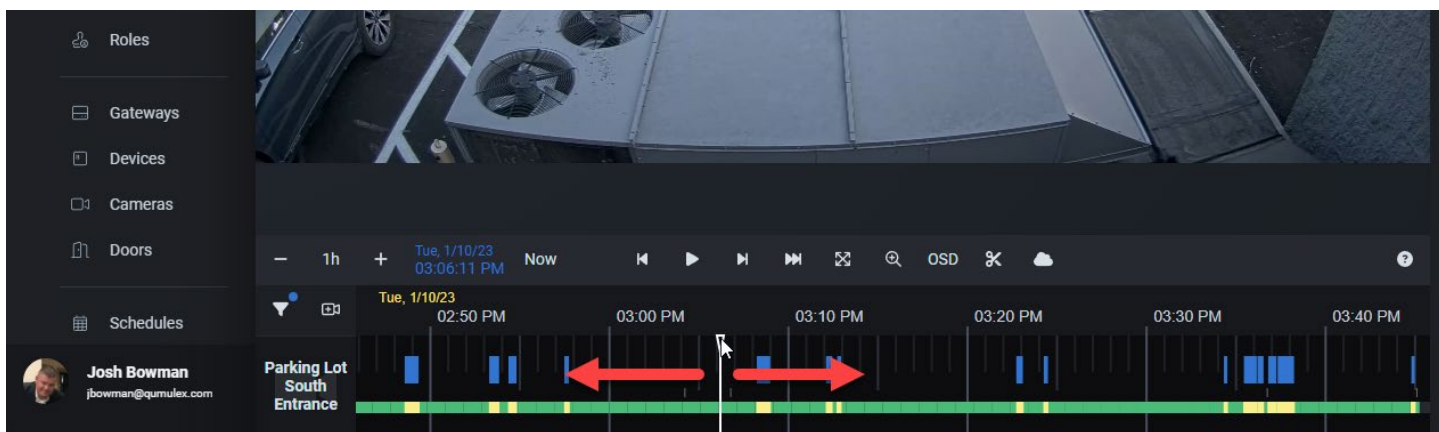
You also can see that the Motion events appear in Blue in the timescale graph.

Note: As you zoom out in the timescale graph, you will see the highest priority events and as you zoom in showing shorter intervals of time, you will be able to see multiple types of events unless Filtered.

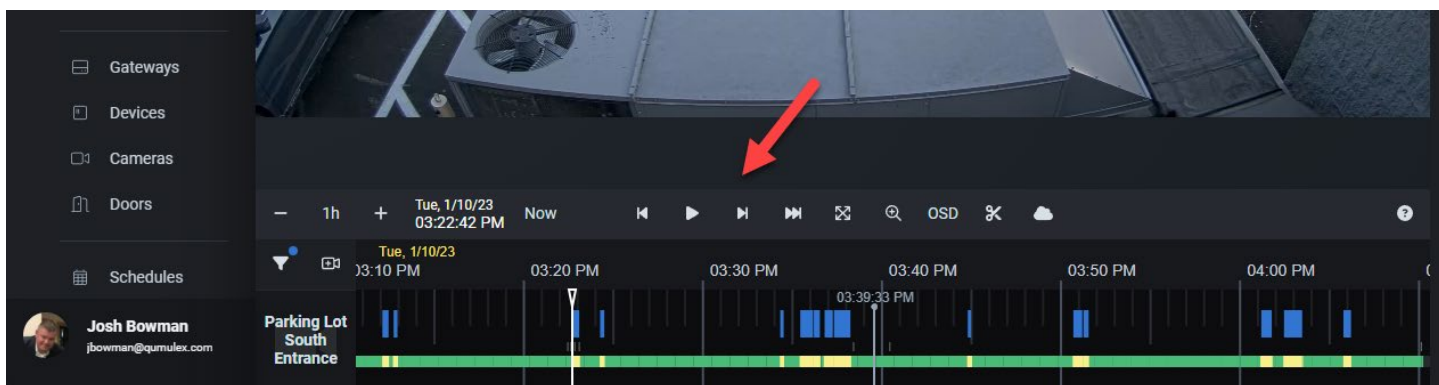
You can also choose to see Health Events displayed on the timescale graph, such as disconnect or offline events. These are events that are related to the status of a device and will not normally have video associated with them. However, you may wish to see if anything occurred prior that could have caused the event.



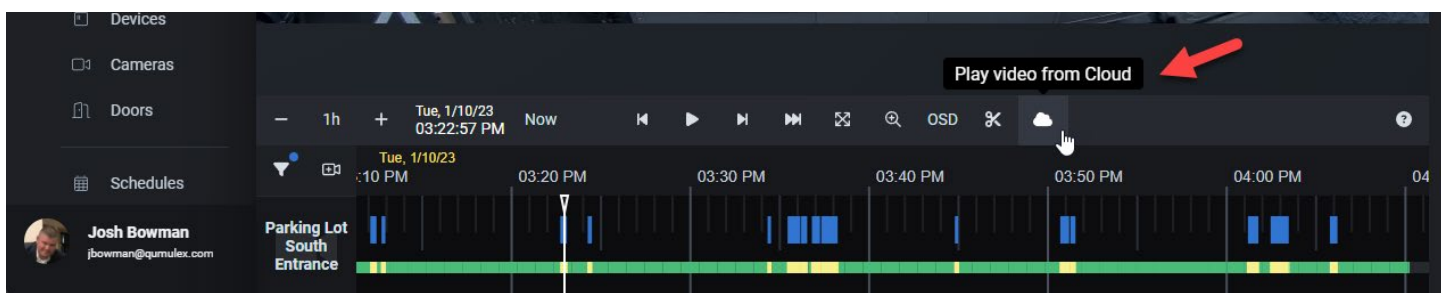
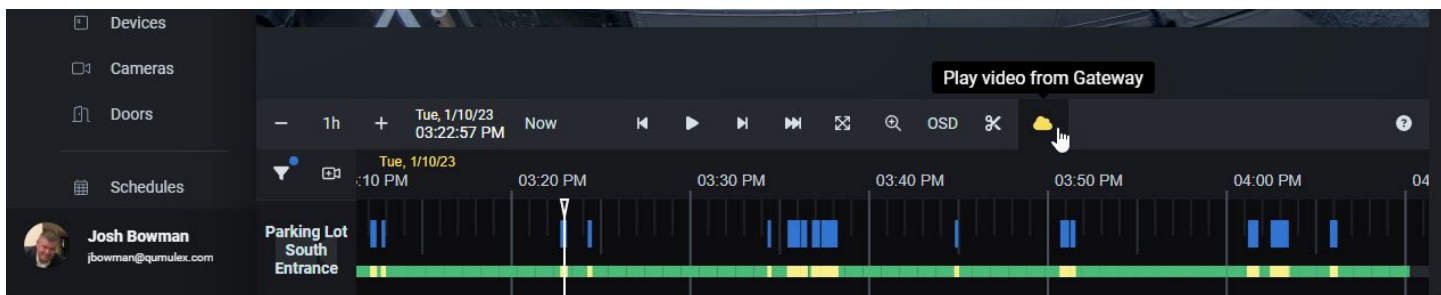
Once we have selected all desired Filters we can now scrub through and find the event(s) we wish to view. Click and drag the cursor to move through time.



The standard playing controls here will be used throughout QxControl. From Left to Right: Step Frame Back, Play/Pause, Step Frame Forward, Fast Forward, Full Screen, Digital PTZ and On Screen Display On/Off



The last two options on the right are “Create Clip” (Scissors) “Play Video from The Cloud/Gateway” (Cloud Icon). Create Clip is used to export a video clip to the Clips page and will be covered later in this chapter. Play Video from the Cloud is used to choose to play the footage stored in the cloud service, in lieu of the local Gateway, where the event has been stored in both places.



This function allows you to toggle between video stored locally or in the cloud service. It should be noted that continuous recording is only stored locally on the gateway. Event data will be stored both in the Gateway and in the cloud.

If you choose “play from the cloud” and your cursor is not placed at an event, you will see no video until you move it to an event. By clicking this button you can toggle back to Gateway to see any recorded video that is not associated with an event, if you have selected continuous recording in that camera’s settings.

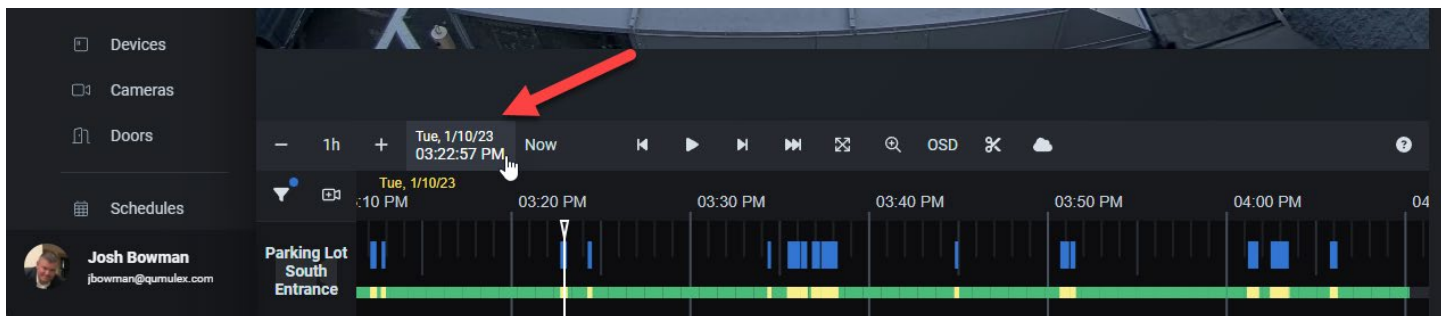
You will also see that the timescale graph will display the cloud recording in Yellow and local (Gateway) storage in Green:



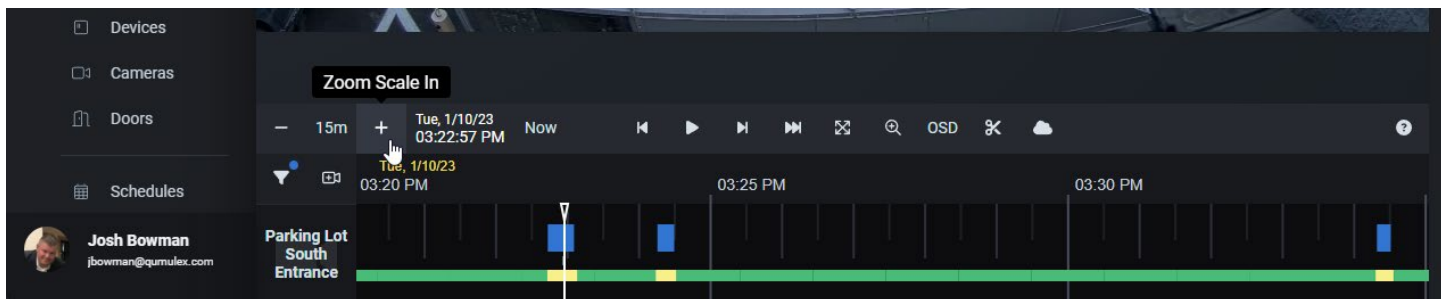
This makes it easy to identify where this video footage is stored.

Basics of Timeline: Changing the Time Scale in the Timescale Graph

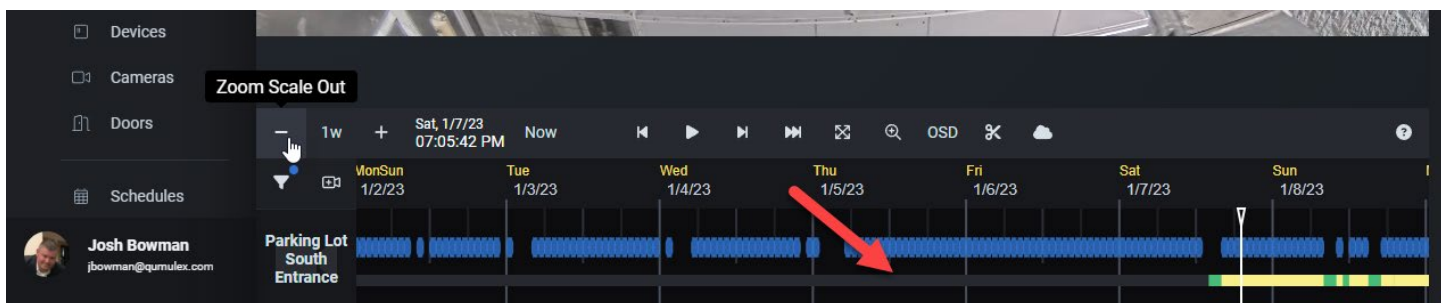
To the far left, above the timescale graph we will see the time related options. You will first see the Date and Time associated with the video you are currently viewing.



Next you will see the + and – to the left of the Date and Time. This is used to zoom the timescale graph in and out. The farther in you go, you will see smaller time increments and will see more detail in the graph. In this example we have zoomed in from 1 Hour to 15 Minutes. This allows us to see more detail:



Now, we can zoom out. Here we have selected a 1 Week timescale. This shows far less detail as we are looking at large increments of time:



Also, you can see that the Green/Yellow bar does not fully populate in the timescale. The area with no Green or Yellow does not have video. This indicates that at current video retention levels, this Gateway does not have video prior to midday on Saturday 1/7/23.

If you are not seeing the video retention that is expected: (1) Check your camera settings for FPS and Resolution versus budget (2) Add additional Local Storage or (3) select a longer retention period in the camera settings for cloud storage.

(3) will incur additional subscription fees based upon the storage retention you choose.

Basics of Timeline: Using the Legend

The legend can be found on the far right of the tool bar, just above the timescale graph. The legend shows what the colors and images in the timescale graph mean.

The screenshot displays the Qumulex interface. On the left is a navigation sidebar with options like Live, Timeline, Search, Places, Clips, Reports, Configuration, People, Groups, Permissions, Roles, Gateways, Devices, Cameras, Doors, and Schedules. The main area shows a live video feed of a parking lot at night. On the right, there is a legend panel with the following sections:

- Event Priority:** A scale from High to Low with four categories: Alarm (red), Analytics (orange), Motion (blue), and Health (purple).
- 1 minute - 6 hour scales:** A detailed timeline view showing individual event markers. A note states: "Individual event markers are time-precise".
- 12 hour - 1 week scales:** A zoomed-out timeline view showing group event markers. Notes include: "Group event markers are time-approximate", "Each marker has at least one event", and "The highest event-priority determines color".
- Video Segments:** A legend for video storage and playback:
 - Green bar: Video stored on Gateway
 - Yellow bar: Video stored in Cloud
 - White line: Video buffered for playback
 - Cloud icon: Use Cloud button to play video in Cloud

At the bottom, a timescale graph shows a timeline from 06:50 PM to 07:15 PM. A red arrow points to a yellow event marker at 07:16:53 PM. The interface also shows a user profile for Josh Bowman and a "Lockdown" button.

It also provides guidance on the variations between different scales of time.

Event priority lists what items are highest priority and down to the lowest, showing the associated color.

When zooming out to large time increments (such as days or week) you will see the highest priority events listed.

As you zoom in to smaller time increments you may see more detail and more event types listed.

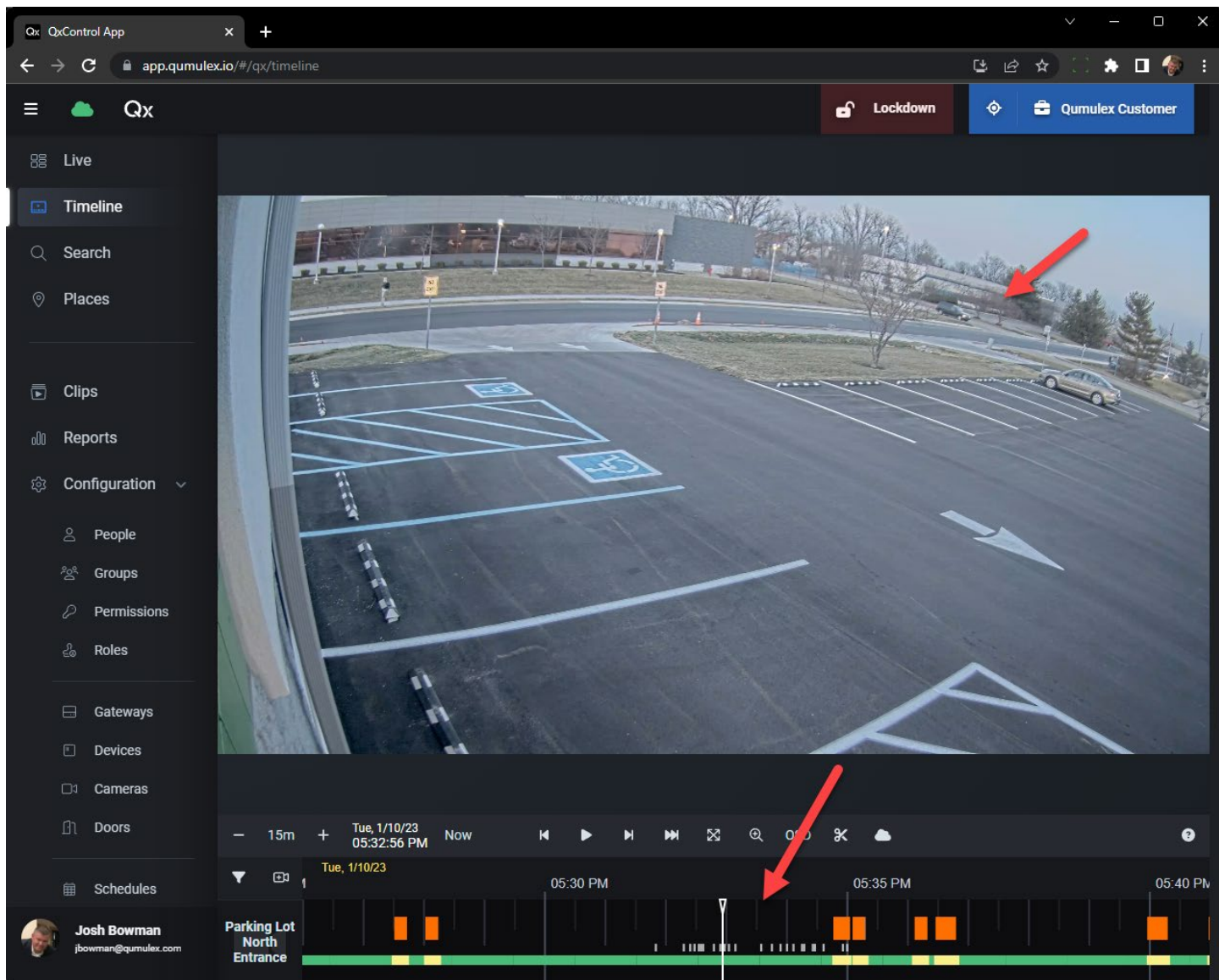
Where multiple exist and overlap, again you will see the color of the highest priority event.

Currently, the user is not able to change or customize the event priority.

Basics of Timeline: Creating and Exporting Clips

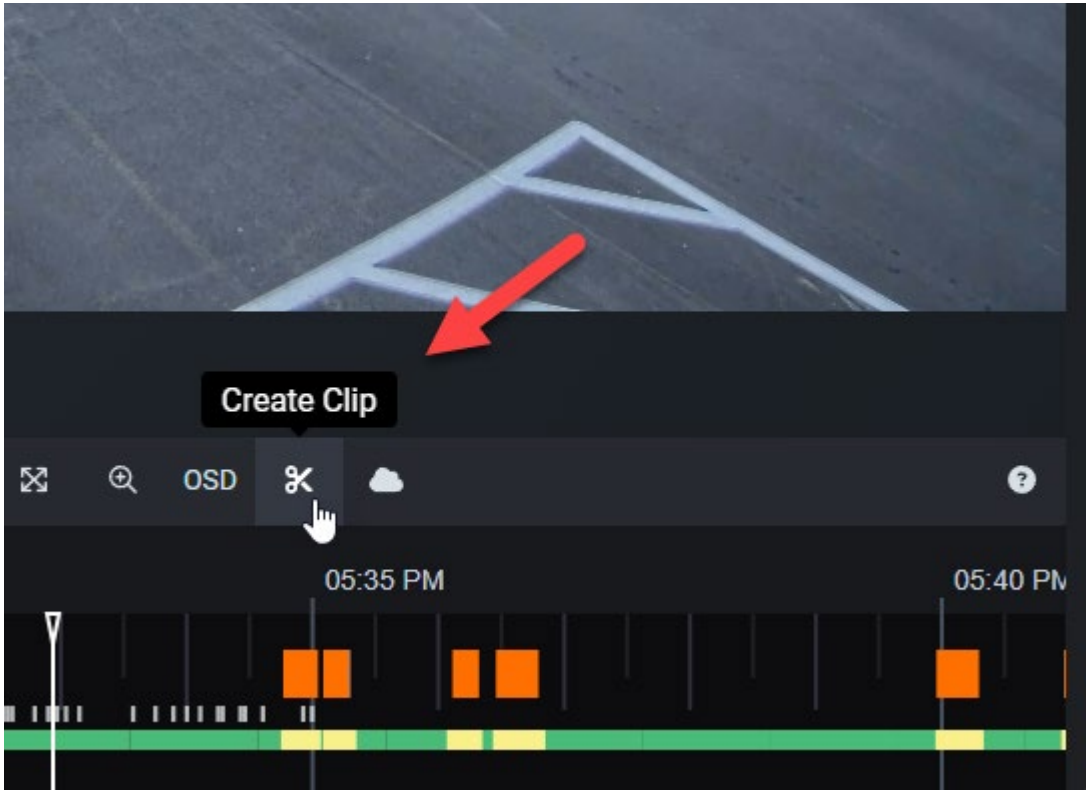
Creating and exporting a clip is very similar to the process when uploading to cloud in Search. The biggest difference is that in Timeline you don't have to export based on an Event. Meaning, you manually select the length of the clip that you wish to upload to the Clips Page. This offers great flexibility and allows you to save footage from Continuously recorded video that has no event associated with it.

So let us work through this process step by step. In the example below we see a Van that is leaving a nearby driveway and is outside of the motion window.



As you can see, there is no event that was triggered and the timescale graph is Green. This means that it was captured by the continuous recording schedule of this camera.

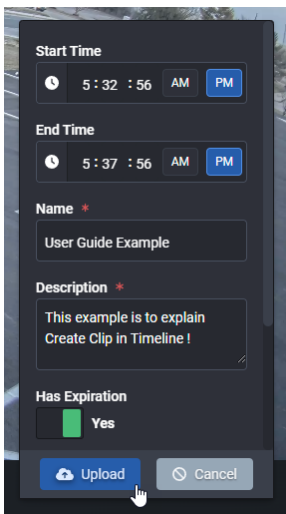
If we need to keep this video we start by selecting “Create Clip”, which is represented by a scissor shaped icon.



Now the Create Clip dialog box appears. This allows us to:

- Manually enter the start and stop time.
- Create a name for the clip.
- Provide a description for the clip.
- Choose if there is an expiration for the clip.

Note: Choosing “No” for expiration means that the clip will need to be manually deleted from the Clips Page.

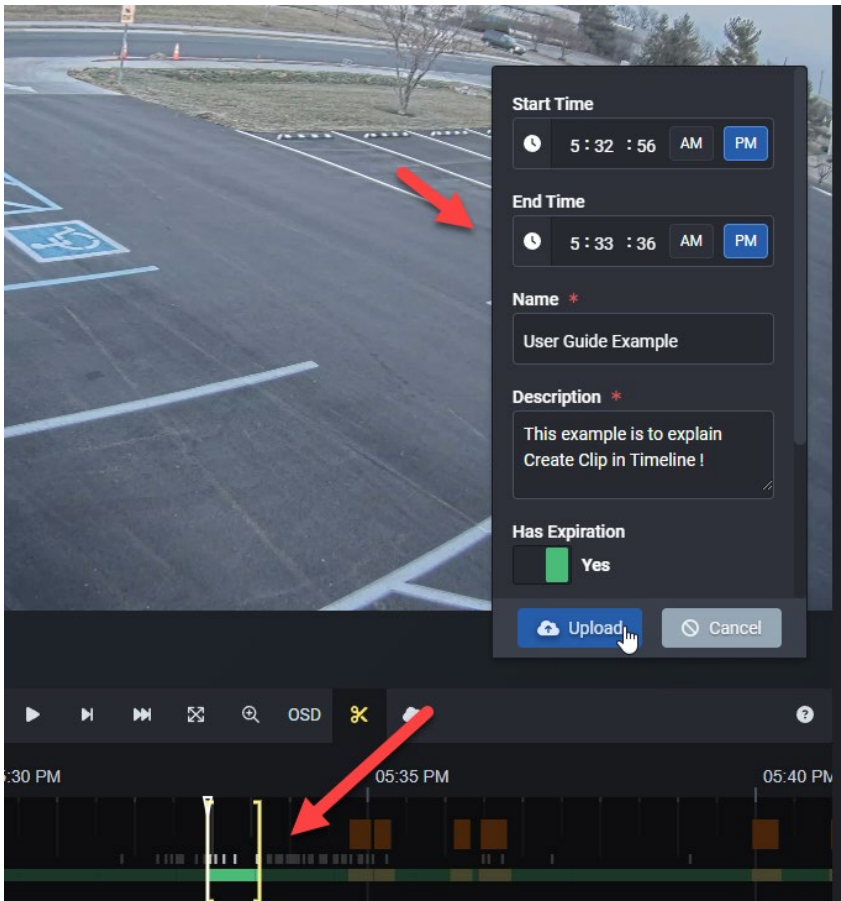


Once you are satisfied you can choose “Upload” to save the clip.

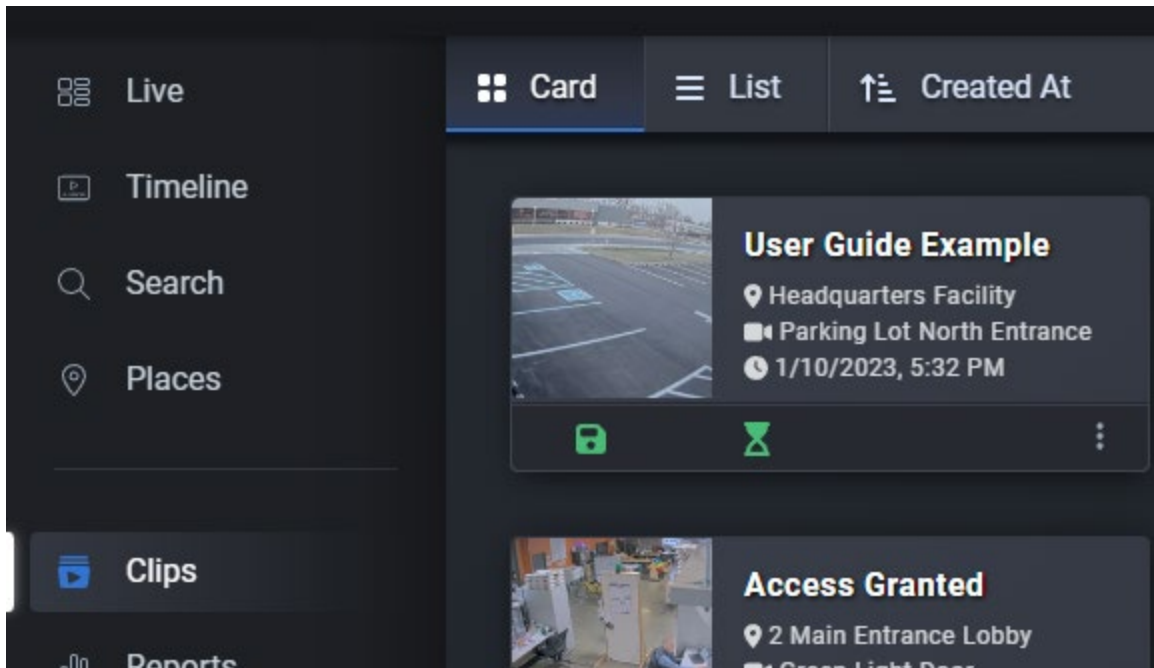
That is very easy, and in that previous example we allowed QxControl to suggest the length of the clip, in this case 5 minutes.

We also have another option for setting the start and end of the clip, aside from using the start/end time text boxes.

If you look at the same clip, you will see the cursor is set at the start time of the clip and there is a bracket to show the end time 5 minutes later. You can drag either bracket to extend or shorten then duration of the clip.



You can see that We have moved the end time bracket closer to the start time, and the end time text box in the dialog menu has automatically changed. This is a very simple and visual way to set the length of your clip.



After choosing “Upload” we now see the clip appears in our Clips Page where we can manage or share the clip.

While we cover the topic of Clips in another chapter, it would be good to provide a reminder of how clip storage works in QxControl.

When uploading to cloud, each camera license comes with 20GB of cloud clip storage for free. Clips that have no expiration assigned will not be overwritten and will need to be manually deleted if no longer needed.

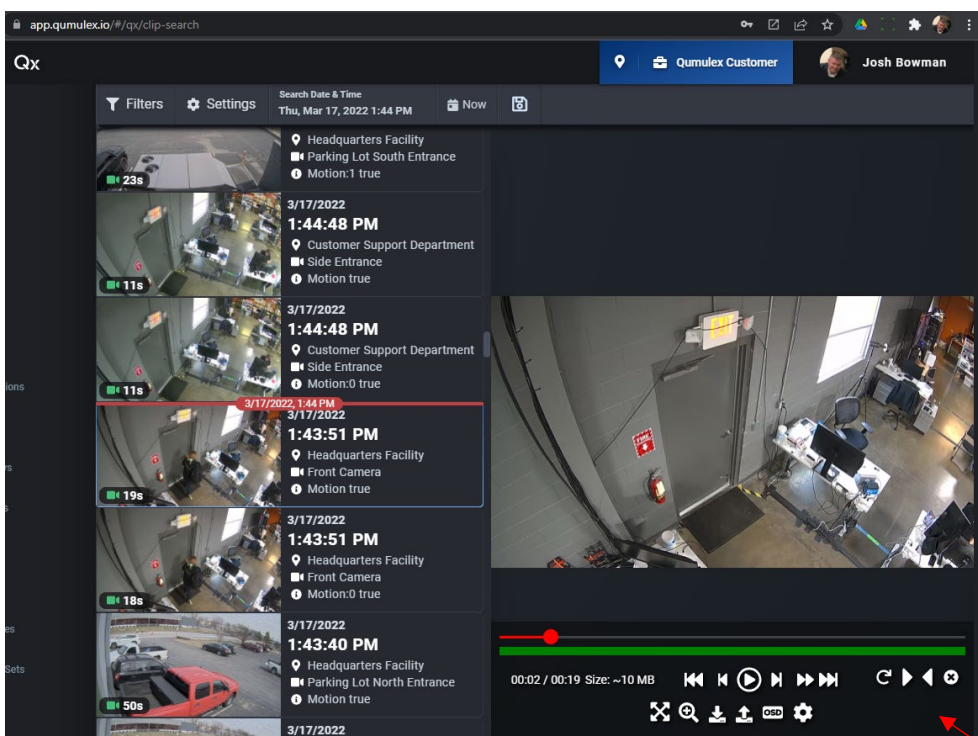
When uploading to Clips in QxONE systems (On-Prem) there will be 20GB of local storage assigned to each camera.

Search

The search page reflects a modern experience that makes finding events easy. There are multiple ways to search for events.

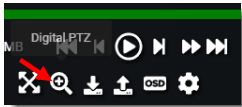
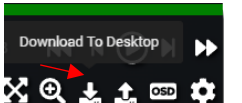
- Use the “Search All Tags” text box under “Filters”. This works like an internet search engine. For example, you could type the word “cameras” and see a list of cameras or enter a Person’s name and see events related to them.
- Using the available Filters, you can choose from any number of cameras, doors, analytic events and so on.
- You can also use “Search Date and Time” to choose a specific time only, or to use Filters and Tags based on a certain time.

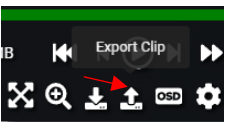
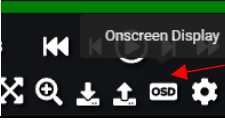


In this section, we will detail each of these options and how to use them.

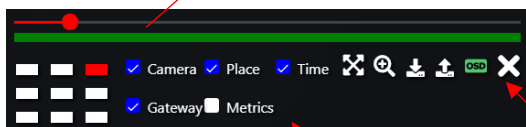
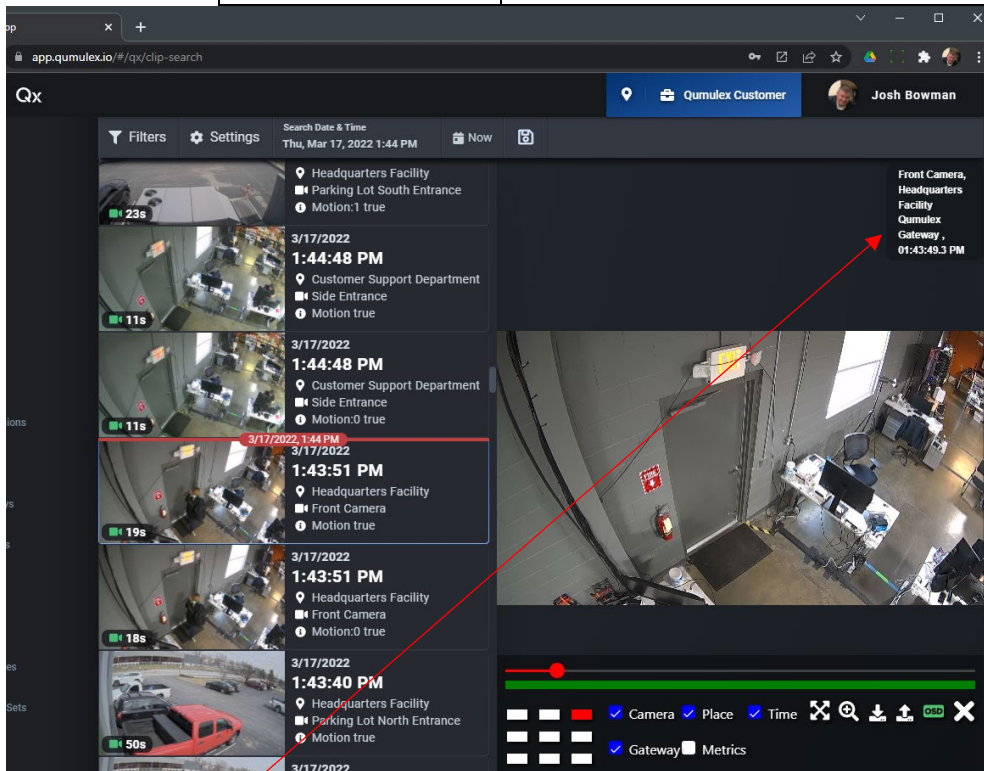


Search Actions

The following actions are available in the search actions menu. Hover your cursor over the menu to reveal the options:

| Action | Result |
|--|---|
| <p>Enable Digital PTZ</p>  | <p>Enable Digital PTZ function. Allows you to scroll inward to zoom in, outward to move out and move the mouse cursor (or your finger on mobile) to change the field of view and to choose where to zoom.</p> |
| <p>Download to Desktop</p>  | <p>Download and save video clip on your local device. It will appear as a file download in your browser.</p> |

| | |
|---|--|
| <p>Export Clip</p>  | <p>Allows you to save the clip in the Qumulex cloud service. Each camera subscription includes 20GB of cloud storage. This function will allow you to save the clip and then manage or share it in the "Clips" page.</p> |
| <p>Onscreen Display</p>  | <p>Displays details on screen. Choose what information to display on screen, and where, in the settings menu (detailed below)</p> |
| <p>Settings</p>  | <p>Choose what information is displayed on screen when Onscreen Display is enabled. Also allows you to choose where on the screen the information will be displayed.</p> |
| <p>Full Screen</p>  | <p>Displays the Clip in full screen mode</p> |
| | |



Choose Where to display, Choose What to Display, Close Settings

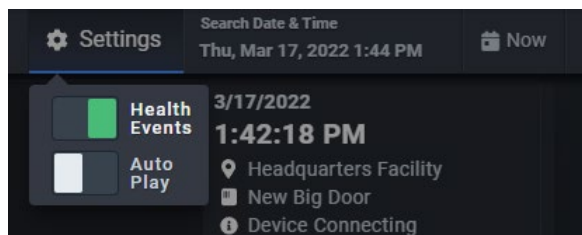
Search Settings

There are several features that are unique to the Search page of QxControl. In this section we will cover each in more detail.

Health Events

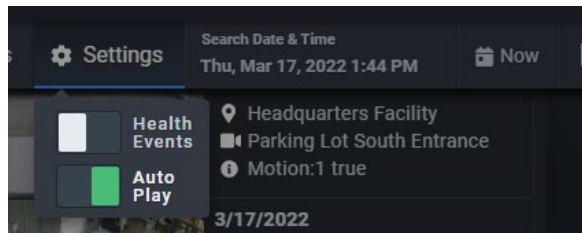
Located in Settings is the option to enable “Health Events”. This feature toggles the inclusion of Device Health events “On” or “Off”. In the example below, you can see this event is showing that a Door connected to QxControl.

This is a helpful feature to enable more efficient searching. Why? Because Device related events typically do not have video clips. Therefore, if you are looking for a video related event, toggling Health Events to “Off” will reduce the number of events you see and reduce the number of events displayed that do not have video.

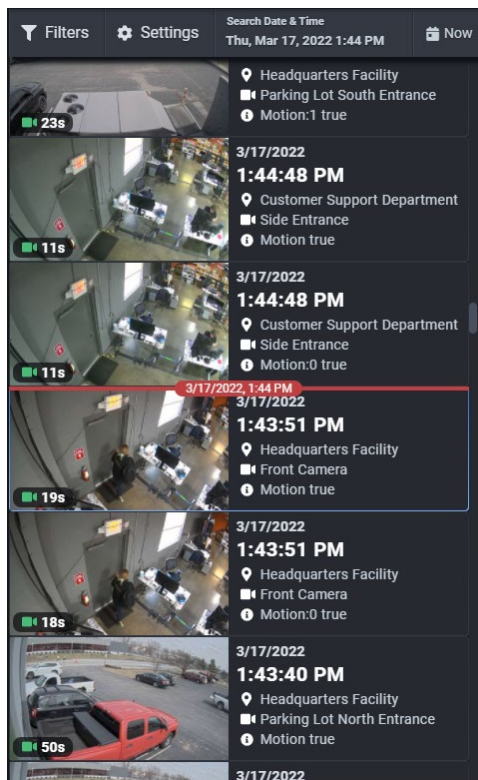


Auto Play

Located in Settings, there also an “Auto Play” option. Using this will toggle Auto Play on/off. When this feature is toggled on, the next video clip will automatically play after the current clip is complete.



Note 1: The clips will play from oldest to newest, which means that in your events tab clips will play from the bottom to the top of the tab. If you select the newest video (top of the events tab) nothing will play until the next video clip is produced.

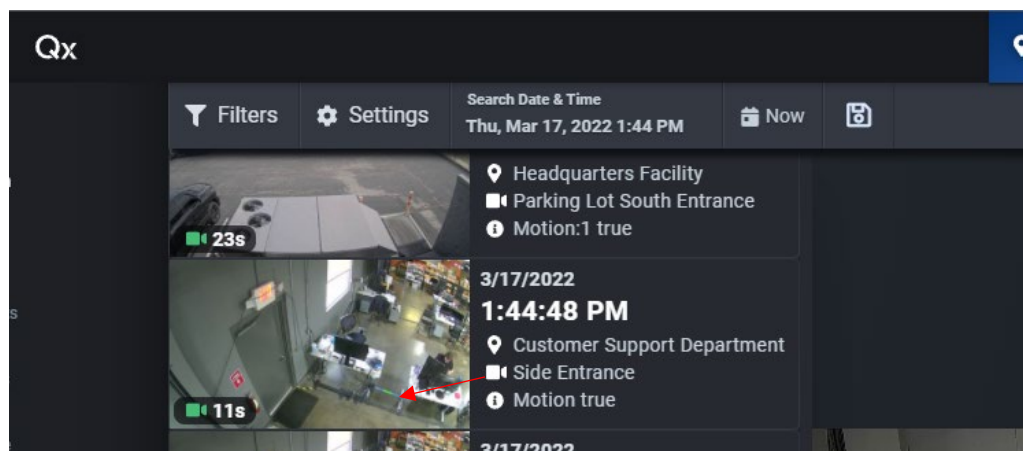


Newer Video Clips

Auto Play Operates Oldest to Newest

Older Video Clips

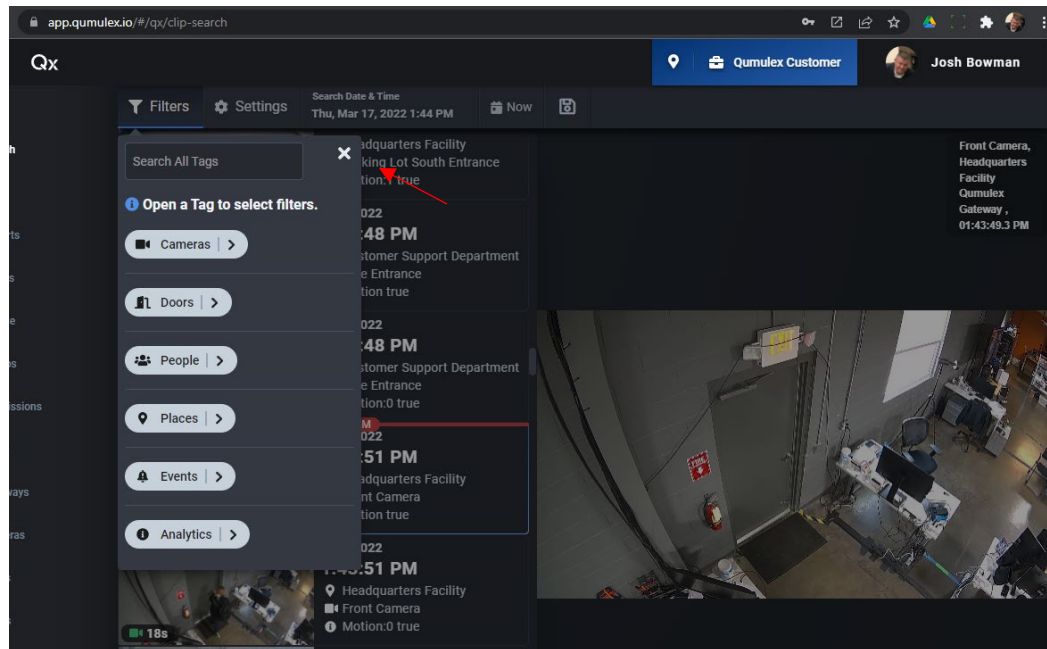
Note 2: Auto Play will stop once it encounters a non-video event in the events tab. To use Auto Play more effectively it is recommended to filter out most events that do not contain video by using Device Health toggle.



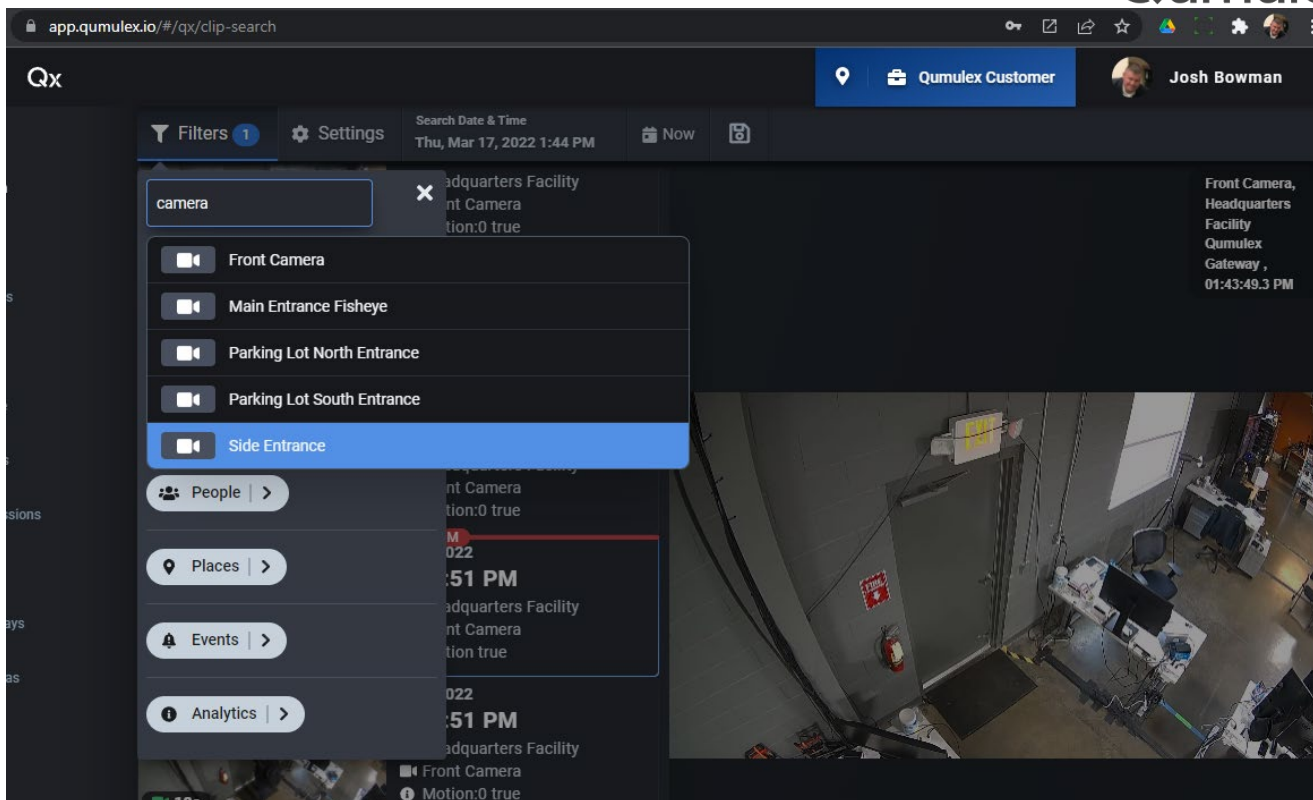
Note: Events that contain a video clip will have a green camera icon and will display the Clip length.

Search All Tags

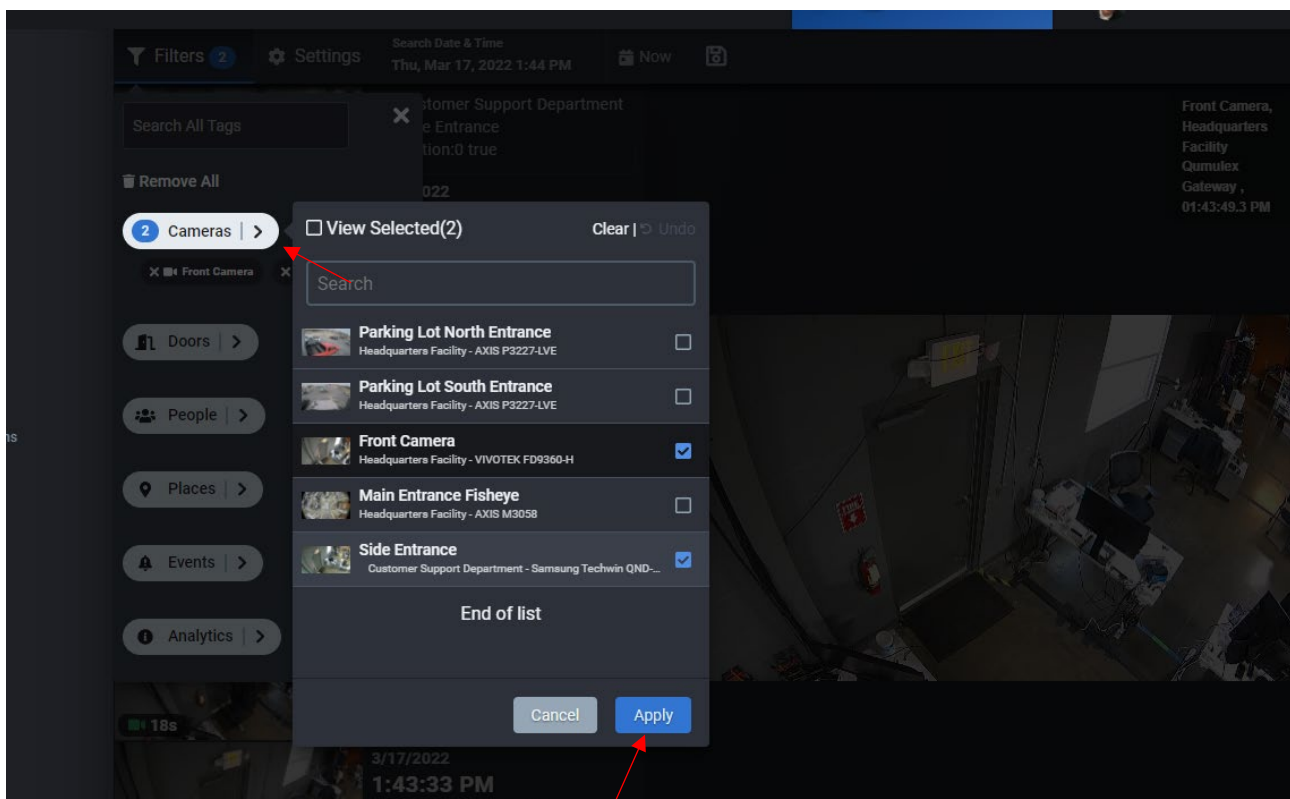
The “Search All Tags” Box is used to refine the events that are displayed in the events tab. Anything that is searchable in QxControl will have an associated tag making it easy to search. You can search based on Time, Events, People, Places, Devices and even Analytics .



As you type information into the Search Box the available options will appear Automatically. In this example, we can enter the word “Camera” and you will begin to see available cameras that you can apply to the search.

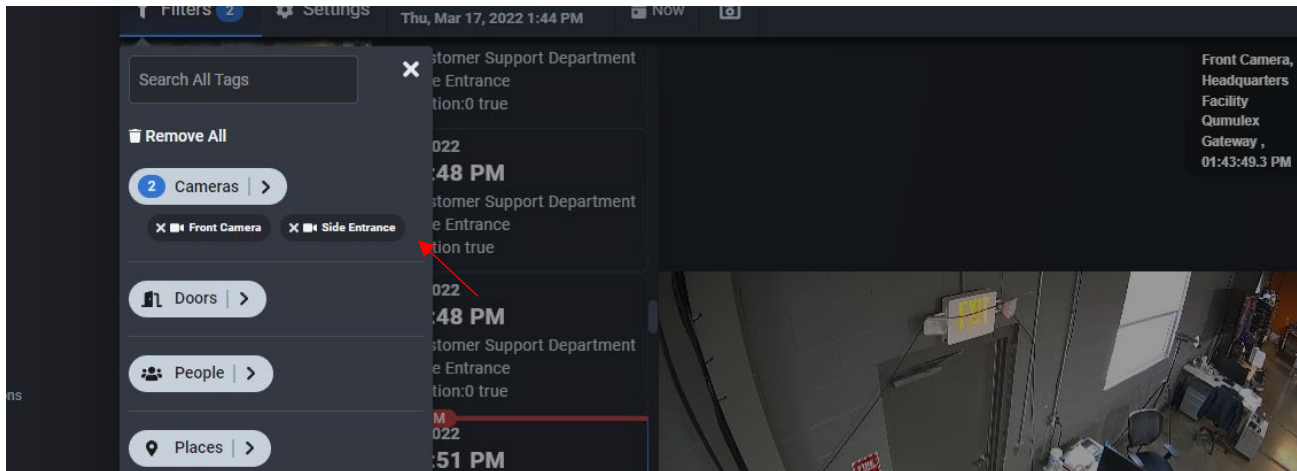


Once you have selected the desired Smart Tags and applied them, you will see the number of applied Tags for each Filter category. In this example, you can see we searched for and applied two camera Smart Tags and that number is displayed by the Cameras Filter button.



You can also click on the Filter and see a list of all available items; in this case it shows all available cameras. You can see the two cameras already selected show as a blue check mark. Here you can select or remove any desired items, and then choose “Apply” to save these changes and see the appropriate Search results.

You can also see that once applied there is an icon for each Smart Tag item that was selected. You can easily remove them by choosing the “x” on the left side of the icon.



Another great tip is to press the SPACE BAR in the Search box to see a list of every available Smart Tag. This is a great way to see what Smart Tags are available!

Note: With the increasing number of Smart Tags, and the frequency of additions, we have removed the static legend that was previously available. Using the SPACE BAR has replaced the legend.

Filters 2 Settings Search Date & Time Thu, Mar 17, 2022 1:44 PM Now

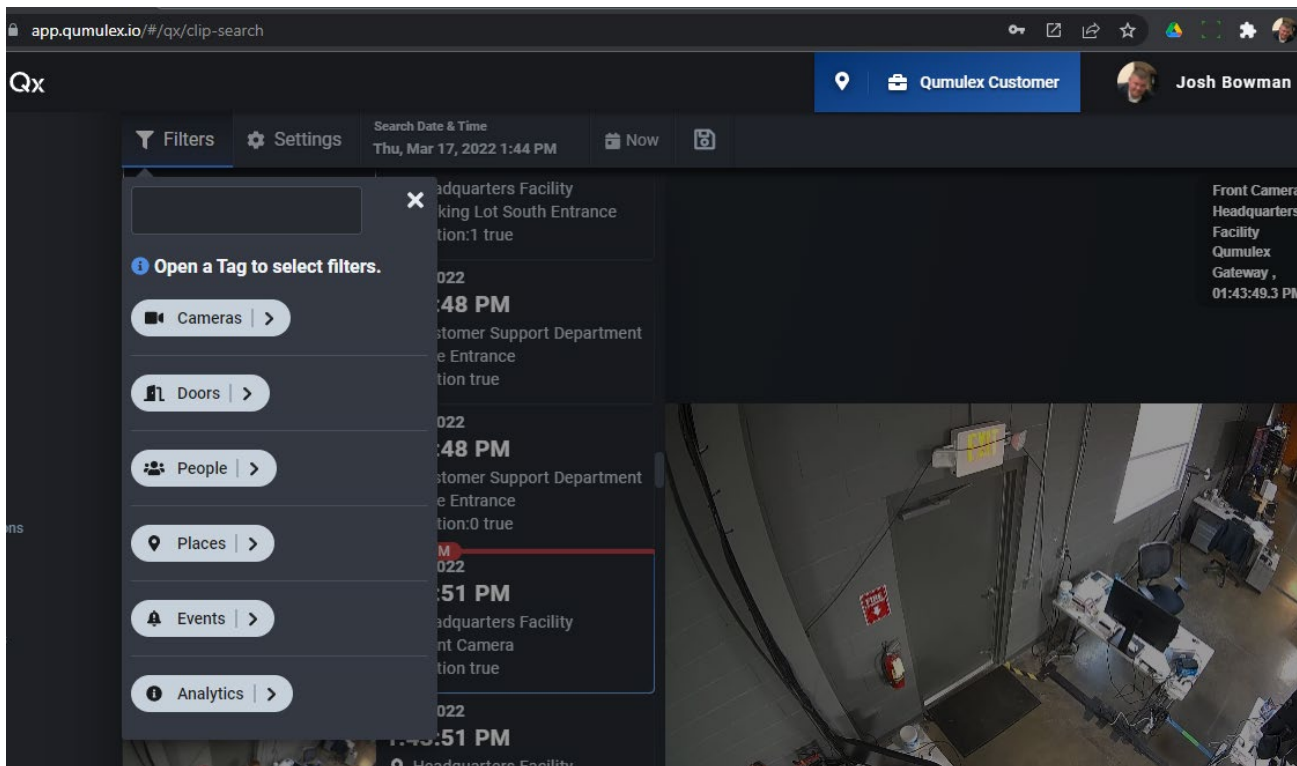
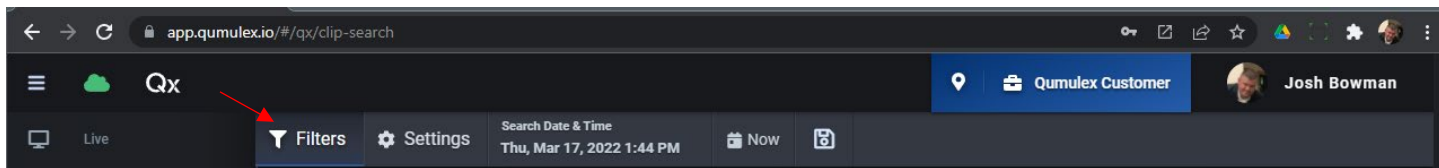
Customer Support Department
e Entrance
tion:0 true

Front Camera, Headquarters Facility Qumulex Gateway, 01:43:49.3 PM

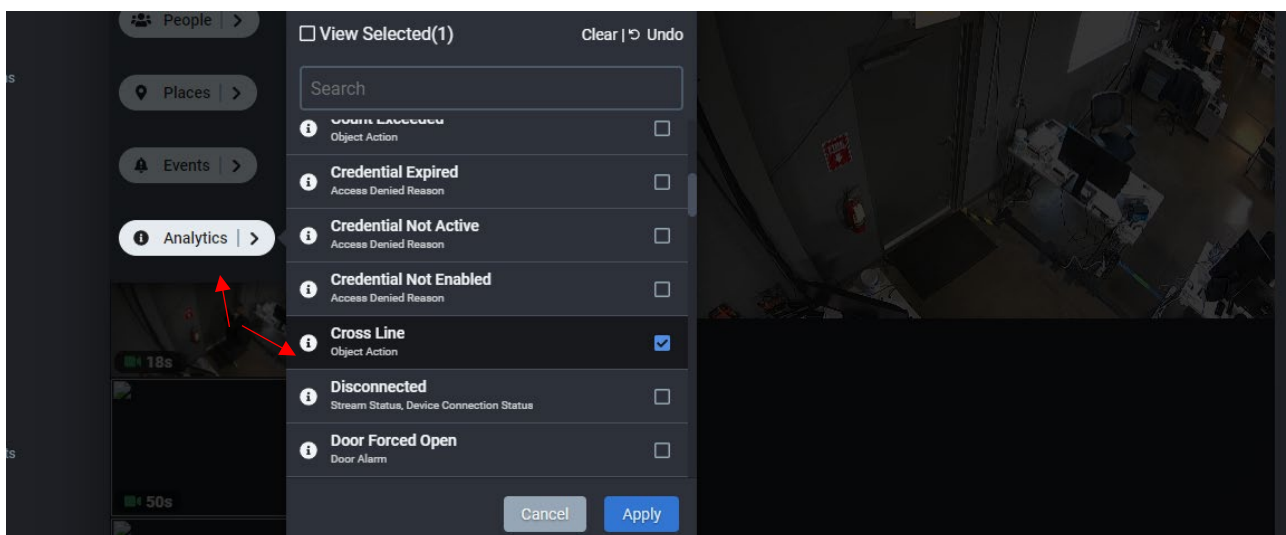
- GatewayConnection
- PACSStatus
- DeviceConnection
- Motion
- Tamper
- ObjectAction
- StreamStatus
- DoorMode
- DoorState
- DoorAlarm
- AccessNotFound
- AccessGranted
- AccessTaken
- AccessNotTaken

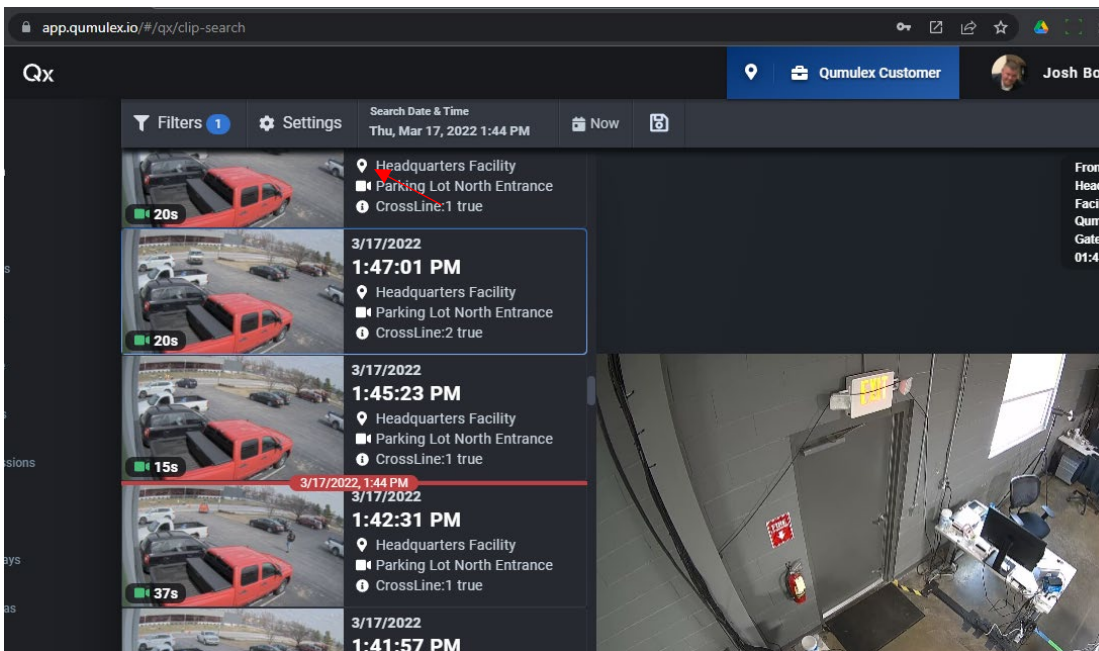
Search Via Tag Filters

Another great way to use Smart Tags in QxControl, is to use our Tag Filters. Tag Filters can be found by choosing “Filters”, located just to the left of “Settings”



Next, choose Filters from the available options to help narrow down your Search results as desired. For example, if we want to search on a Line Cross analytic, we can choose “Analytics”, and then search or scroll until we find the Cross Line Smart Tag:





After you choose “Apply”, you can now see that we have filtered on Crossline events only.

You can choose any combination of Smart Tags that you want! Just remember that if you begin to see a message stating “No Search Results Found”, you may need to start removing some of the Smart Tags until you receive results again.

Tag Filter Categories

There are six categories of Tag Filters:

Cameras – Used to search on Cameras in your current scope.

Doors – Used to search on Doors in your current scope.

People – Used to search on People in your current scope.

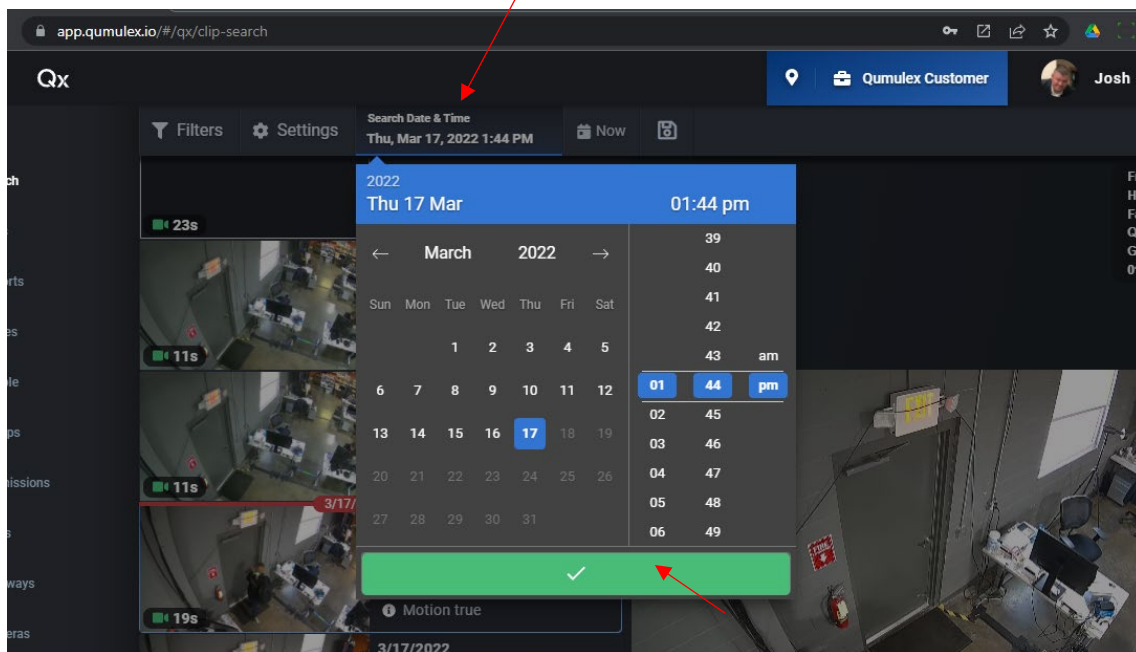
Places – Used to search based on places available at your current scope.

Events - Used to search events at your current scope. Some examples of events might include Motion, Gateway Connection, Tamper, Door Alarm, and many more...

Analytics – Used to search on Analytic events at your current scope. Examples may be Cross Line, Person Detected, Vehicle Detected, Mask Detected, Face Detected etc. You will also see Battery and other status alarms.

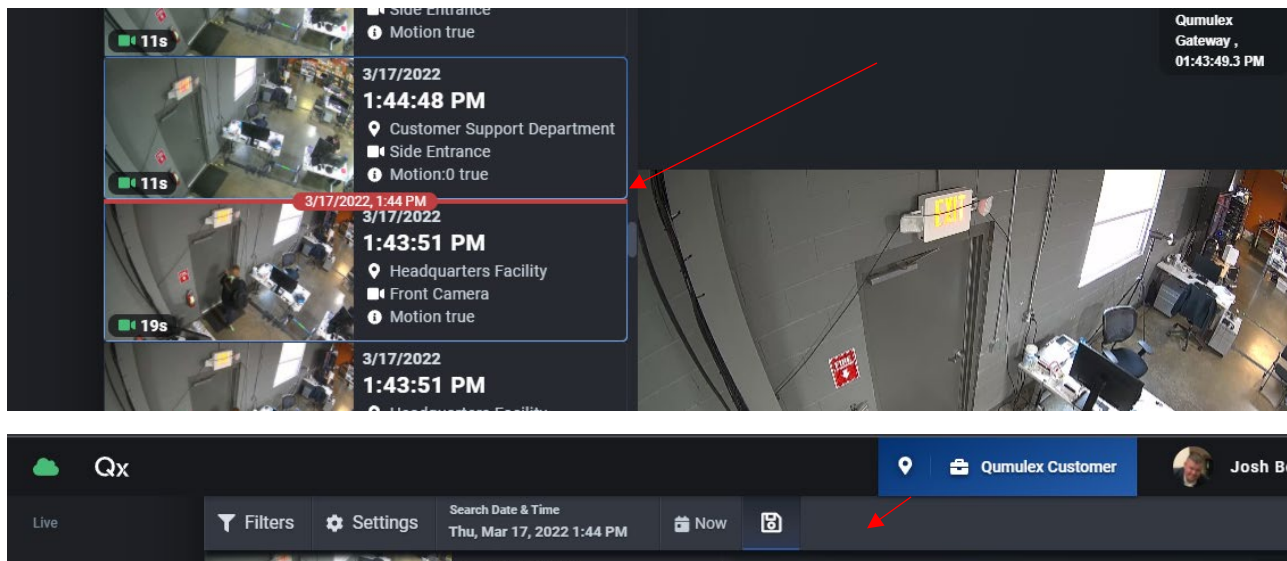
Time-Based Searches

You can also use a traditional “Date and Time” method to search for video, instead of, or in conjunction with the Tag based search. To search by Date and Time, click on the “Search Date & Time” field.



Then choose the Month, Year and Time of your search and choose the green check mark to apply it.

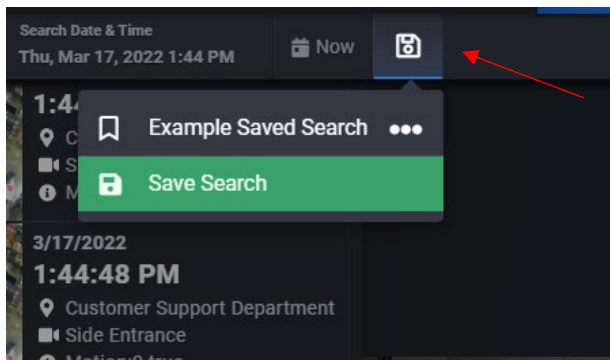
Then, once applied you will see a market indicating the time you have chosen, and allows you to scroll before or after that time in the Events Pane.



If you want to clear the time chosen and show the newest events first, select the “Now” button to the right of the Search Date and Time field.

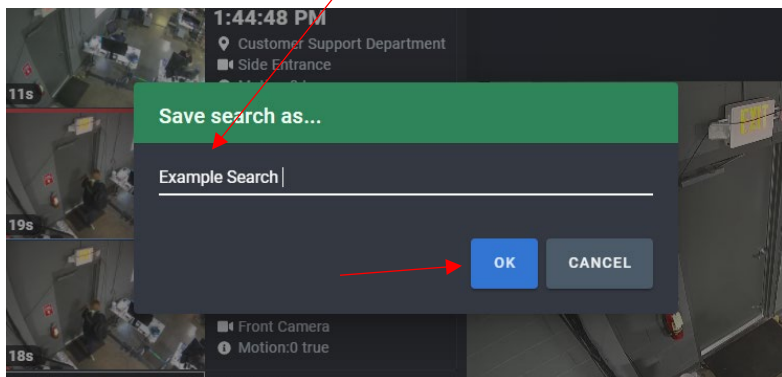
Creating and Using Saved Searches

After successfully creating a search, you can save it for use later. Simply click on the diskette icon to reveal the “Saved Search” menu.

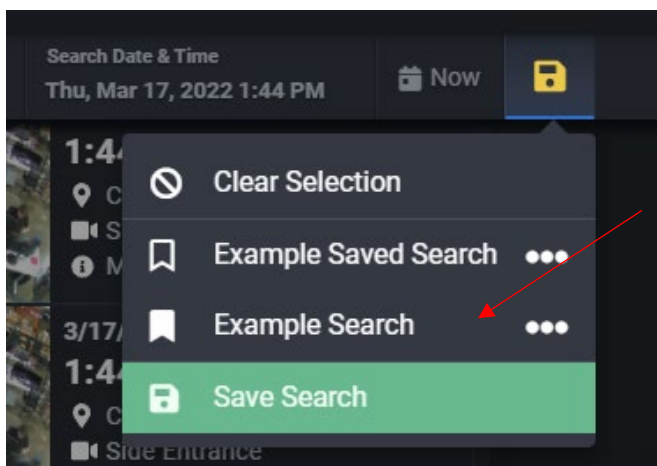


Next choose the “Save Search” option.

This will present the save menu. Provide a name for your search and then click “OK”.

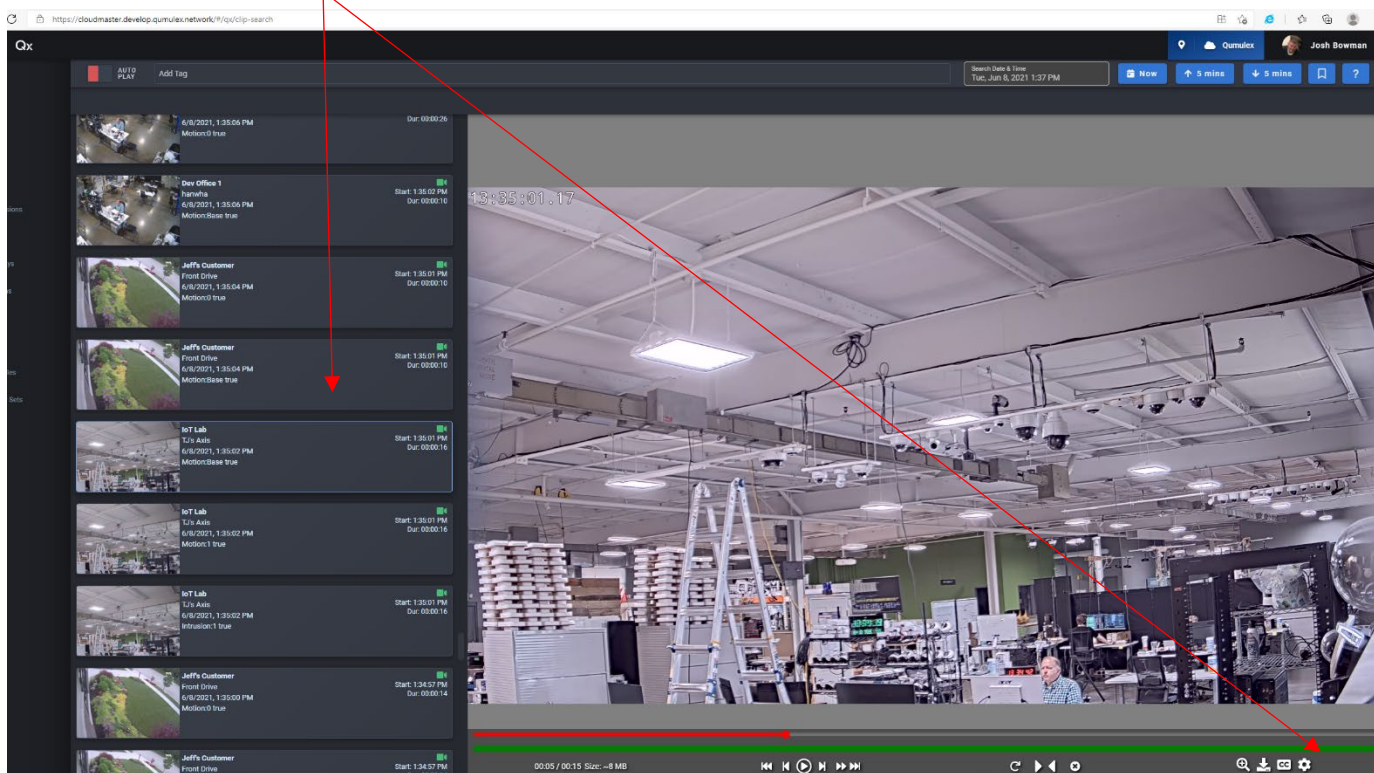


The new saved search will now be available when choosing the diskette icon. Simply click on it to apply the search parameters.

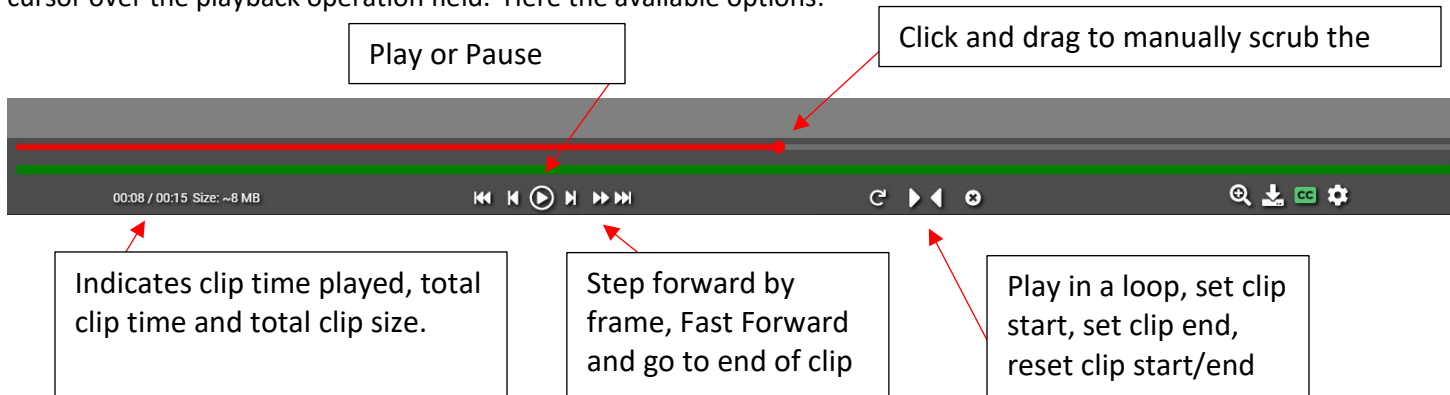


Playing Video Clips

Once you have found the Video Clip that you would like to play, click on the Event Thumbnail and press Play in the scrub bar below the clip to start playback.

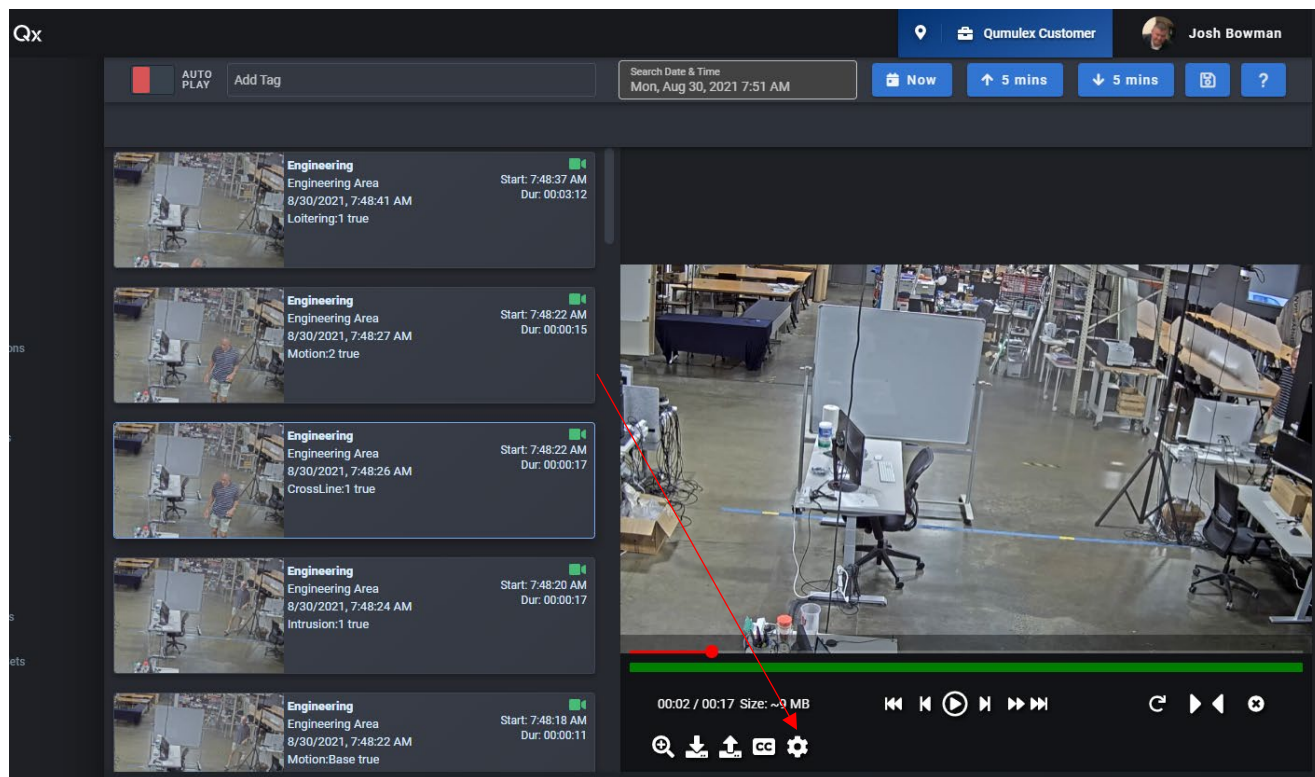


Use the playback controls to operate the video playback. The scrub bar will become visible by hovering your mouse cursor over the playback operation field. Here the available options:

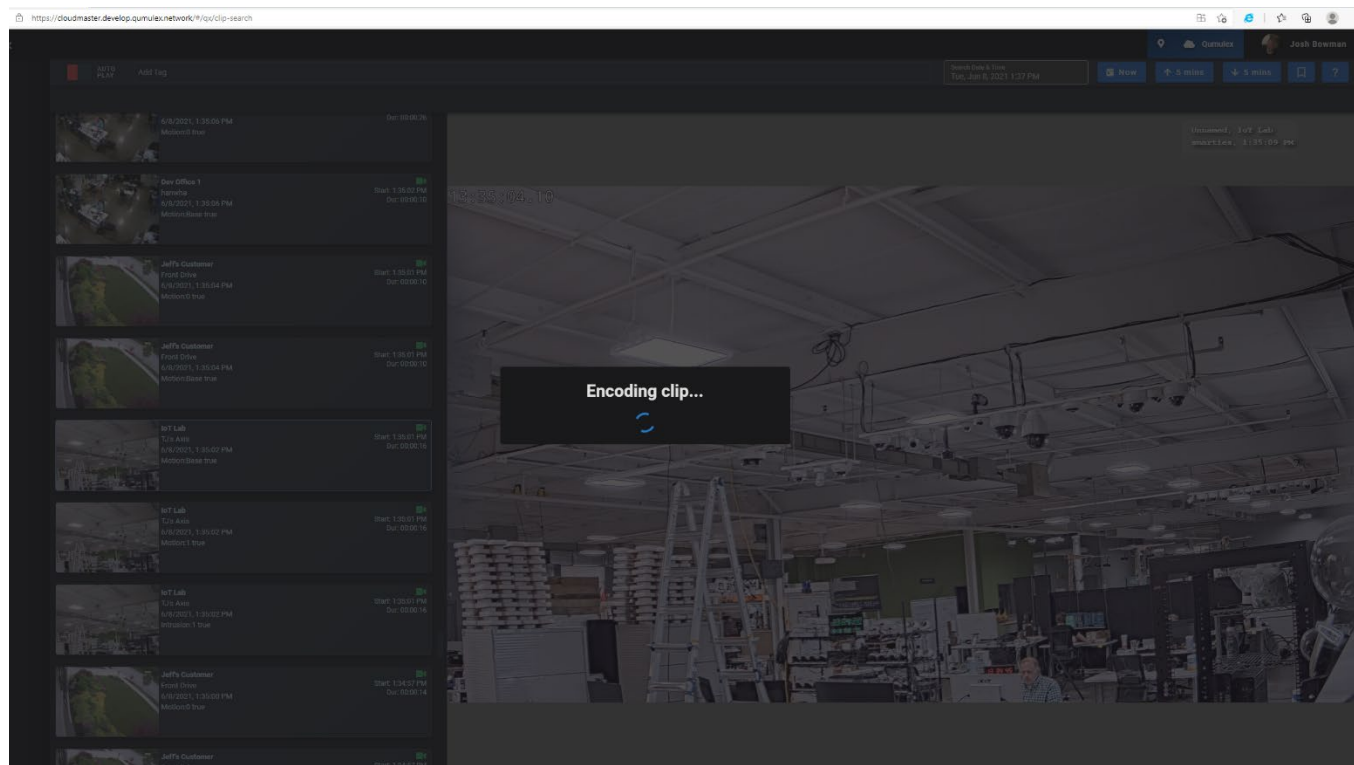


Saving Video Clips

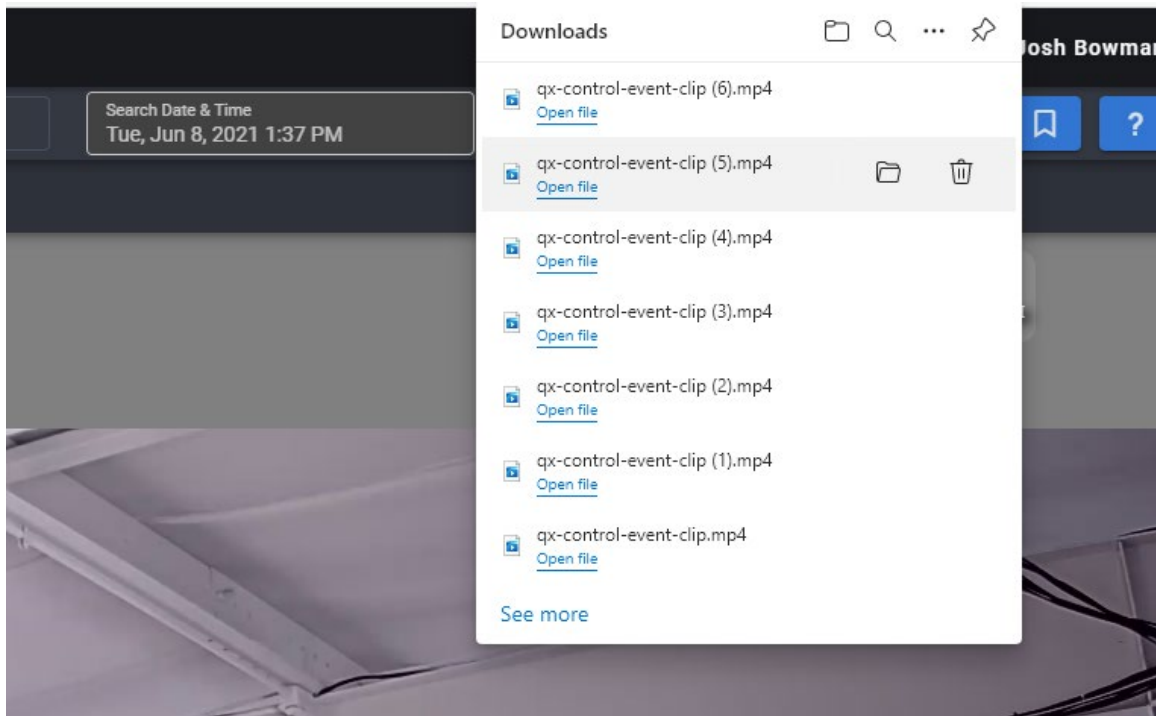
To save and export the video clip, choose either “Download to Desktop” (down arrow) or “Export” (up arrow) in the actions menu. Download to desktop saves on your device, Export saves in the QxControl cloud service.



For example, choosing download to desktop you will then see visual feedback as the Video Clip begins downloading.

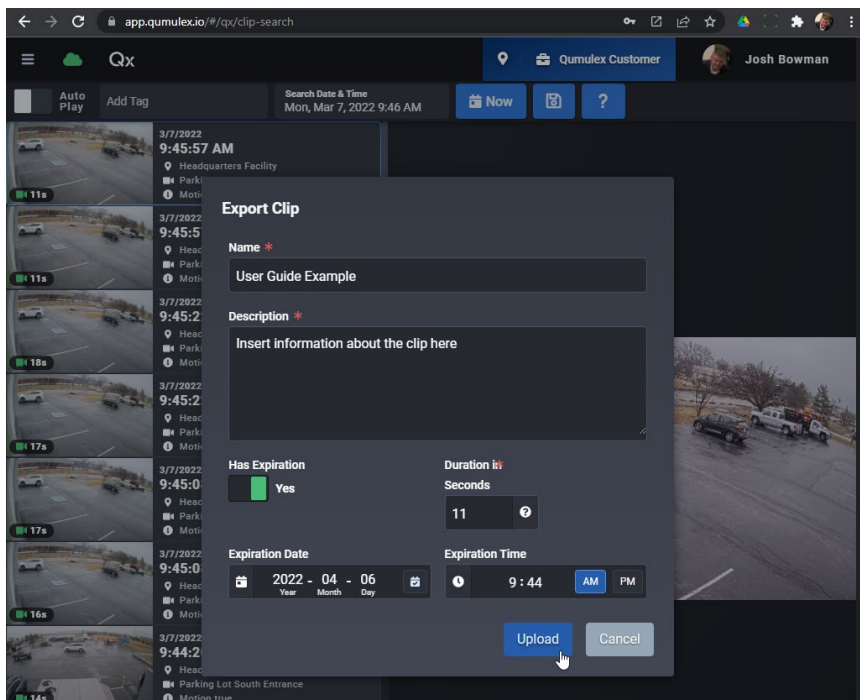


The video will then be available as a “download” from your browser. Each type of browser will vary in how it presents the download. Here is an example using Microsoft Edge.



In this example, you will simply select the downloaded file and save it where desired.

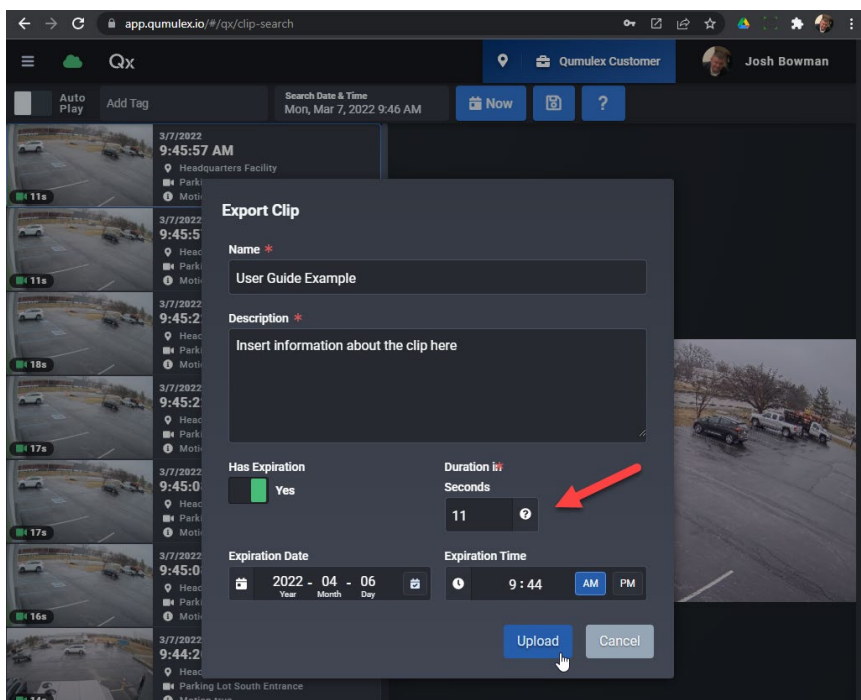
In the example of “Export”, you will be presented with a menu. This menu will require you to name the clip and provide a description. You also can choose if the clip expires and then choose an expiration date if yes. By default, the clip will have an expiration date of 30 days.



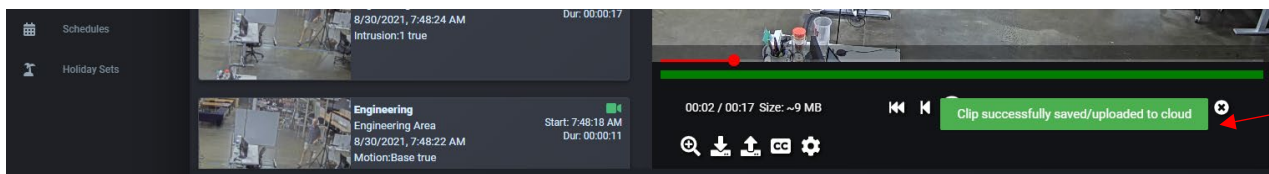
Also available when using the Export function, is the ability to lengthen or shorten the clip by entering the length of the clip, in seconds. By default, the actual clip duration will appear. However, you can shorten or lengthen the clip by altering the clip length. This allows you to extend the clip to catch more post-record activity, or to shorten the length to only what is most important.

There are two important reminders when using this feature:

- 1) You MUST choose Continuous recording for this feature to provide extended footage beyond the initial clip.
- 2) The event start will always remain. What you can change is the end point of the clip.



Finally, once you press the “upload” button, you will receive confirmation that the clip has successfully uploaded.



If you receive an error message instead, try uploading the clip again.

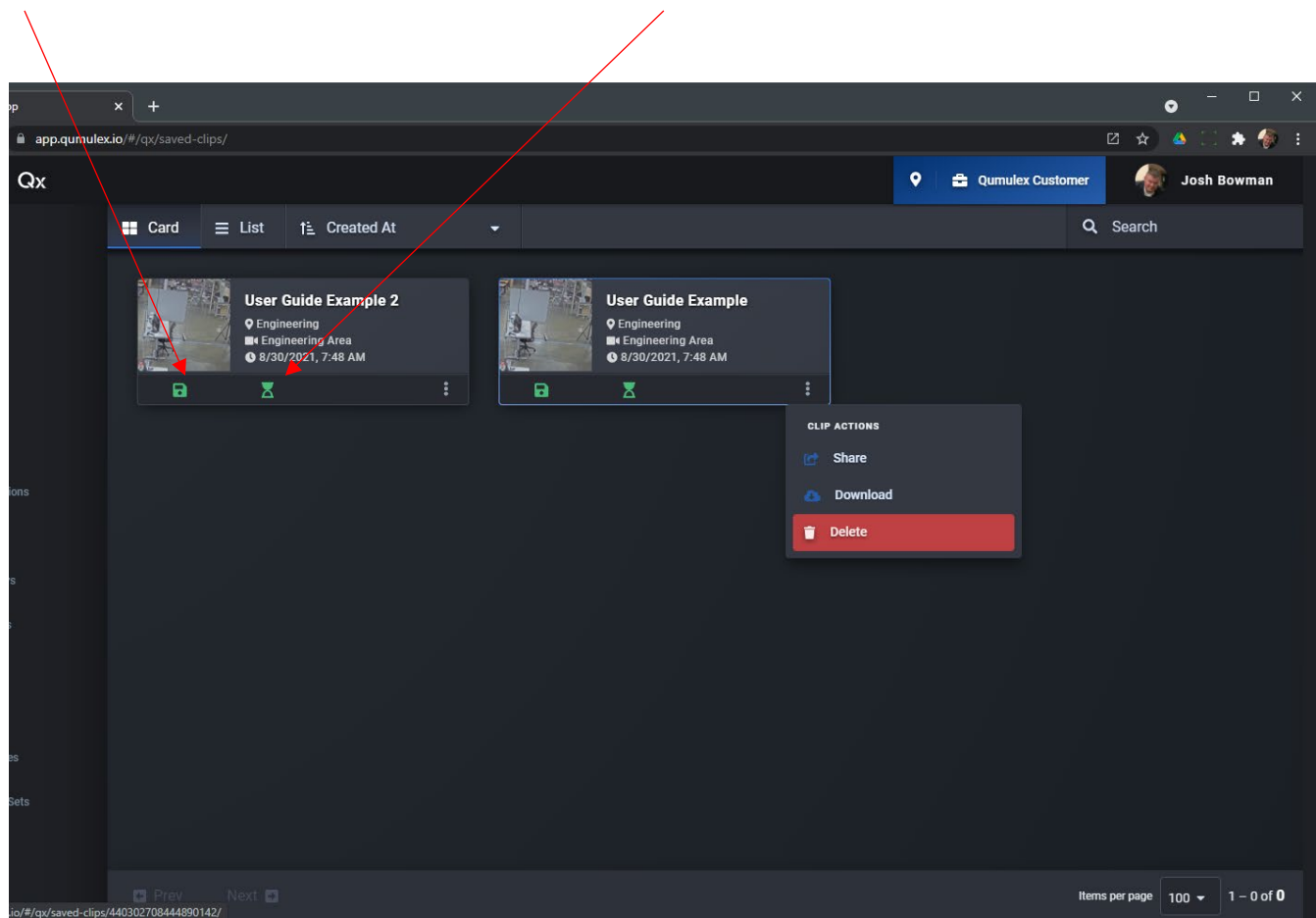
Please note, for additional information on uploading clips to the cloud, please visit the “Saved Clips” section of this User Guide.

Saved Clips

To manage saved clips in the cloud service, choose the application area “Clips” from the left-hand navigation window. The Clips page will display the saved clips in either a Card View or List View format, similar to other pages like Cameras or Groups.

The following examples are being displayed in Card View. You will see a couple points of feedback about the clip in this view.

The diskette indicates that the clips has finished processing. Hovering over the hourglass provides the expiration date.



In addition, choose the 3-dot menu to find options for this clip.

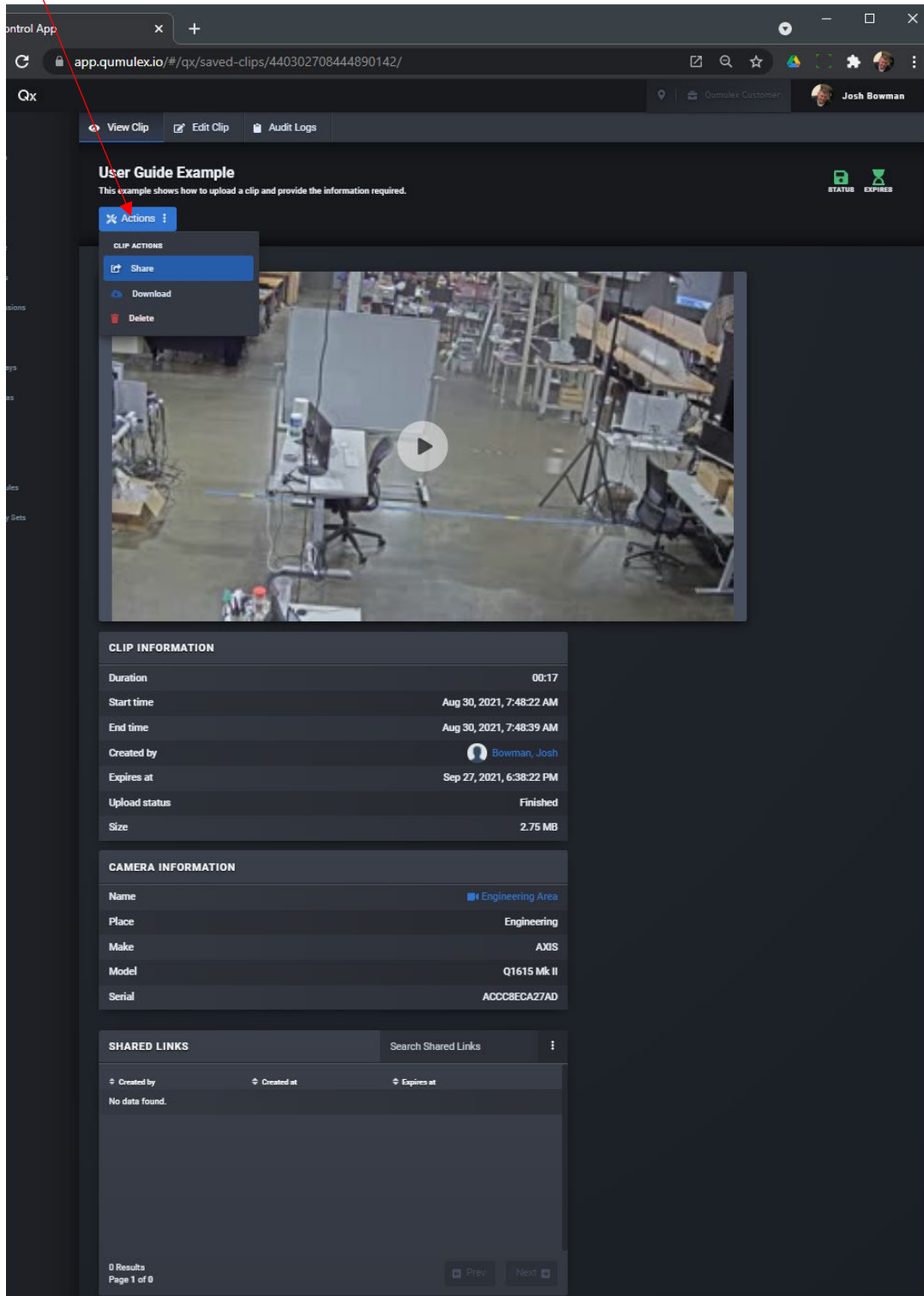
Share: Takes you to the clip sharing menu.

Download: Allows you to download the clip to your device, similar to “Download to Desktop” while in Search.

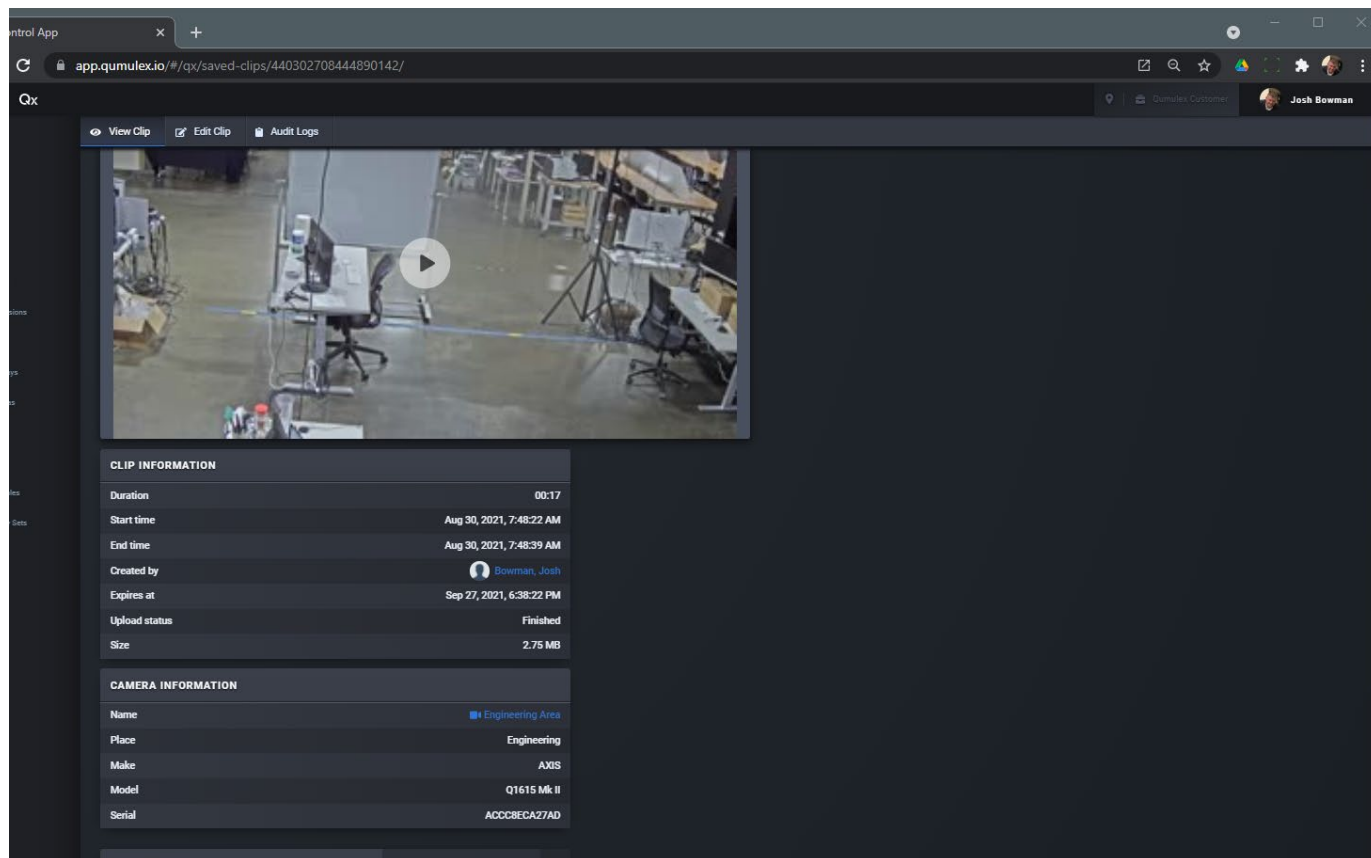
Delete: Delete the clip from the cloud service. You cannot undo this action so please be sure you are finished with this clip before deleting.

Managing Clips

Double click on a clip to reveal the Clip Info page, "View Clip". From here you can play, share and edit the clip as well as see an audit log for the clip. You can also choose the Actions menu and share, download to your device as well as delete the clip.

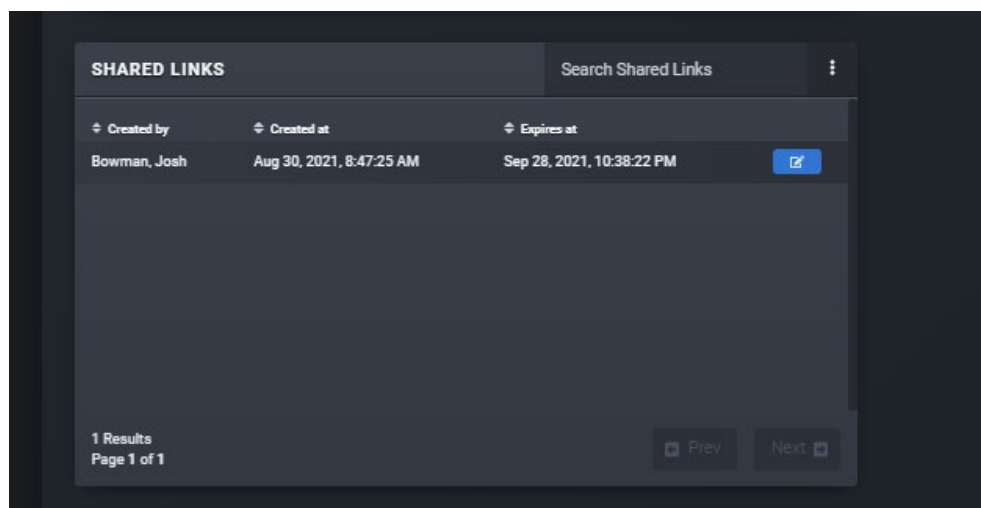


Just below the viewing window where you can play the clip, you will see “Clip Information”. This section provides data such as the duration, date, and size of the clip.

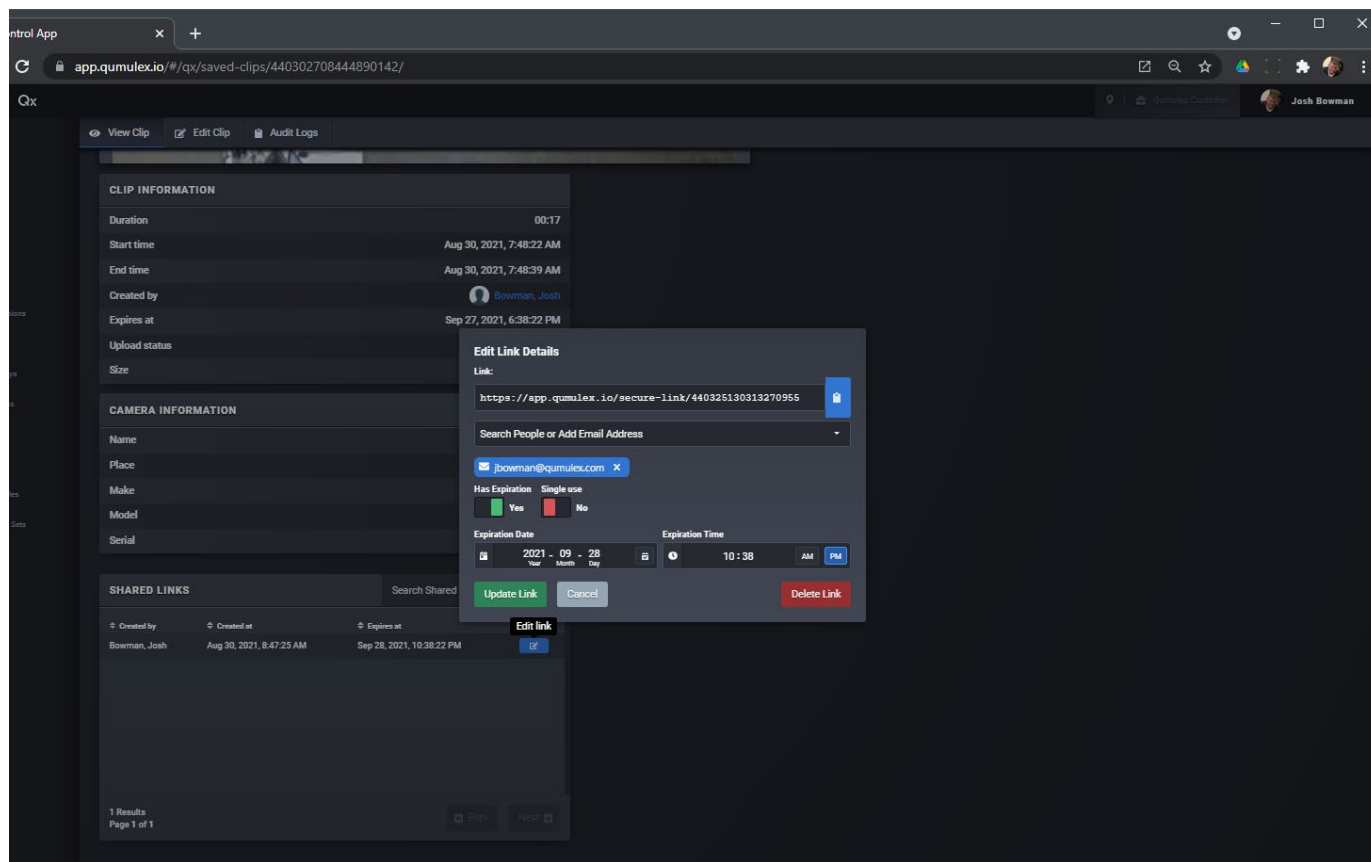


Below that is the section labeled “Camera Information”. This section provides details such as the name, place and model of camera that was used to record the clip.

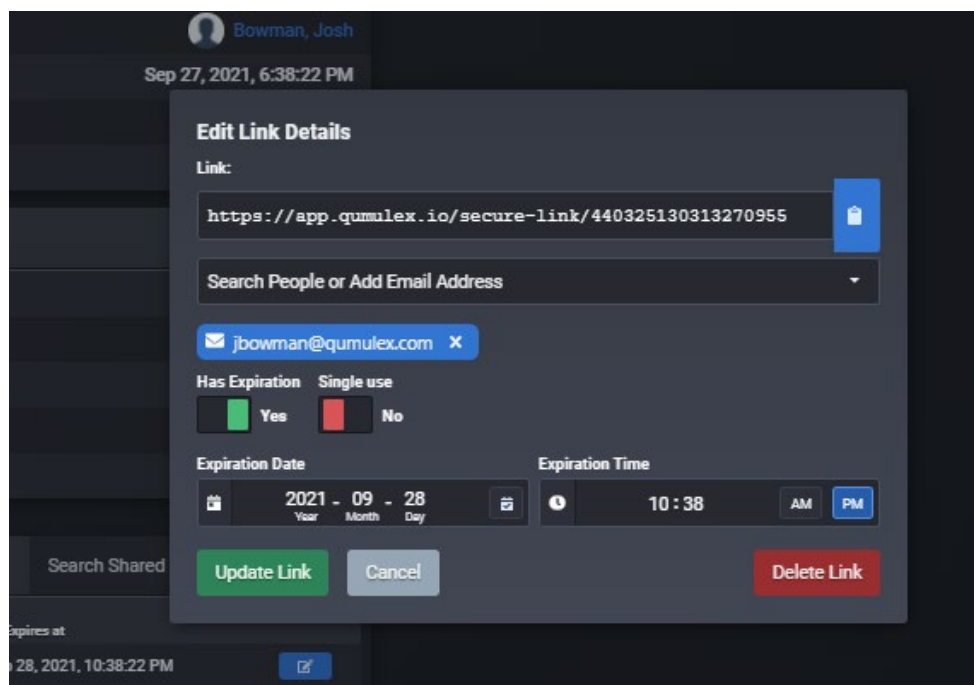
Next is the section labeled “Shared Links”. This will display a list of the links that have been shared for this clip. You will see information about who create the link, when and when the link expires.



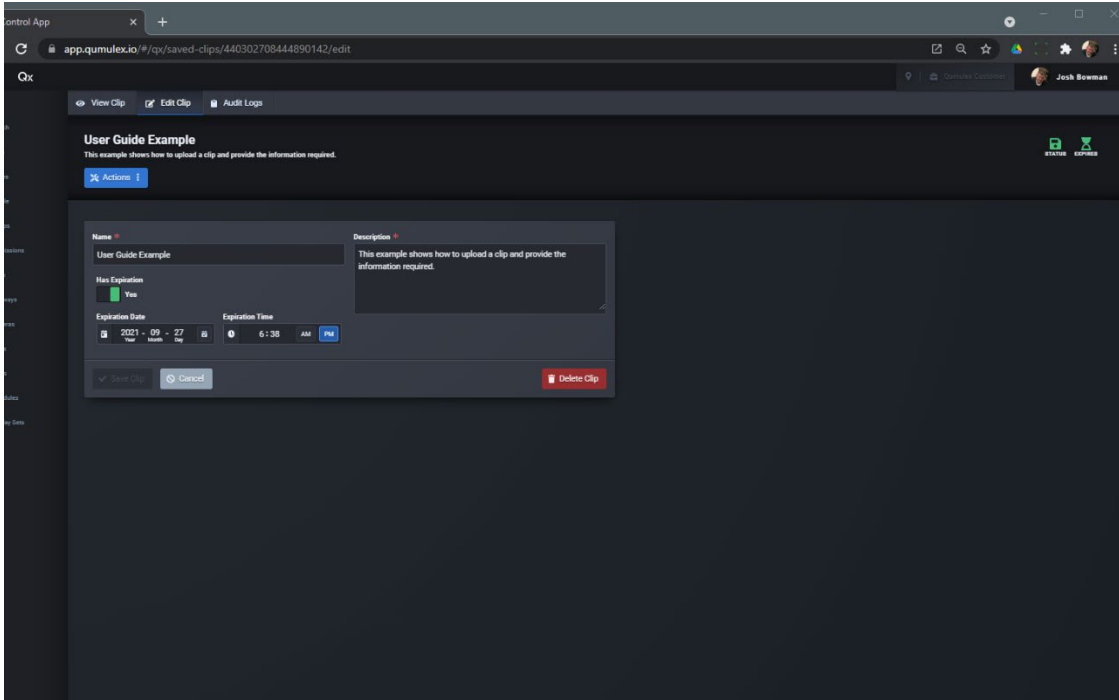
You can also choose the edit button to the right of the expiration date, and reveal the “edit Link Details” menu.



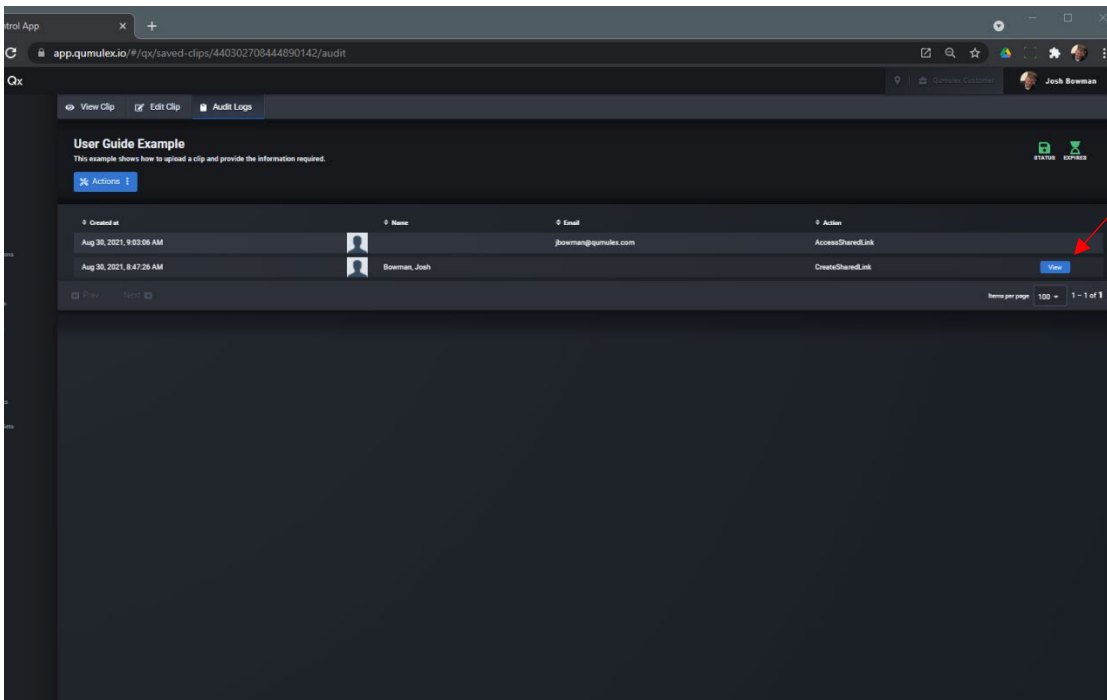
This menu will allow you to share the link with a new email recipient, copy the link, set or remove the expiration date, or to change the single use option.



The next tab after “View Clip” is the “Edit Clip” page. This page allows you to rename the clip, edit the description, change the expiration date, or delete the clip.



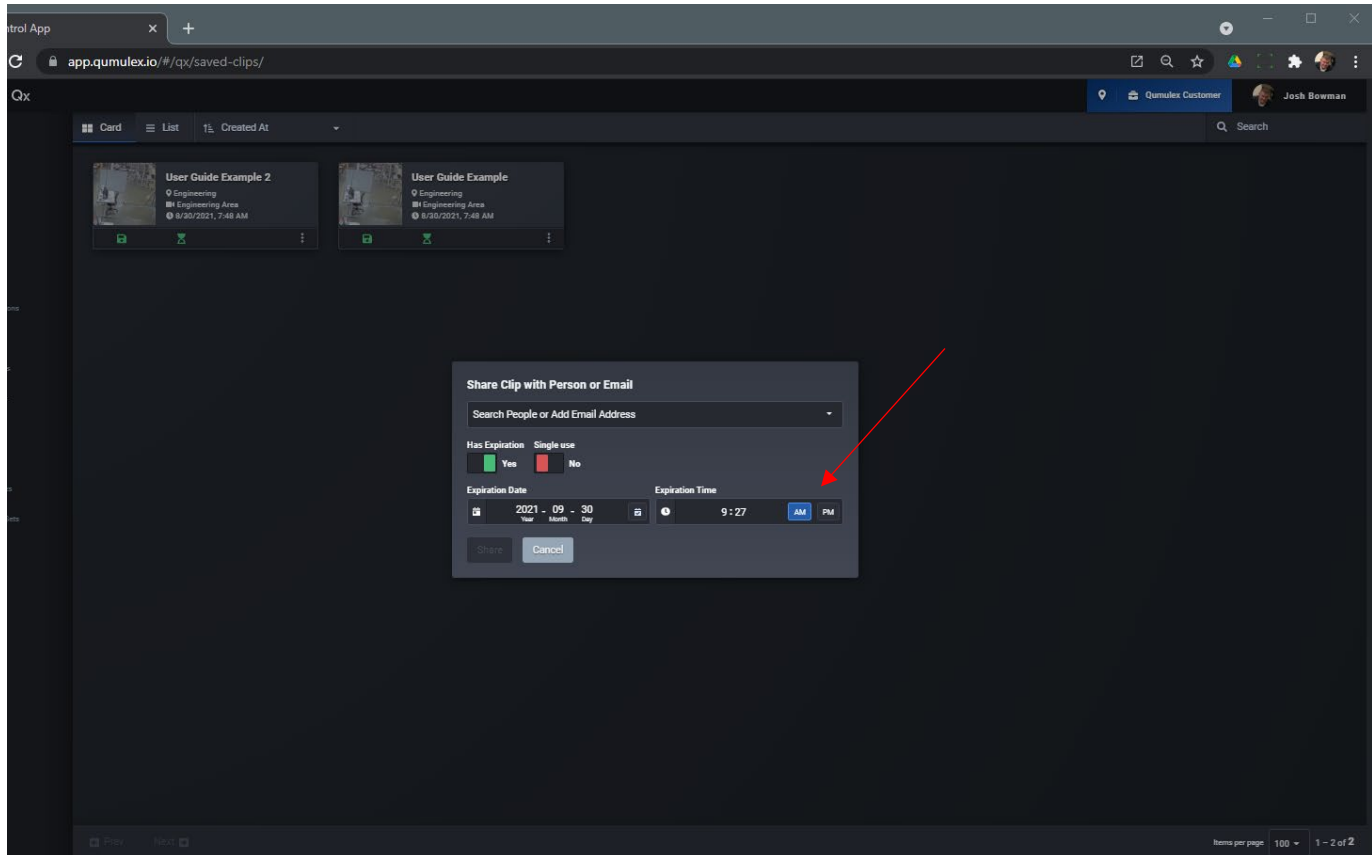
Lastly, the Audit Logs tab allows you to see each user action in regard to the clip. If the user happens to also be a QxControl Person in your scope, you will also be able to choose the “View” button to the right and see the Person’s details.



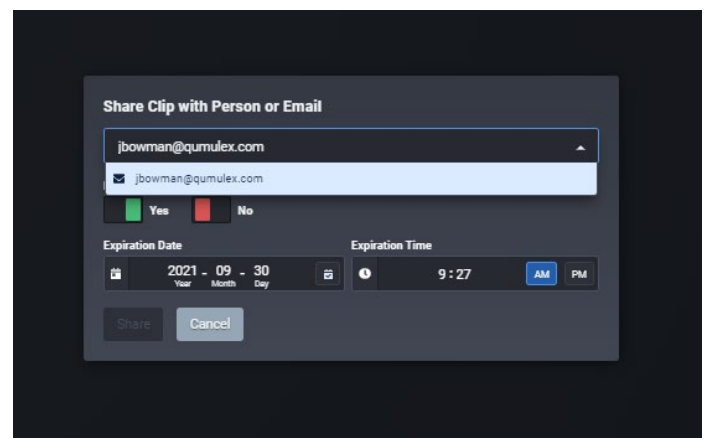
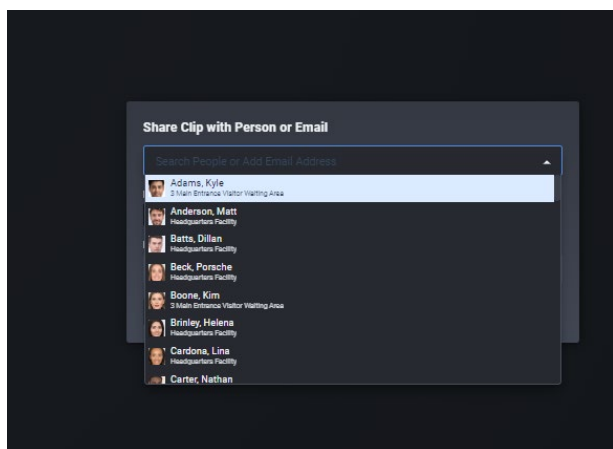
Sharing Clips

This section will walk through the steps required to share a clip with someone. This feature allows you to share clips with not only fellow users of QxControl, but also allows you to share the clip externally with people who are not already users of QxControl. This makes it very easy to share video clips, without having to download them to your device, keeping them securely in our cloud service.

First, choose the option to share from the 3-dot menu, or Actions menu and you will then receive this prompt:



To choose a person to share the clip with, you can either choose a QxControl user in the drop-down menu or type the email address you wish to use in the box.



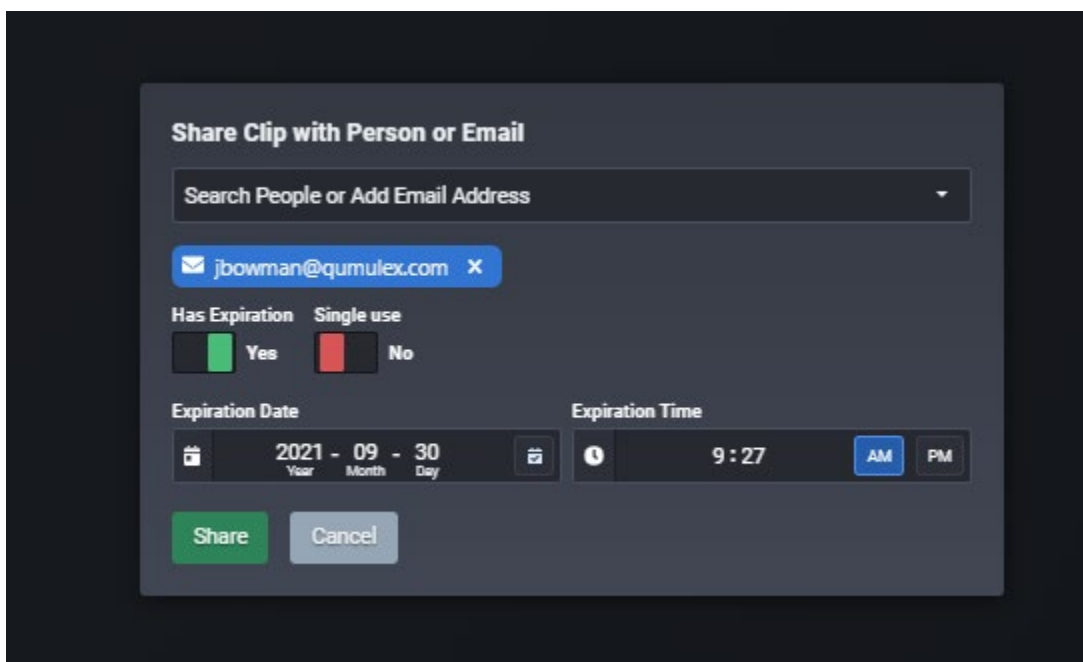
Please note: To share the clip with someone, you must associate it with an email address. Even though you can easily paste the link into a text or other non-email message, the email address is used to authenticate the person and verify they are allowed to view the clip, and to support audit logs via this authentication.

The next steps in sharing the clip, are to choose:

Expiration: Will the clip link expire and remove the shared access?

Expiration Date/Time: If yes to expiration, you need to choose the date and time it occurs.

Single Use: This option allows the person you share the clip with to authenticate and view it only once, and then it expires.

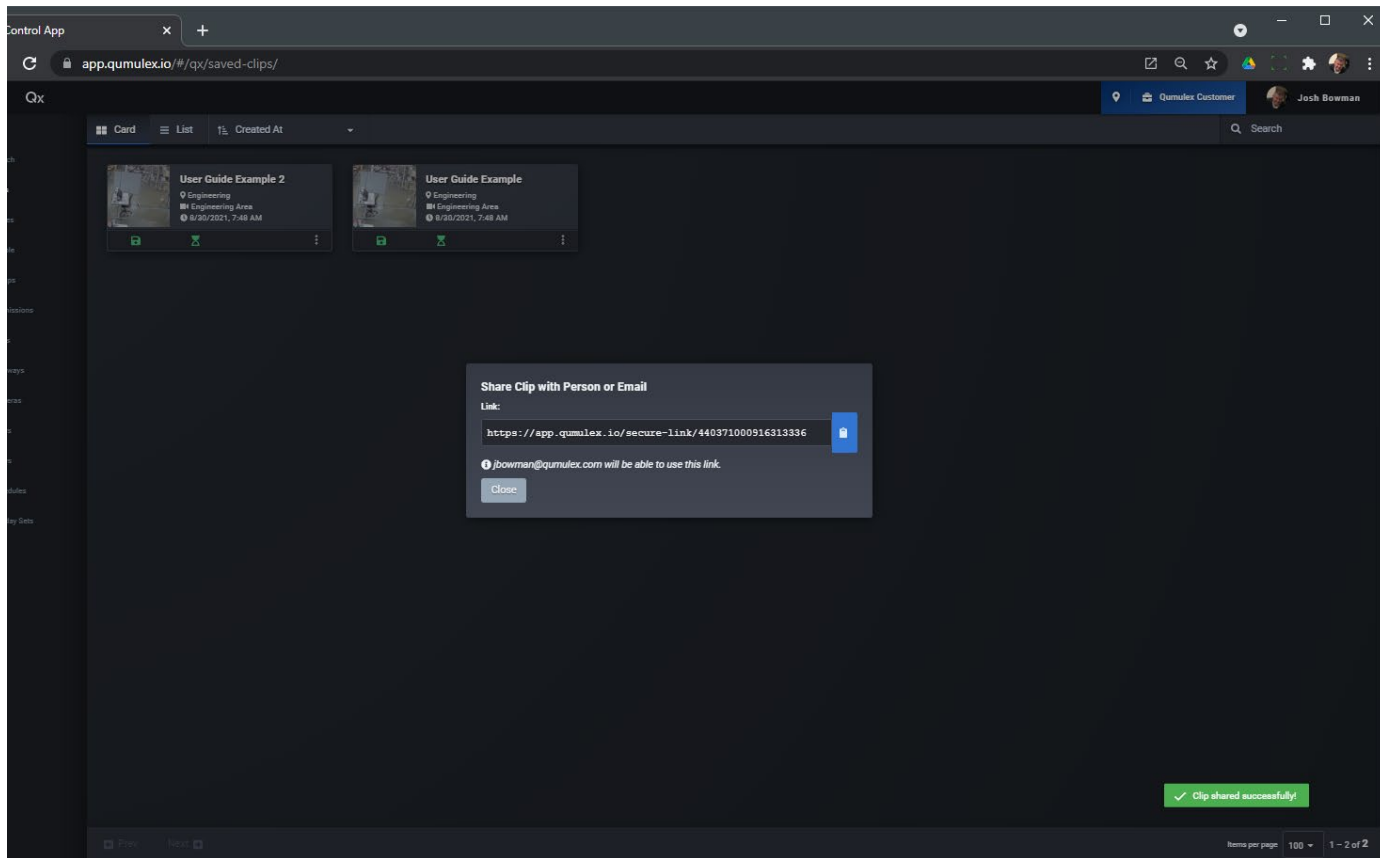


The screenshot shows a dark-themed dialog box titled "Share Clip with Person or Email". At the top is a search bar with the placeholder text "Search People or Add Email Address". Below the search bar, an email address "jbowman@qumulex.com" is entered and highlighted in blue. Underneath, there are two sections: "Has Expiration" with a green toggle set to "Yes", and "Single use" with a red toggle set to "No". Below these are two date/time pickers: "Expiration Date" showing "2021 - 09 - 30" (with Year, Month, and Day labels) and "Expiration Time" showing "9:27" with "AM" and "PM" buttons. At the bottom are two buttons: a green "Share" button and a grey "Cancel" button.

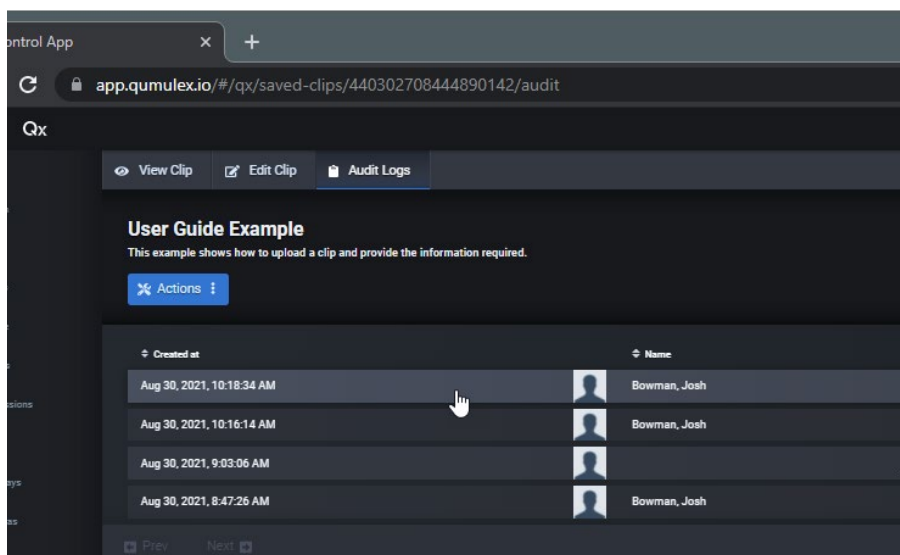
Once you have selected your options and you are ready to advance, select the green “share” button.

Once you shared the clip via email, you will receive a brief confirmation message that the share was successful.

You now also have the option to paste the link to your clipboard. This allows you to easily paste the link into a text message, chat message or similar.



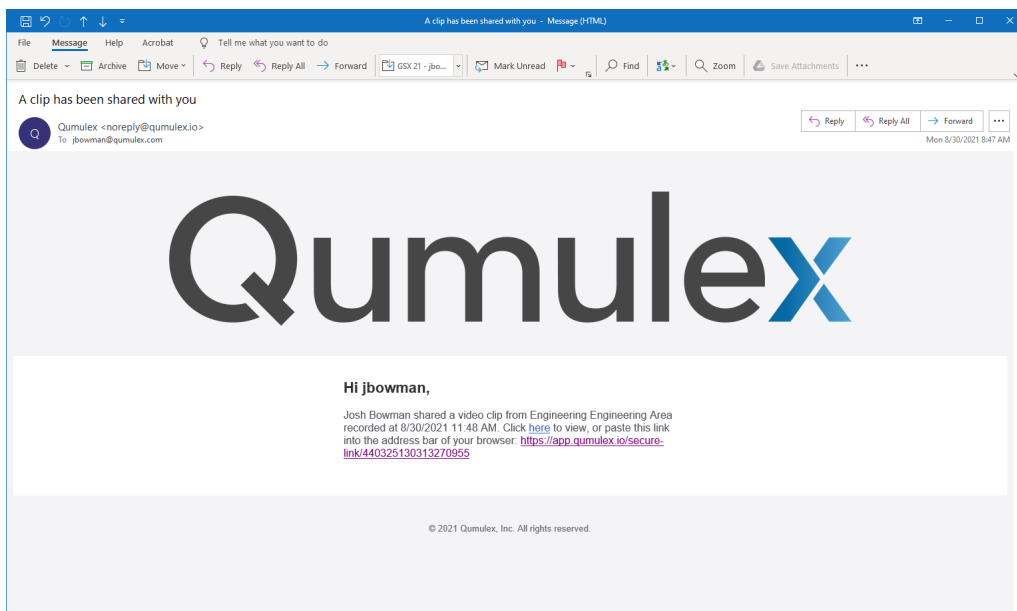
Once you are finished with copying the link, you can now press “Close”, and the sharing process is now complete. You will now be able to visit the Audit Log in the Clip Info pages and view the share. Once the person has viewed the link you will also see that information in the Audit Log.



Viewing Shared Clips

This section will walk through the steps required to view a clip that someone has shared with you. The first step is you will receive either a link via email or text/chat message. The message will look like this:

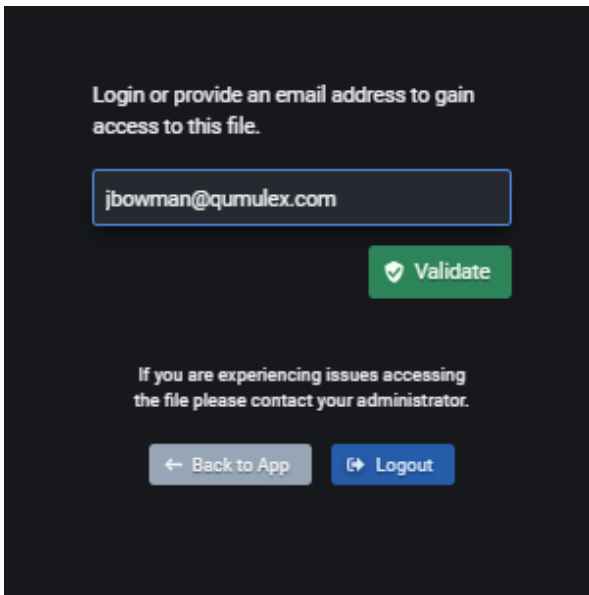
Email



Text Message

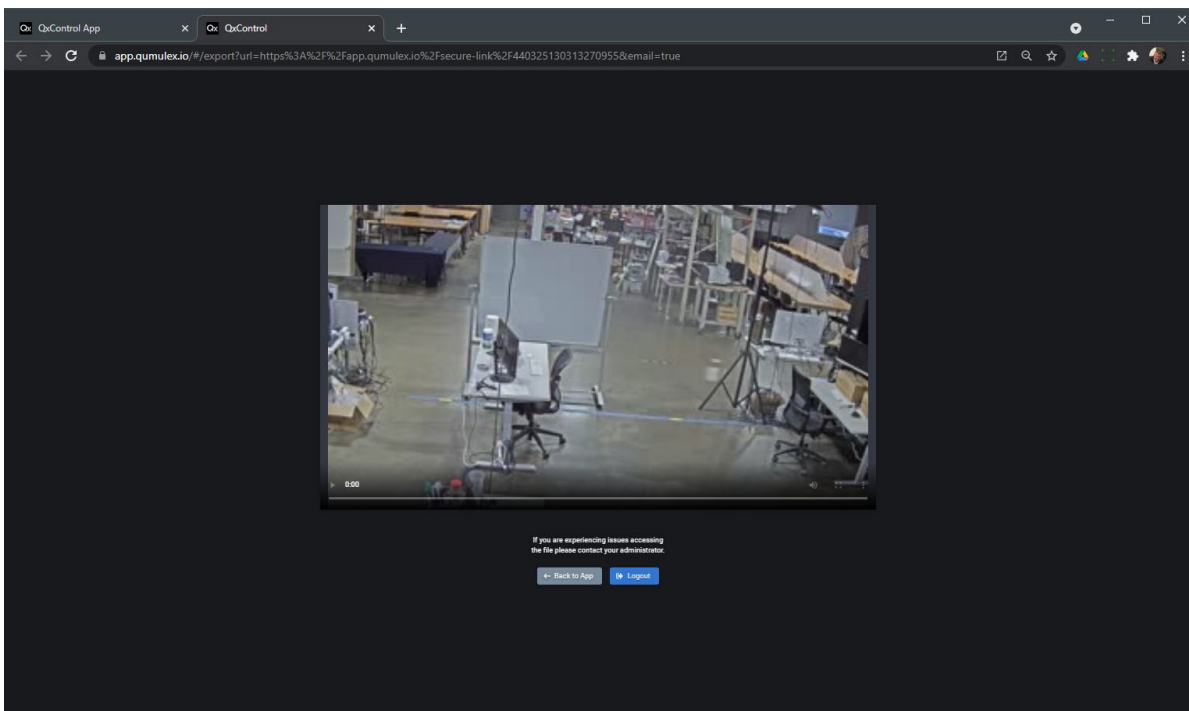


After clicking on the link in either a message or email, you will be presented with this screen in your browser window, which should open automatically for you when you click on the link.



You will need to enter the email address that was used to send the clip, even if you also received it via a text or chat message. The reason is so that you can authenticate as a valid viewer of this clip and to audit and track your activity with the clip. After entering your email choose “Validate” to open the clip player.

After validation completes, you will then be presented with the clip player and be able to view the clip.



Clip Storage

Each cloud subscription for a camera will include 20GB of cloud storage for clips, at no additional charge. The amount of storage available is reflected on the Camera Info page for each camera.

The screenshot shows the Qumulex camera control interface. At the top, there's a browser address bar with the URL `app.qumulex.io/#/qx/cameras/436140525691602270/`. Below the address bar, there are navigation tabs for 'Info', 'Settings', and 'Edit Camera'. The main content area features a camera preview titled 'Side Entrance' located in the 'Customer Support Department'. To the right of the preview is a 'Clip Storage' section with a circular progress indicator. A red arrow points from the storage section to the camera preview. The storage section shows a green circle representing 20.0 GB available and a small blue segment representing 6.07 MB used. Below the storage section is a 'RECENT EVENTS' section with four thumbnails of motion events, each labeled 'Motion' and dated 'Aug 30, 2021'. At the bottom, there is a 'DOORS' section with a search bar and a table with columns for Name, Goes From, To, and Address. The table currently shows 'No data found.'

| Name | Goes From | To | Address |
|----------------|-----------|----|---------|
| No data found. | | | |

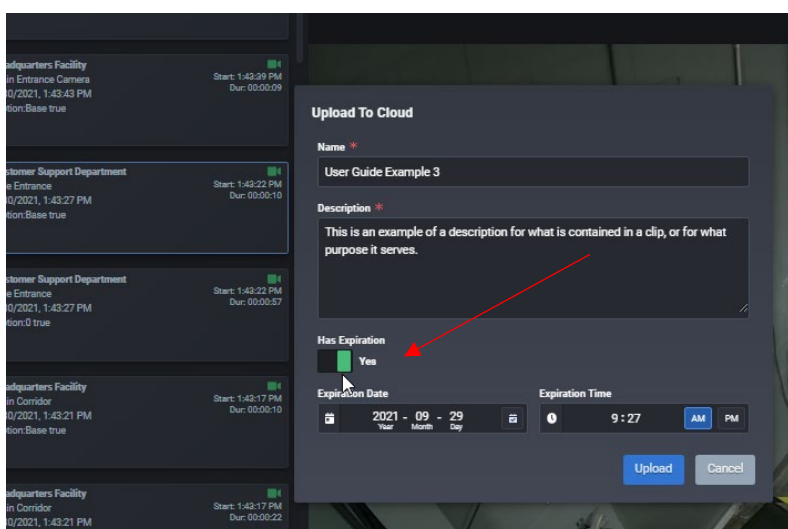
Clips can be set to expire, or not. There is no time limit for how long a clip may be stored unless you choose to delete the clip or set an expiration for it.

If you have a larger clip that you want to upload to the cloud, and it exceeds your 20GB limit available for that camera, it will not overwrite the existing clips. You will be prompted instead to download the new clip to your device.

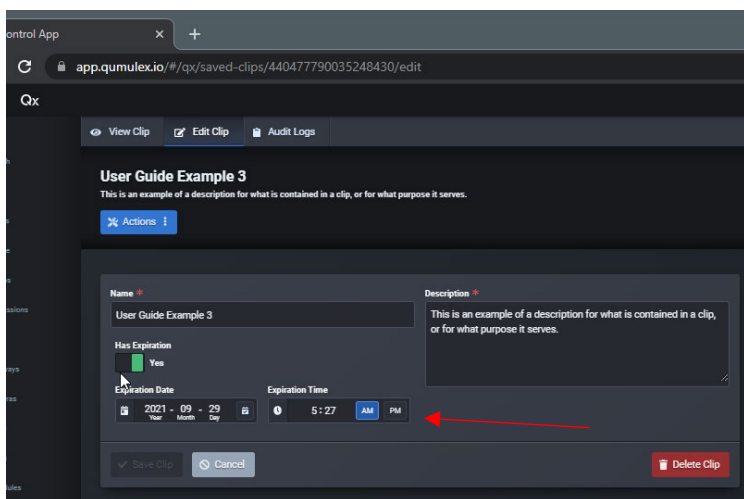
To make space available for future clip uploads, be sure to follow these “rules” of good housekeeping.

1. Use the expiration date option when creating clips that you know you will only need for a certain period of time. Using this option will prevent you from having to remember to delete the clip later. If you decide later that you need a particular clip for longer than expected, you can always edit the clip in the Clips page, and extend the duration.

Example: Setting expiration during upload process

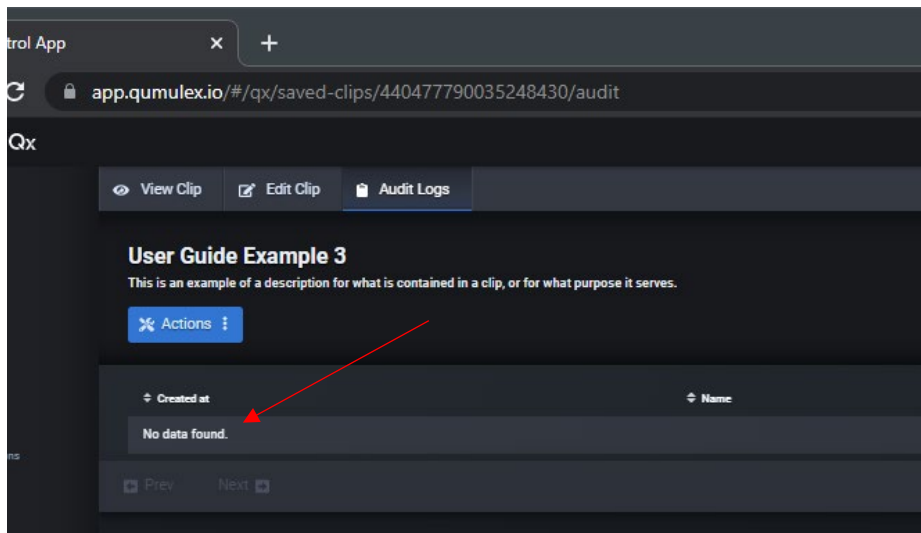


Example: Editing the expiration of a saved clip

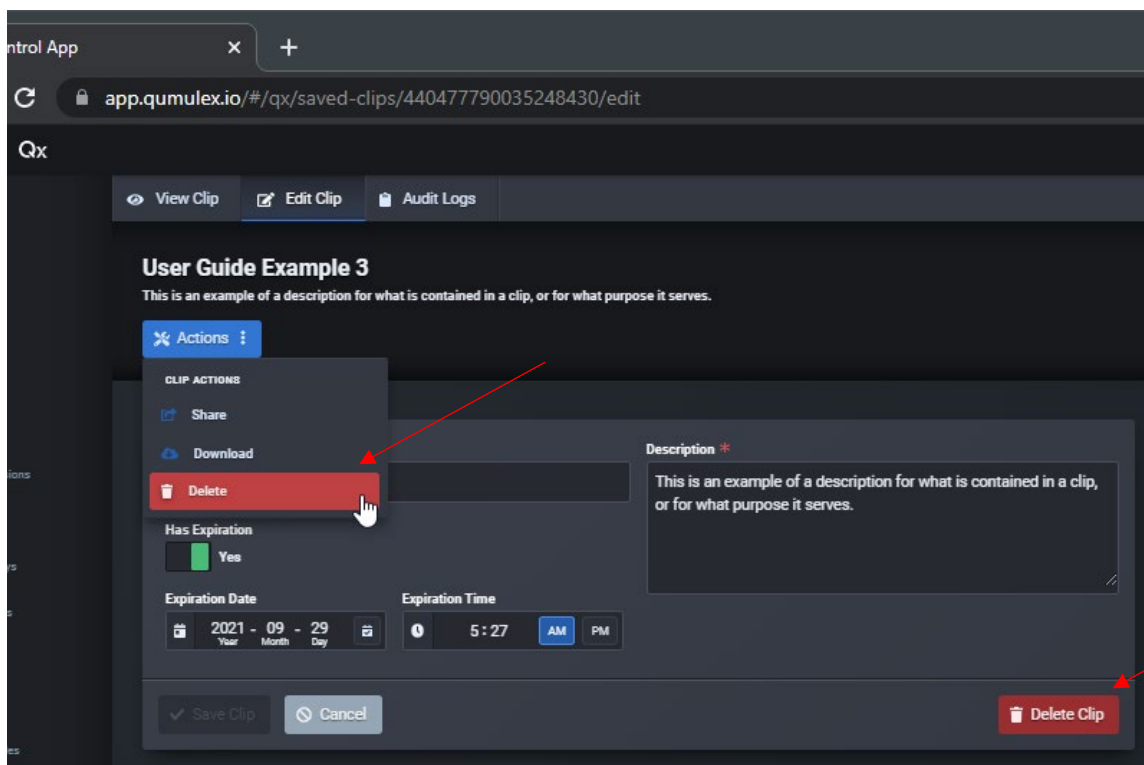


- If you prefer not to set expiration dates for clips, be certain to go back periodically to the Clips Page and check for unneeded clips that can be deleted. One way to do this is to check the Audit Logs and see if an older clip has been shared or has any activity. Manually delete saved clips that are no longer needed.

Example: A clip with no activity may no longer be needed

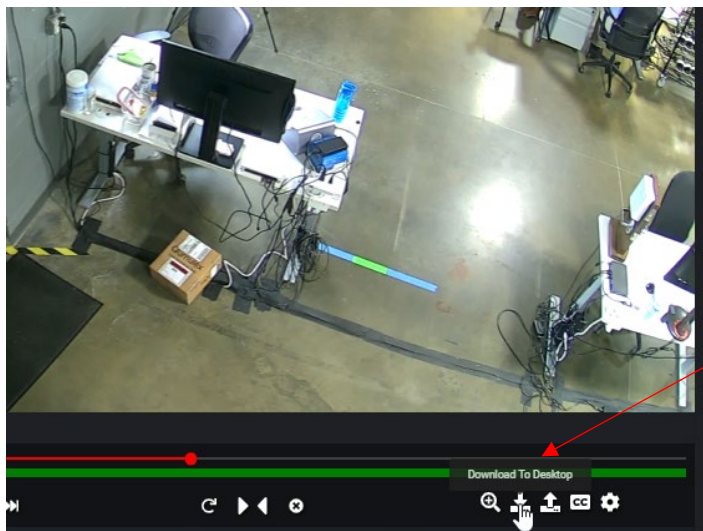


Example: Deleting a clip is easy. You can choose the 3-dot menu in Card View, or you can enter the Saved Clip Info page and delete via the Actions button, or choose the Edit Clip tab to choose “Delete Clip”.



3. If you have an extraordinarily large clip or set of clips from the same camera, consider downloading these to your device and storing/sharing manually. This also reduces processing times for extremely large files.

Example: Using “Download to Device”



Clip Storage for QxOP Licenses (On-Premises)

As with most features in QxControl, the look and feel of clip storage and using the Clips page will be the same. However, there are some key differences for this feature when comparing a cloud subscription to an on-premises license:

- Cloud subscriptions (QxCXXX) provide you 20GB of free cloud storage for clips, for each camera. In the case of QxOP licenses (on-prem) you will use local storage on your Gateway.
- When sharing clips with a cloud subscription you can upload to cloud and share via email/link directly from the cloud service. With a QxOP license you will be required to download to device and then share manually.

These are the primary differences in saving and sharing clips. There is also contextual feedback when using QxOP to inform you of these differences.

Rules

In this version of QxControl, Rules are used primarily to create notifications based upon selected conditions and criteria. The Rules page provides great flexibility with many options to choose from and sets the table for later releases that will introduce additional functionality via the Rules page.

In this section we provide an overview of the Rules page, and what options are contained within.

Rules: Rule Info Fields

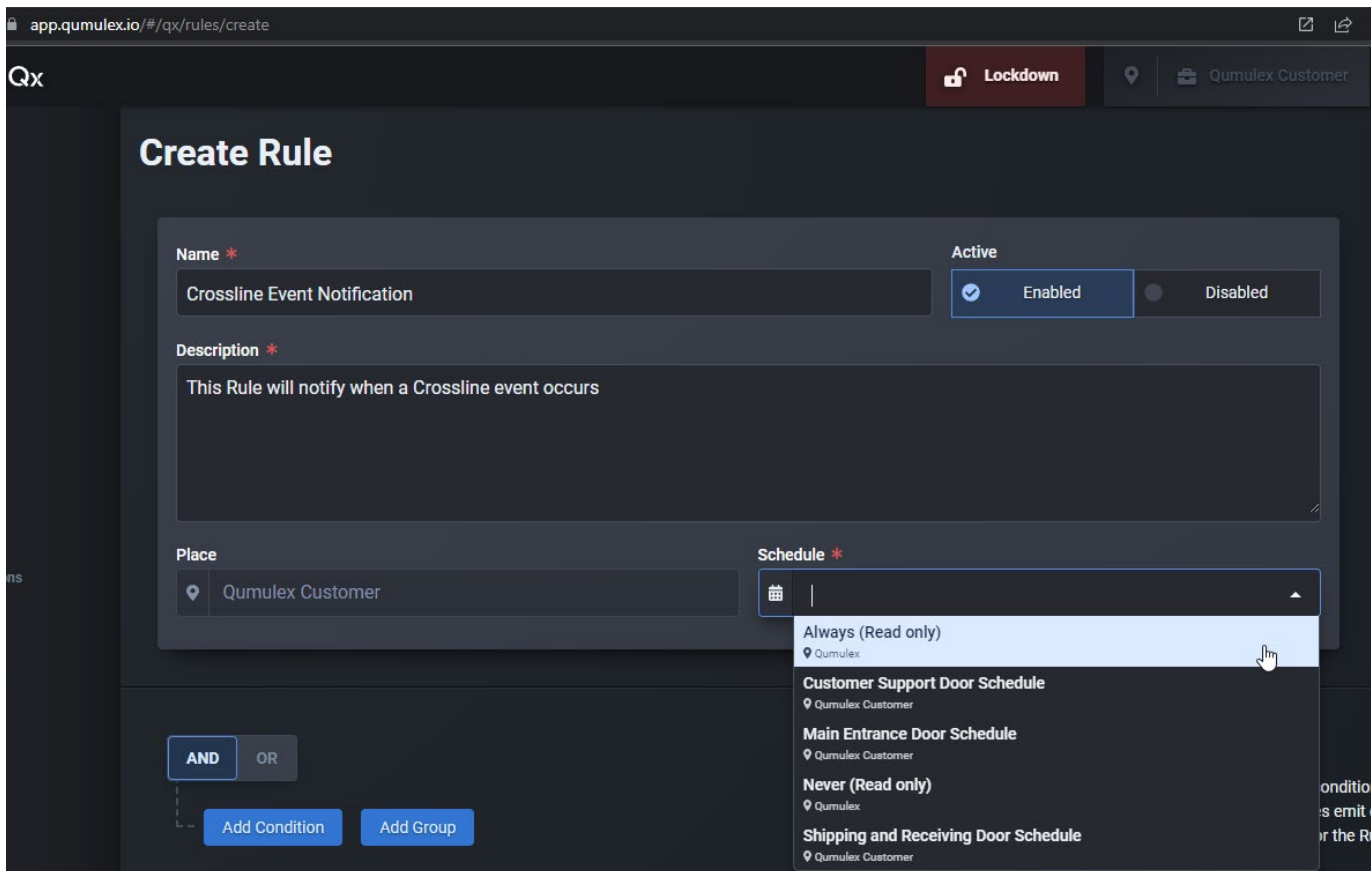
The Rule Info Fields allow you to input basic information about the Rule. This is the first step in creating a Rule.

Name: What you want to name the Rule.

Description: You can provide a description about the Rule here. (This is not what will be in the notification message)

Place: The Scope of where the rule will apply. This will be set by the current Scope when you create the Rule.

Schedule: This allows you to set a Schedule for when the Rule applies. You can use any Schedule that has been created or go to the Schedules page and create a new one. In this example we chose “Always” to make the Rule always apply.





Triggers are the next component of a Rule. Triggers are the Devices, Places, People, Conditions and more that can be used to trigger a Rule. You will need to have at least one Trigger to allow a Rule to function. However, you can add many Triggers to a Rule and create a limitless number of options and scenarios in a Rule.

With the power and flexibility with Triggers, we will describe each component to help you understand what is available to you.

And/or Statements

When adding Triggers they can be applied as an “And”, or an “Or” statement.

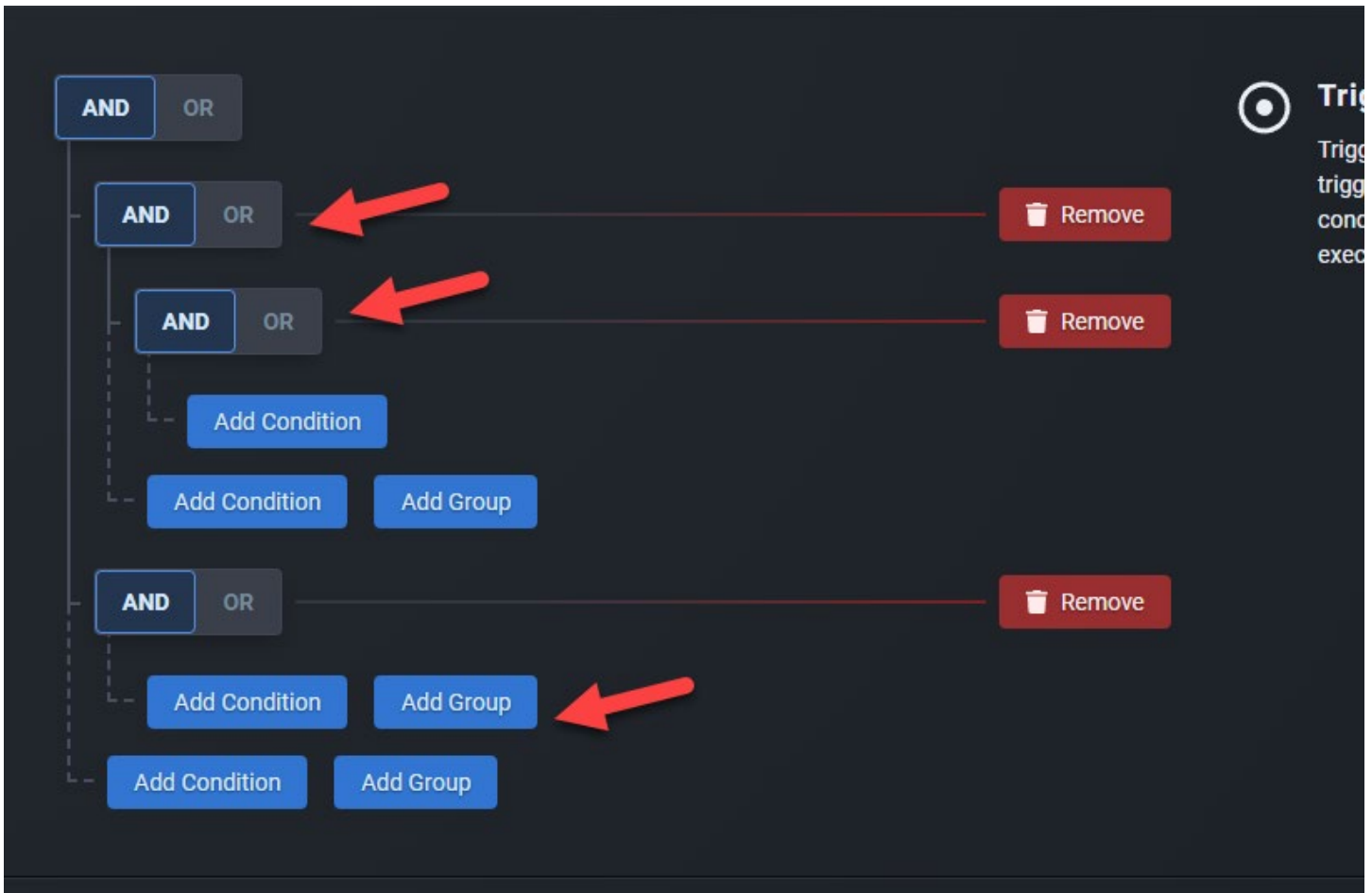
“And” means that you can say a Rule must have a successive number of conditions before being Triggered. Such as “Camera 1, and Camera 2, And Camera 3 Must be offline”. Using an “And” statement for this means that all three cameras must be offline.

Conversely, an “Or” statement indicates that any of the conditions listed can trigger the Rule. For example, “Camera 1, or Camera 2, or Camera 3 must be offline”. In this case by using an “Or” statement we indicate that any of the three cameras being offline will trigger the Rule.

Groups

Adding Groups will nest new conditions under the current. It is a quick way to begin framing out the conditions for a more complex Rule.

In this example, we added two Groups under the first condition. We then added a second condition with one Group.

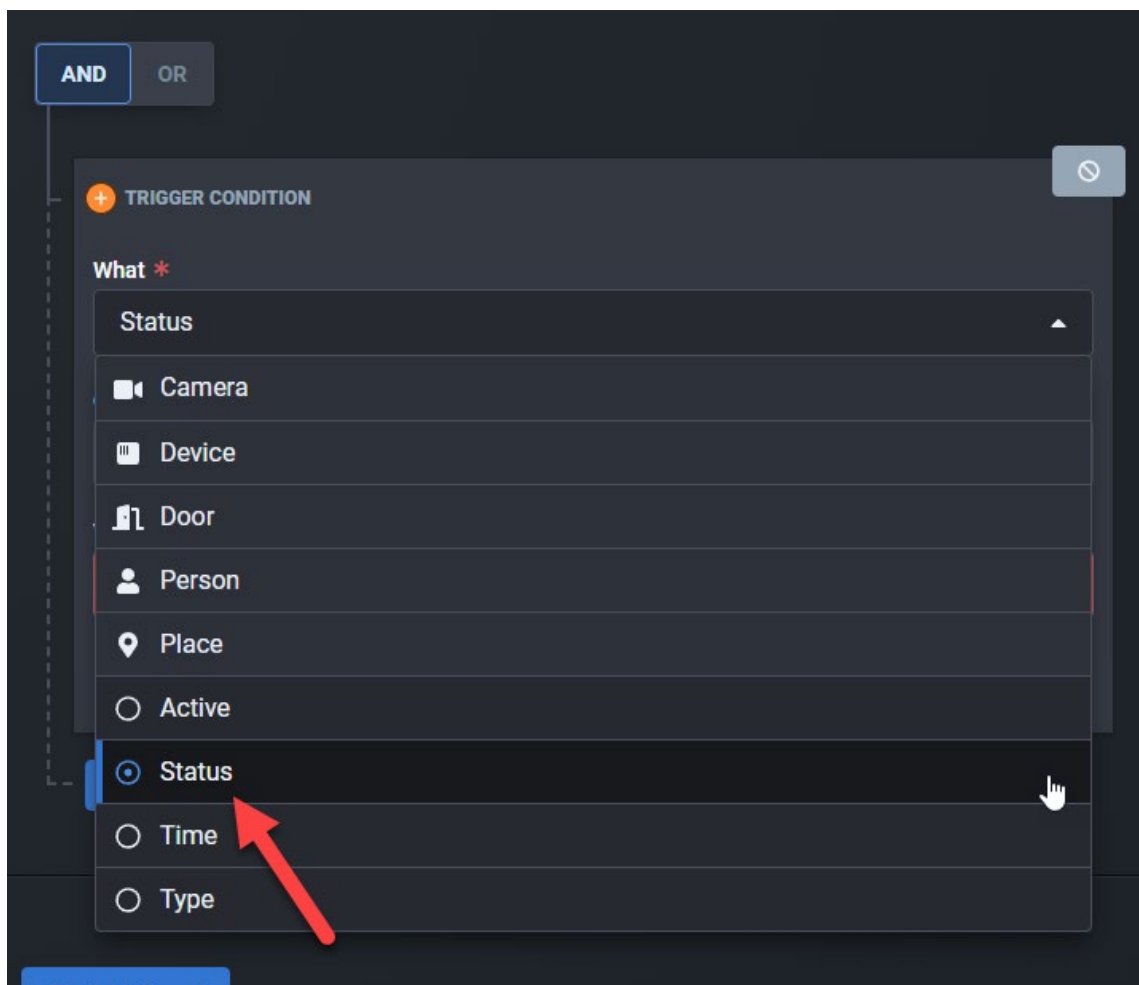


There are many ways that this function could be used. One example may be that you want a set of conditions to occur before the Rule triggers (And Statement), or you may want to include several options that can trigger a Rule (Or Statement)

Using Groups in combination with and/or statements allows maximum flexibility in creating a Rule.

Conditions

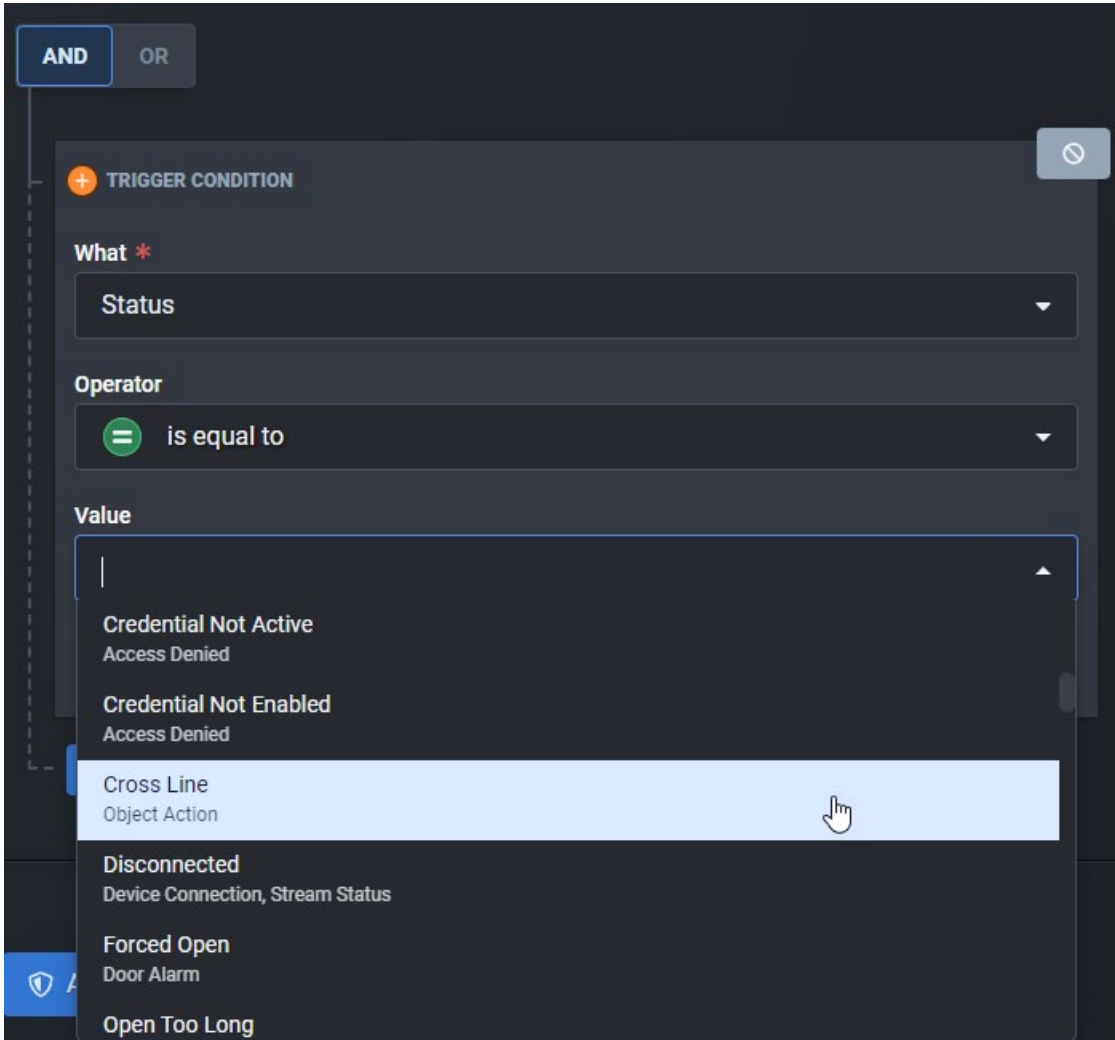
Conditions are the statuses, devices, people etc. that can be used to trigger a Rule. The Conditions themselves are like the options in our dynamic Smart Search table, which means that there are a lot of options to choose from:



In addition to Devices, people, and Places you can also choose from Active, Status, Time and Type. At this end of this subsection we will review the type of options available in for Condition group, in more detail.

For now, we will continue our example of a Crossline notification to understand how this section works. We are going to choose "Add Condition" and choose "Status".

Then we can choose our desired condition in the “Value” Menu.

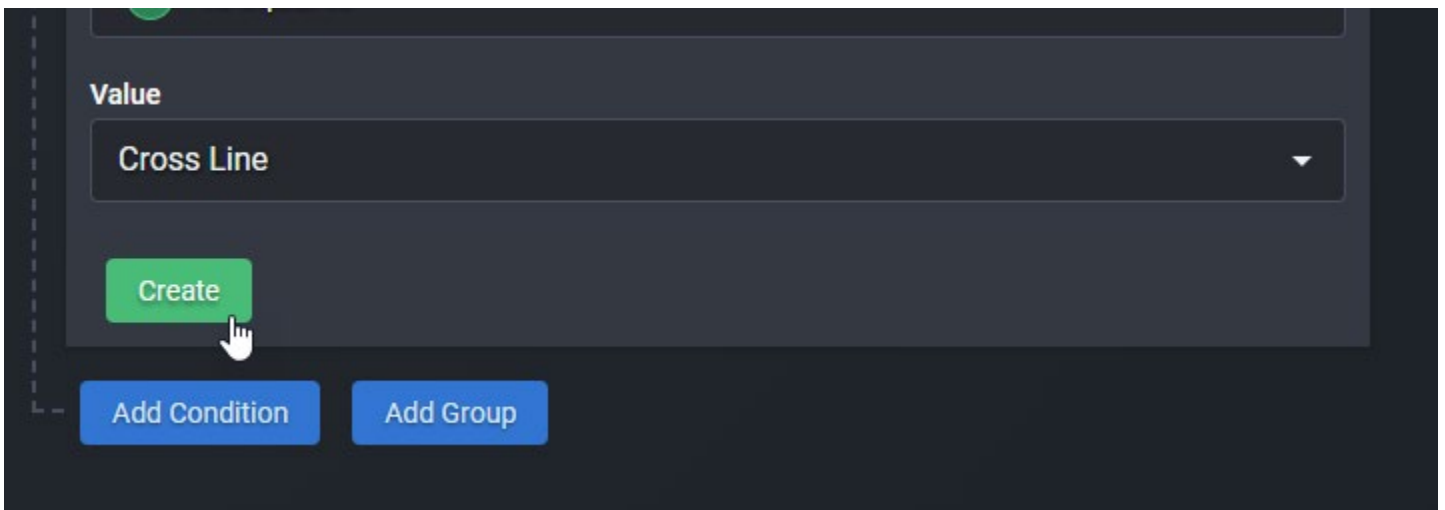


The screenshot shows a configuration panel for a trigger condition. At the top, there are two buttons: "AND" (selected) and "OR". Below this is a section titled "TRIGGER CONDITION" with a close button in the top right corner. The configuration is as follows:

- What ***: A dropdown menu with "Status" selected.
- Operator**: A dropdown menu with "is equal to" selected.
- Value**: A dropdown menu that is open, showing a list of conditions:
 - Credential Not Active
Access Denied
 - Credential Not Enabled
Access Denied
 - Cross Line** (highlighted with a mouse cursor)
Object Action
 - Disconnected
Device Connection, Stream Status
 - Forced Open
Door Alarm
 - Open Too Long

Again, for this example we will select our Crossline condition.

As a best practice, select “Create” to save the conditions while we work through the options to avoid losing our work if interrupted:



This screenshot shows the same configuration panel as the previous one, but with the "Value" dropdown menu closed and "Cross Line" selected. Below the dropdown menu, there is a green "Create" button with a mouse cursor hovering over it. At the bottom of the panel, there are two blue buttons: "Add Condition" and "Add Group".

After saving our first condition we see the following screen displayed:

Create Rule

Name * **Active**

Crossline Event Notification Enabled

Description *

This Rule will notify when a Crossline event occurs

Place **Schedule ***

📍 Qumulex Customer 📅 Always (Read only)

AND **OR**

This event ▸ Status is equal to ✎

⊞ CrossLine

Add Condition Add Group

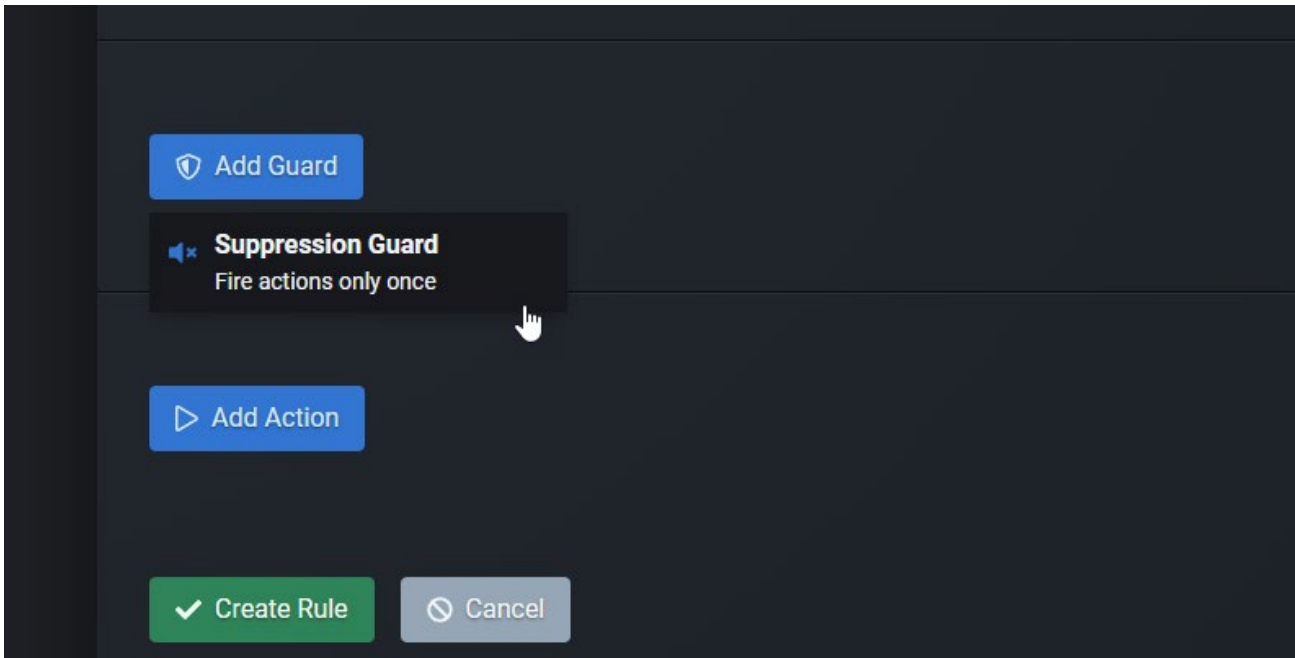
Triggers

Triggers initiate trigger are evaluated condition logic executing Actions

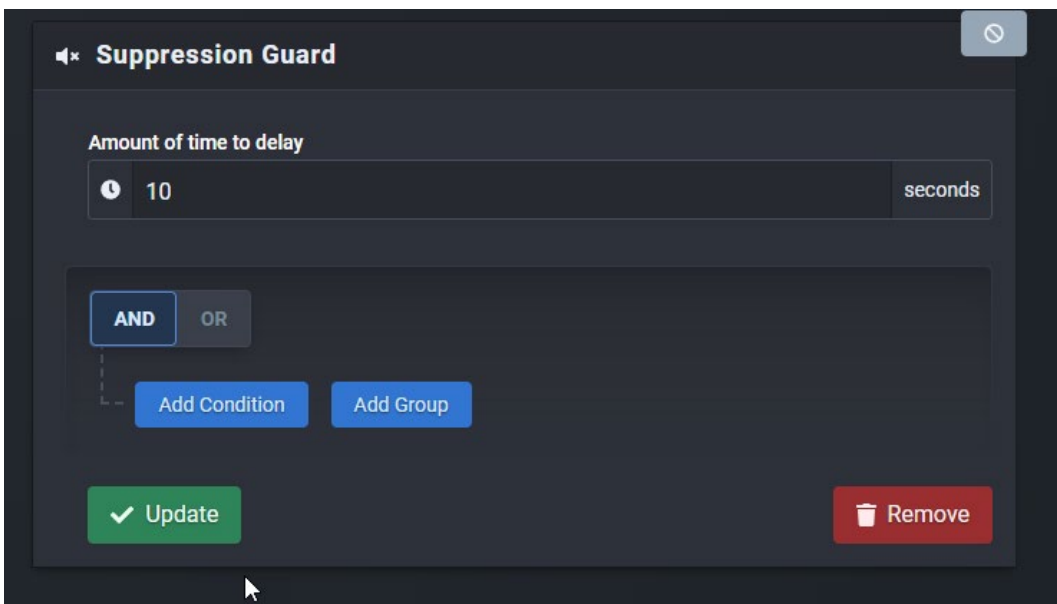
At this point, we have configured enough conditions to trigger the rule and we can move on to Guards and Actions.

Rules: Guards

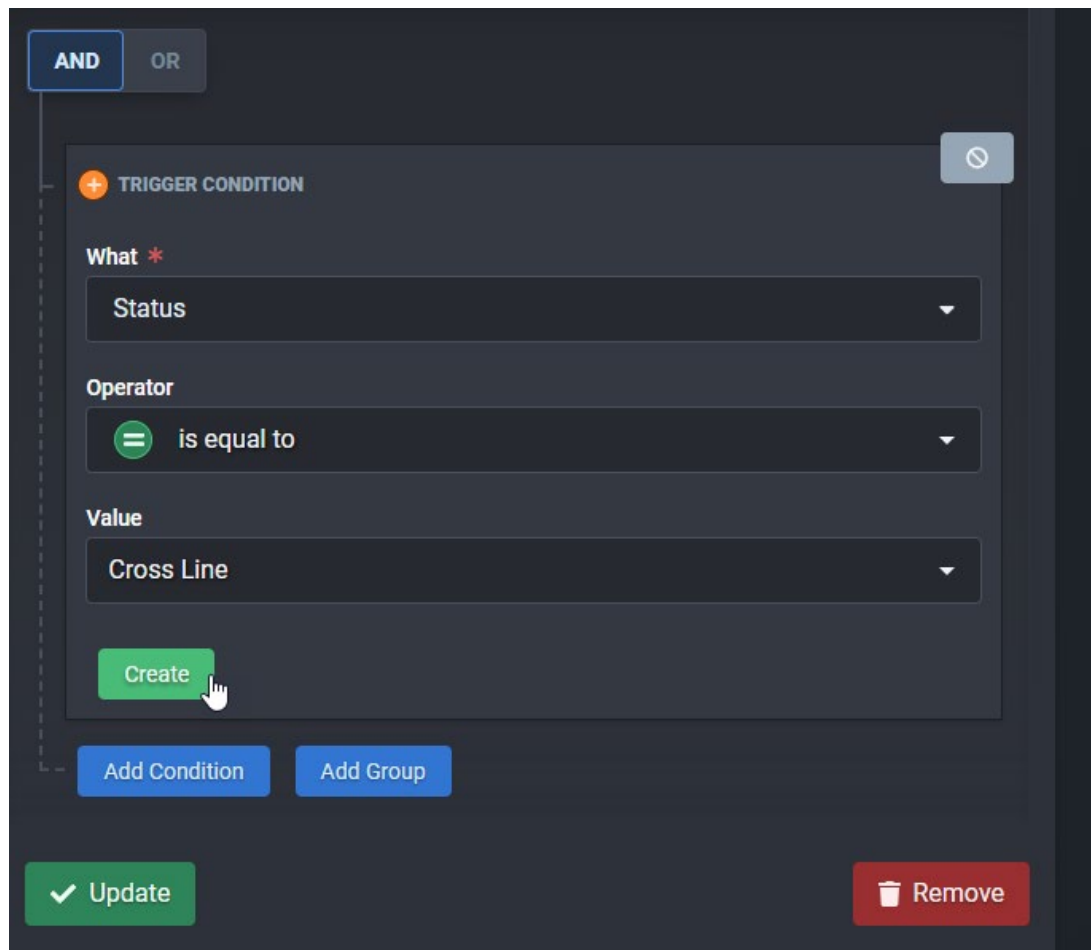
Guards are used to limit the amount or frequency of notifications. This is especially helpful for notifications such as Motion, Devices that are offline, etc. where the condition could persist or repeat for a lengthy period. You can use Guards to help prevent an overabundance of notifications. Continuing our Crossline example, we choose “Add Guard” to see the options for rate limiting.



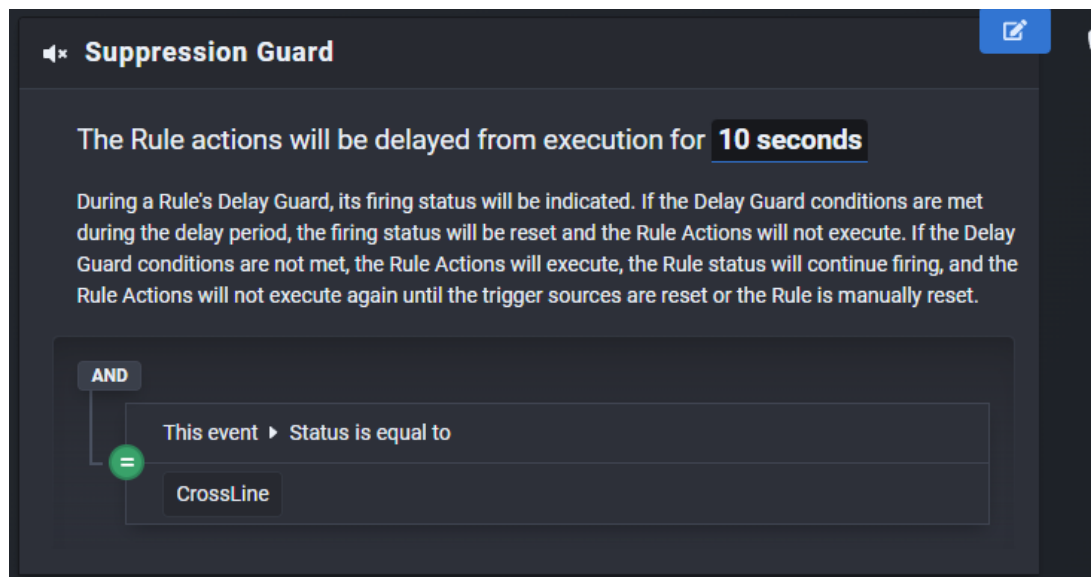
We can then choose “Suppression Guard. This allows us to choose the amount of time before the Trigger can repeat for the same condition, and allows us to add more conditions. In this example we will choose a simple 10 second delay.



After that we will choose the same Condition, Crossline, as that is the only event type we want to notify on with this Rule. (We could, however, choose to have other conditions in a more complex rule, such as do not notify again until the Delay is met and we also get Motion, for example):



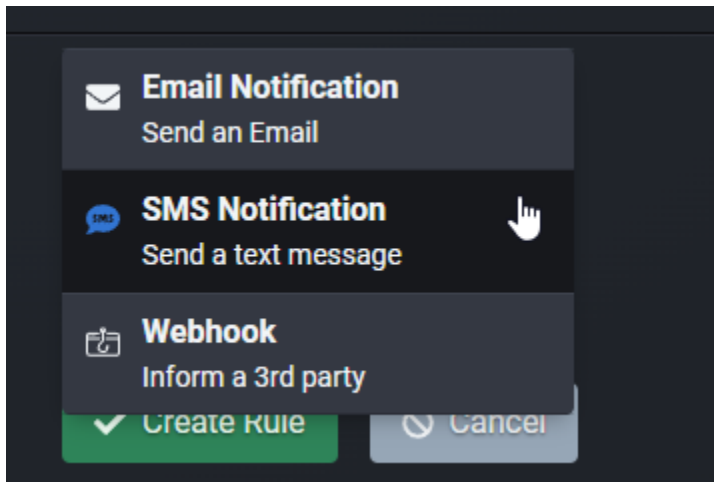
Once you are finished, choose “Create” to save your options and then “update” to save your progress in creating the Rule. Now we can move on to creating the Actions.



Rules: Actions

The final step in creating a new Rule is to configure the Actions. The Actions are the result of the rule, in this version of QxControl Actions are focused on sending notifications.

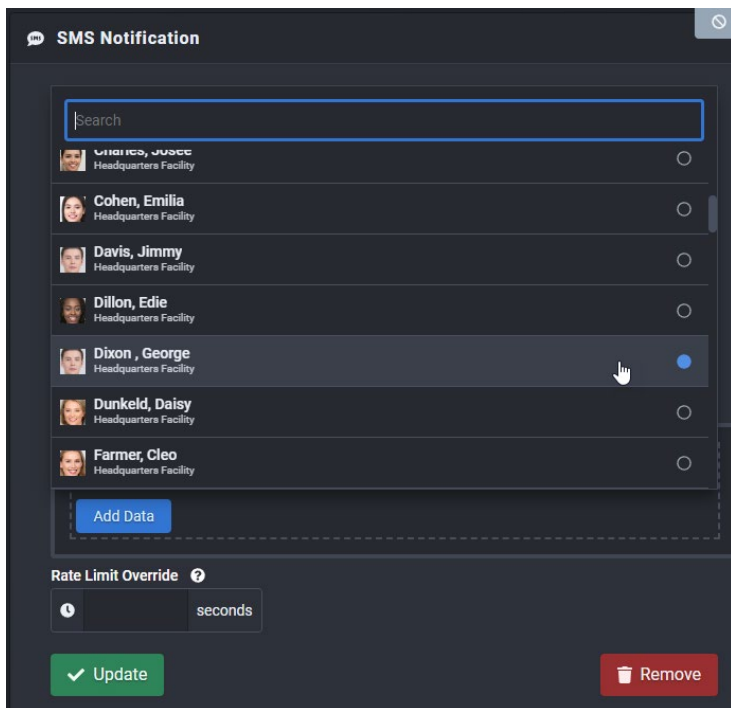
Choose “Add Action” to continue. This will present three options: Email, SMS and Webhook.



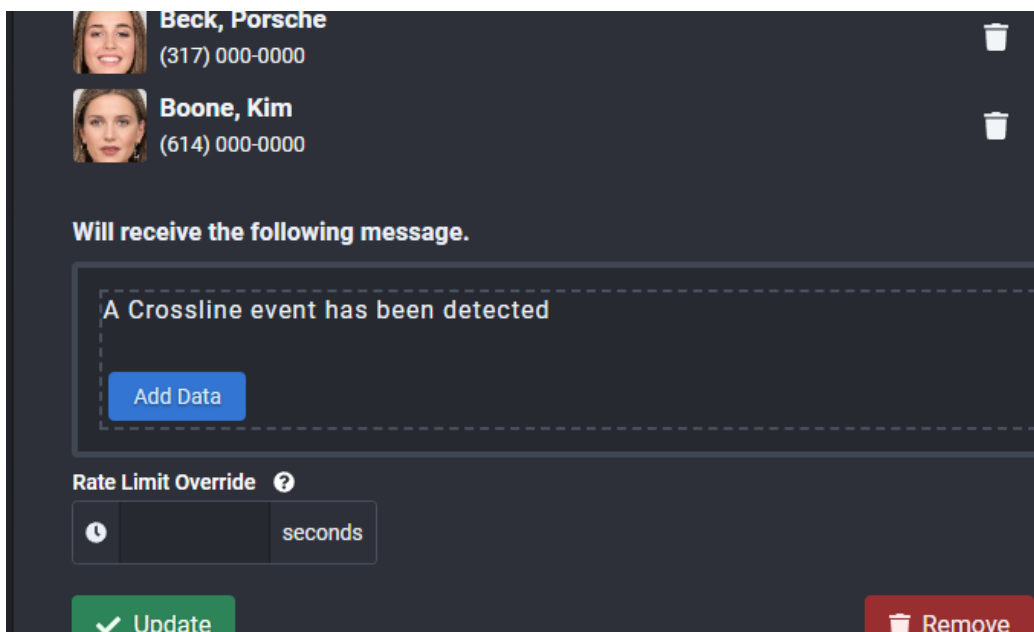
Note: Webhook is a Beta feature that will be available in a later release.

Starting with SMS in this example, we can choose one or more numbers to send an SMS (text) message to when a condition is Triggered. In our example, this will be when a Crossline event is detected.

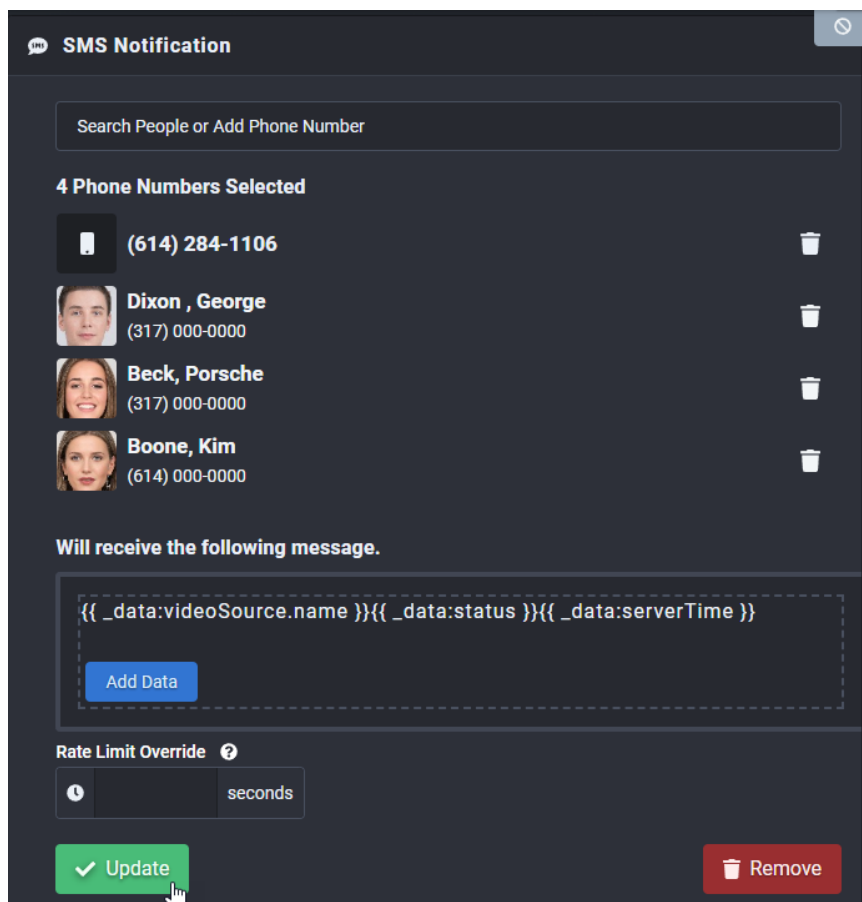
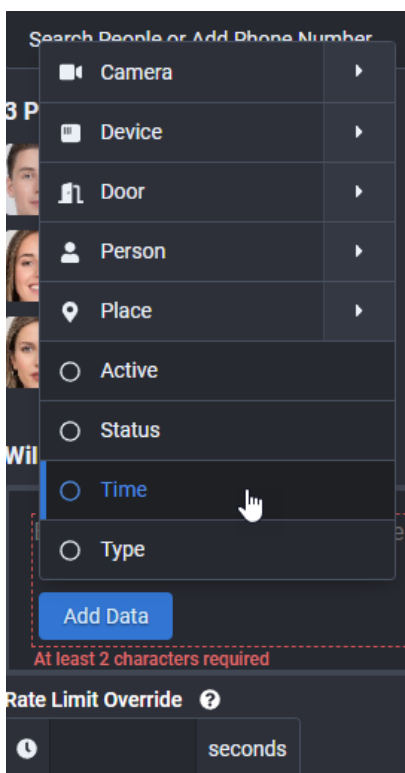
The first step is to select one or more people from the “Search People or Add Phone Number” field.



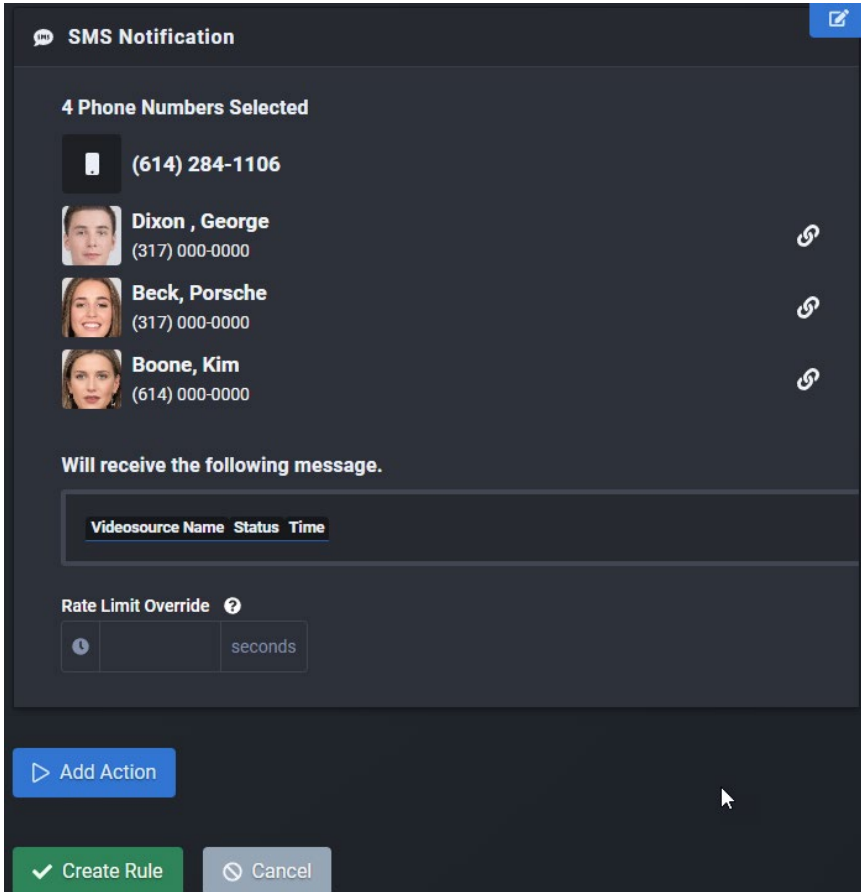
Once you have selected your recipients, you can now choose what to display in the message. You can manually type in a message if you like:



Or you can use the "Add Data" feature to provide automated data such as names, statuses, and time. For this example we will choose the event type, camera, and time that it occurred. Choose "Update" to save once completed.



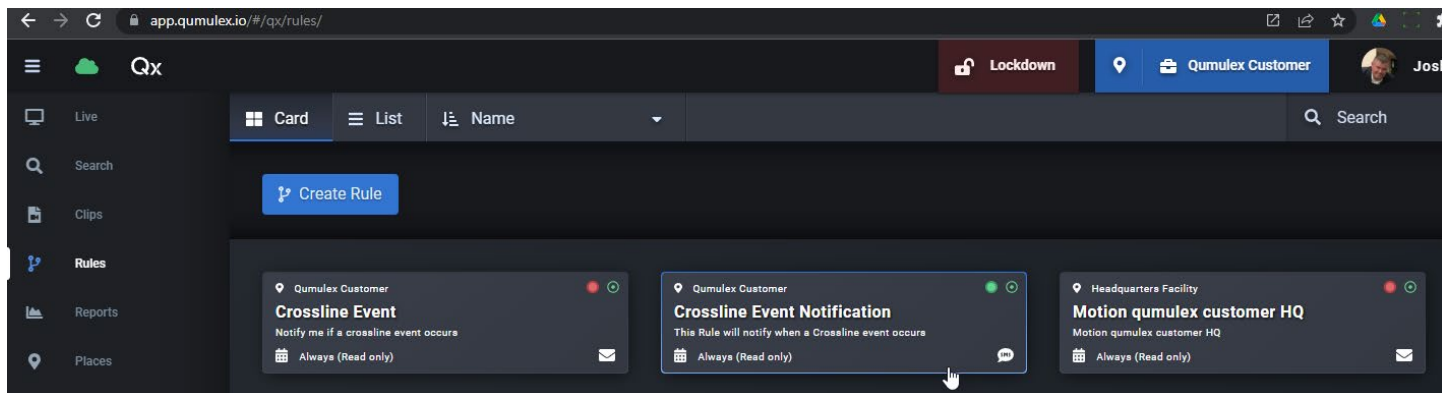
Once completed, you will see the Data Fields and recipients listed:



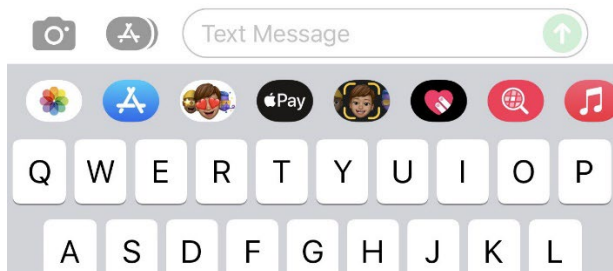
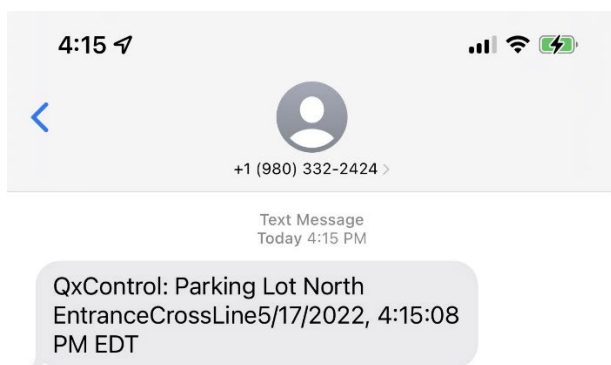
If you are finished, choose "Create Rule" to save the rule or choose "Add Action" to continue adding more notifications.

Rules: Editing and Managing Rules

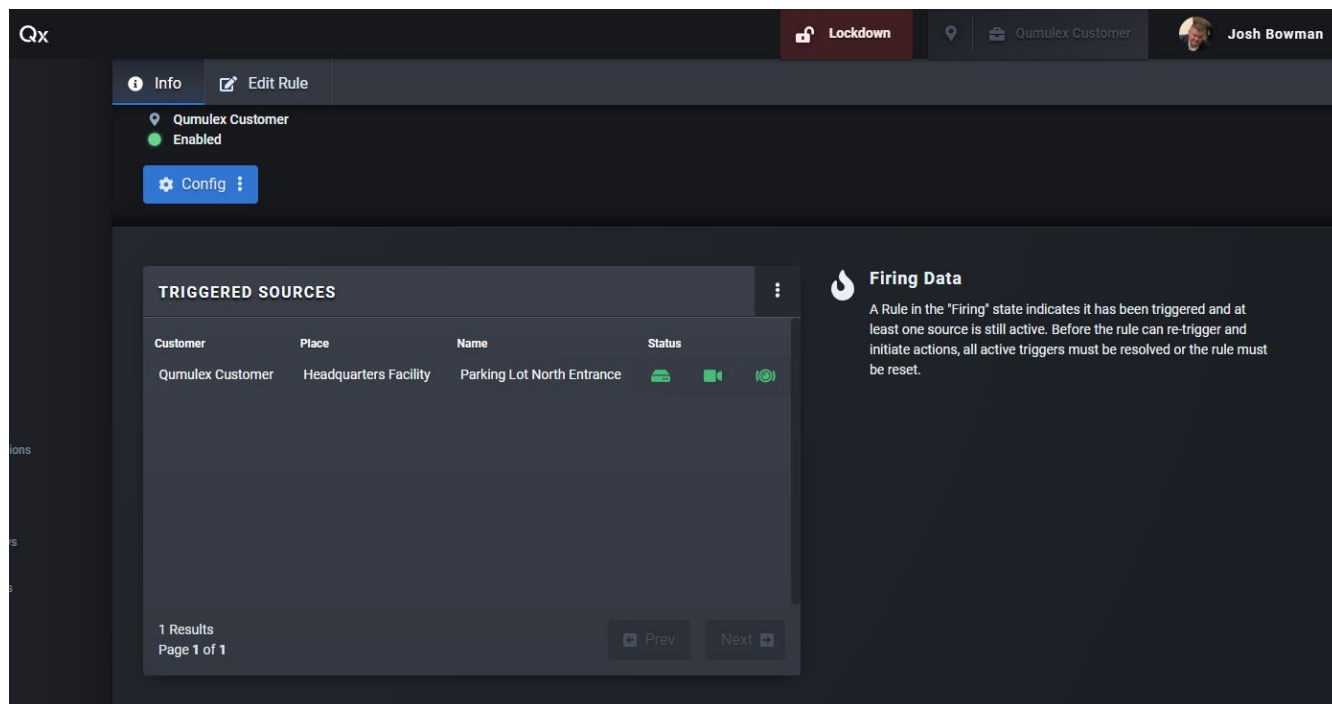
Once you have created one or more Rules, you can view or edit these Rules on the Rules Info Page.



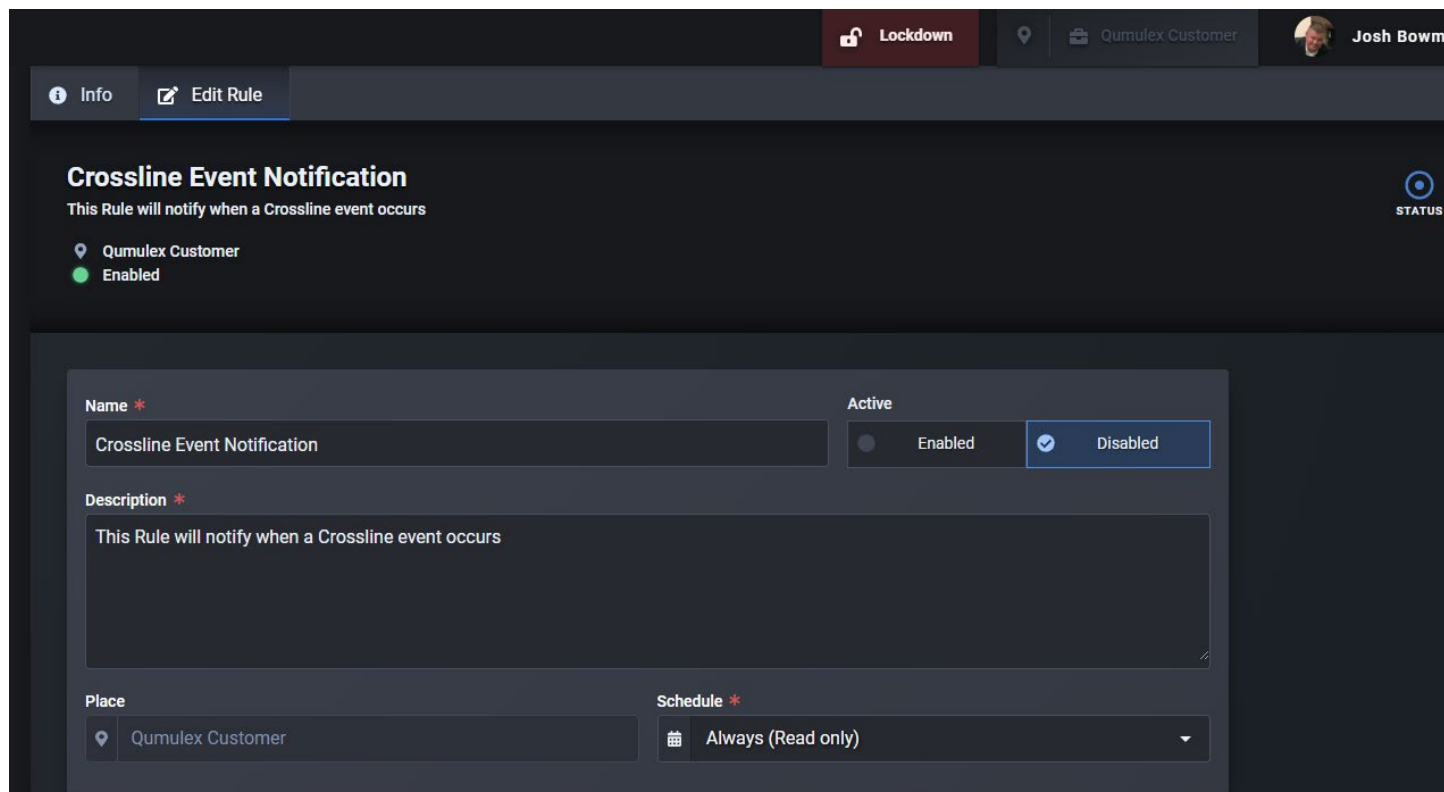
You can select and edit an existing Rule, and you can also examine the Firing Data of Rule Triggers. In our example of Crossline Event Notification, we have received the following notification:



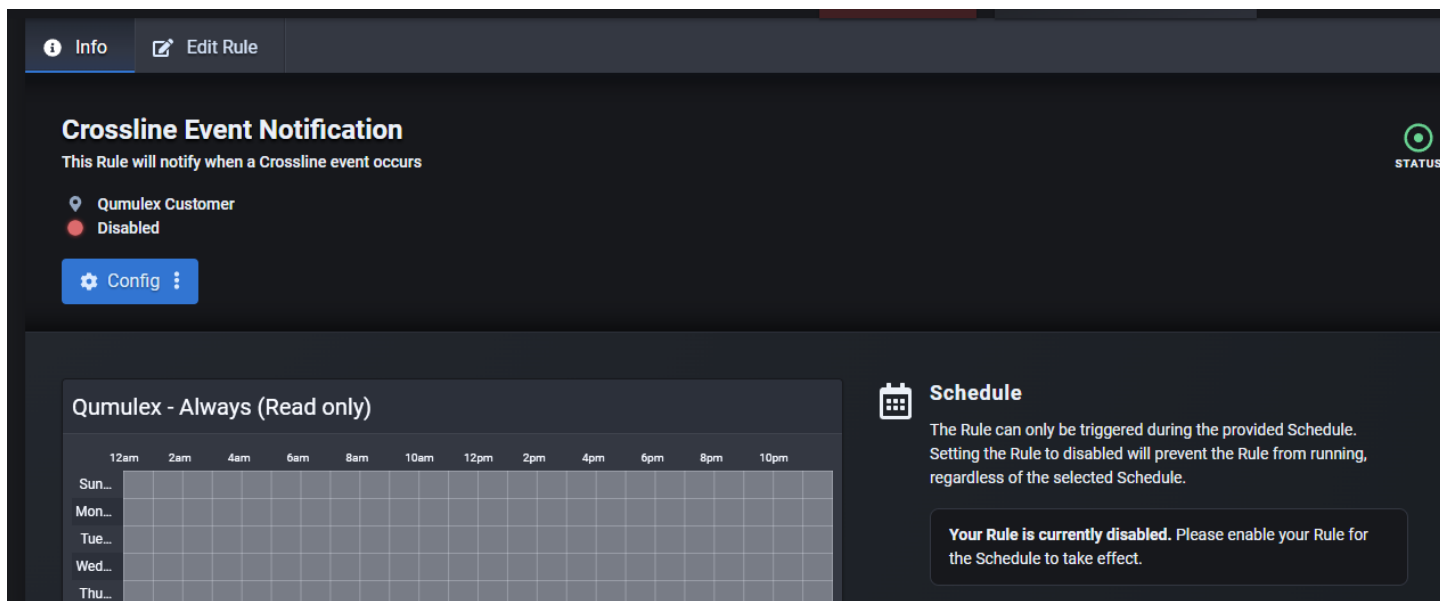
Now that we are receiving notifications, we can examine the Firing Data that created the notification. To do that we can open the Rule Card and scroll down to the “Triggered Sources” table:



If we are receiving too many notifications, we can also use this screen to edit the Rule, or we can disable it if we no longer want to receive this notification:

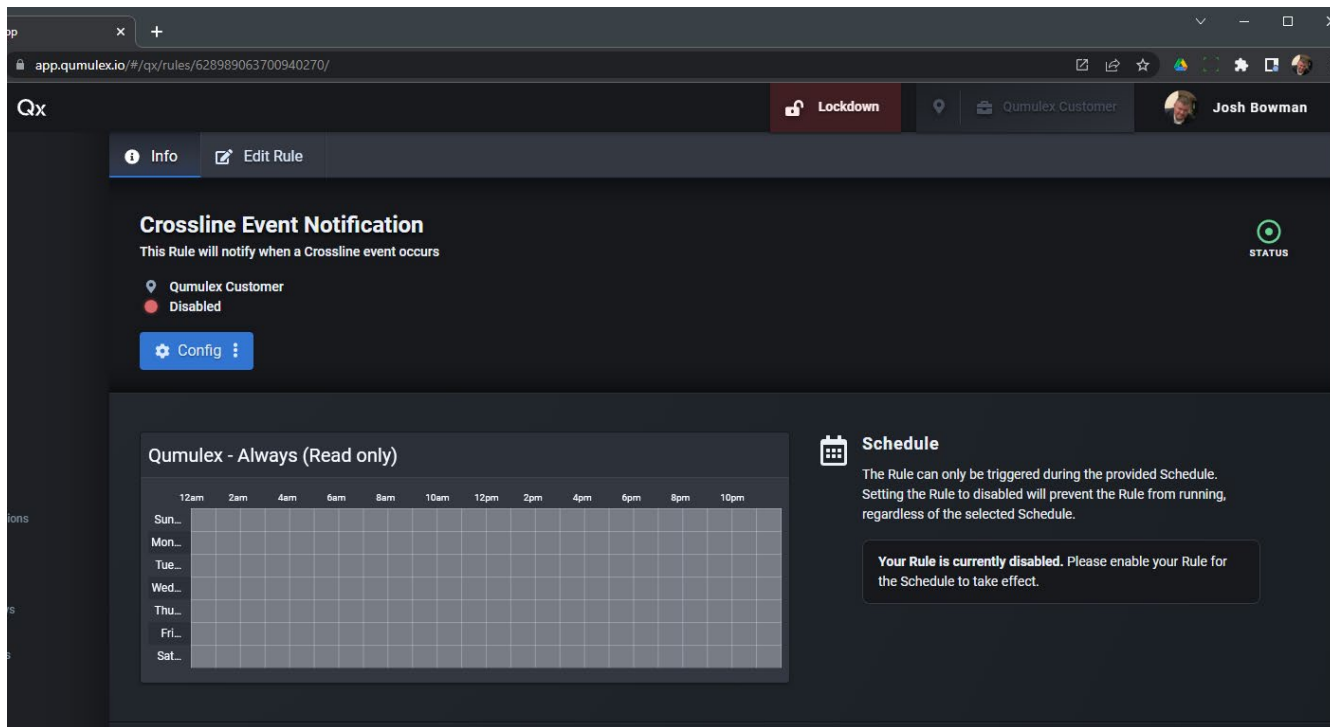


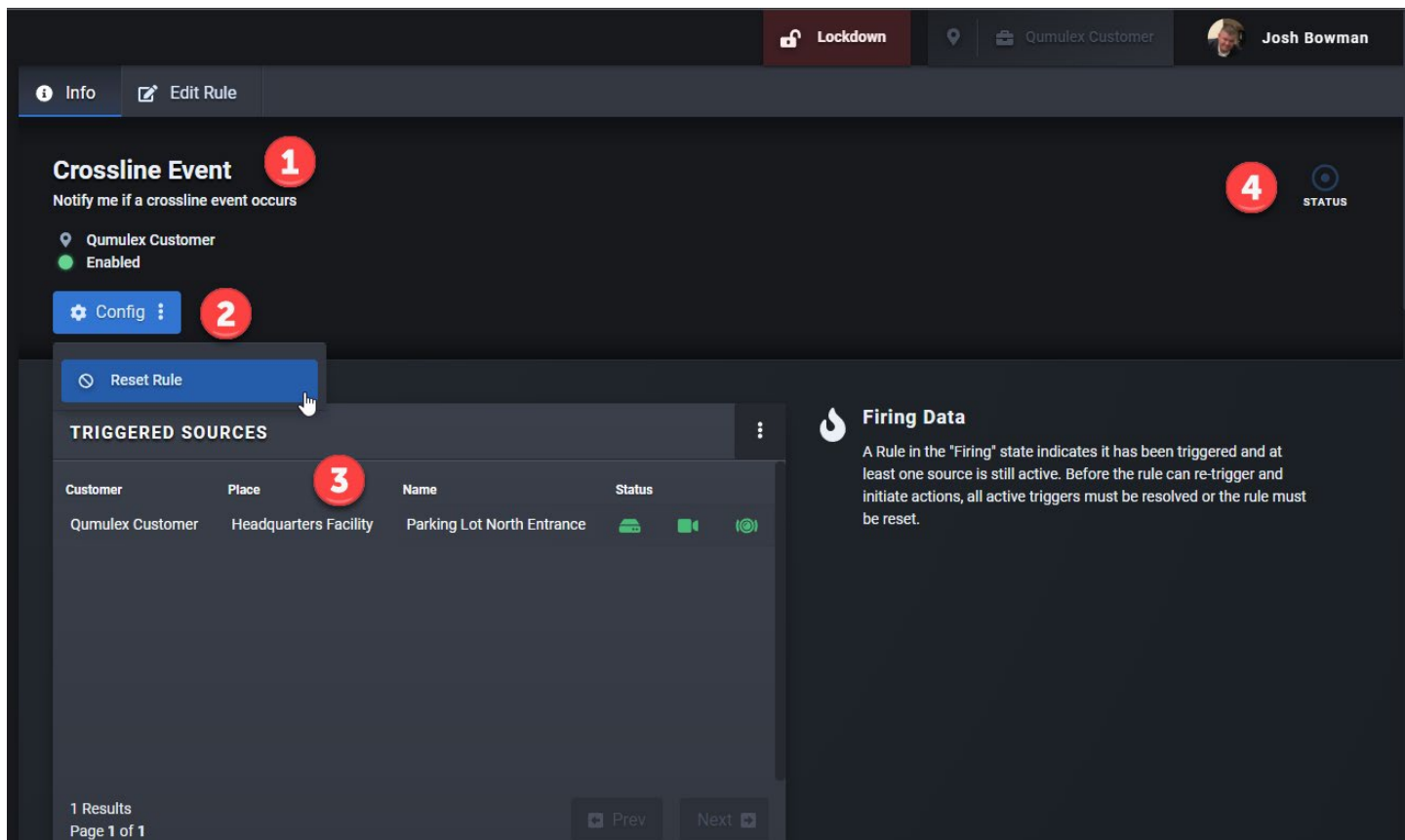
Once successfully disabled, you will see verification and the status light will be red:



Rules: Info Page (Continued)

In this section we will review the components of the Rule Info Page in more detail.





- 1) This field displays the Title of the Rule, the Description you provided for the Rule, the Scope of the Rule (Where it applies), and displays if the Rules is Enabled ● or Disabled. ●
- 2) Config allows you to Reset the Rule if a Trigger is not working properly or you need to clear the Queue.
- 3) Firing Data will appear in the Triggered Sources table. This will show the conditions that are Triggering the Rule and in the case of Resources such as Devices and People, you can click on the row to visit the Resource's Info Page.

The screenshot shows the configuration page for a rule named "Qumulex - Always (Read only)". At the top right, there are navigation elements: "Lockdown", "Qumulex Customer", and a user profile for "Josh Bow". Below the navigation, there are tabs for "Info" and "Edit Rule".

1 The "Schedule" section is highlighted with a red circle. It features a calendar grid with days of the week (Sun... to Sat...) on the y-axis and time slots (12am, 2am, 4am, 6am, 8am, 10am, 12pm, 2pm, 4pm, 6pm, 8pm, 10pm) on the x-axis. The grid is filled with green, indicating the rule is active. To the right of the grid, the "Schedule" title is followed by the text: "The Rule can only be triggered during the provided Schedule. Setting the Rule to disabled will prevent the Rule from running, regardless of the selected Schedule."

2 The "Triggers" section is highlighted with a red circle. It shows a logic tree starting with "AND", followed by a condition: "This event ▶ Status is equal to" and a value: "CrossLine". To the right, the "Triggers" title is followed by the text: "Triggers initiate Rule processing. The conditions defined in a trigger are evaluated when their sources emit events. The trigger condition logic must evaluate to true for the Rule to move toward executing Actions."

- 1) Displays the Schedule associated with the Rule.
- 2) Displays the Triggers associated with the Rule.
- 3) Shows the Suppression Guards associated with the Rule. In this example you see that we have a delay of 10 seconds after the Rule has been triggered before it can be triggered again.

The screenshot shows the "Suppression Guard" configuration for the rule. At the top right, there are navigation elements: "Lockdown", "Qumulex Customer", and a user profile for "Josh Bow". Below the navigation, there are tabs for "Info" and "Edit Rule".

3 The "Suppression Guard" section is highlighted with a red circle. It features a title "Suppression Guard" and a text box stating: "The Rule actions will be delayed from execution for **10 seconds**". Below this, there is explanatory text: "During a Rule's Delay Guard, its firing status will be indicated. If the Delay Guard conditions are met during the delay period, the firing status will be reset and the Rule Actions will not execute. If the Delay Guard conditions are not met, the Rule Actions will execute, the Rule status will continue firing, and the Rule Actions will not execute again until the trigger sources are reset or the Rule is manually reset." Below the text is a logic tree starting with "AND", followed by a condition: "This event ▶ Status is equal to" and a value: "CrossLine". To the right, the "Guards" title is followed by the text: "Guards may prevent execution of the Rule's Actions."

Lockdown Qumulex Customer Josh B

Info Edit Rule

SMS Notification

4 Phone Numbers Selected

- (614) 284-1106 **1**
- Dixon, George (317) 000-0000 **2**
- Beck, Porsche (317) 000-0000 **2**
- Boone, Kim (614) 000-0000 **2**

Will receive the following message.

| Videosource Name | Status | Time |
|------------------|--------|------|
| | | |

Rate Limit Override **4**

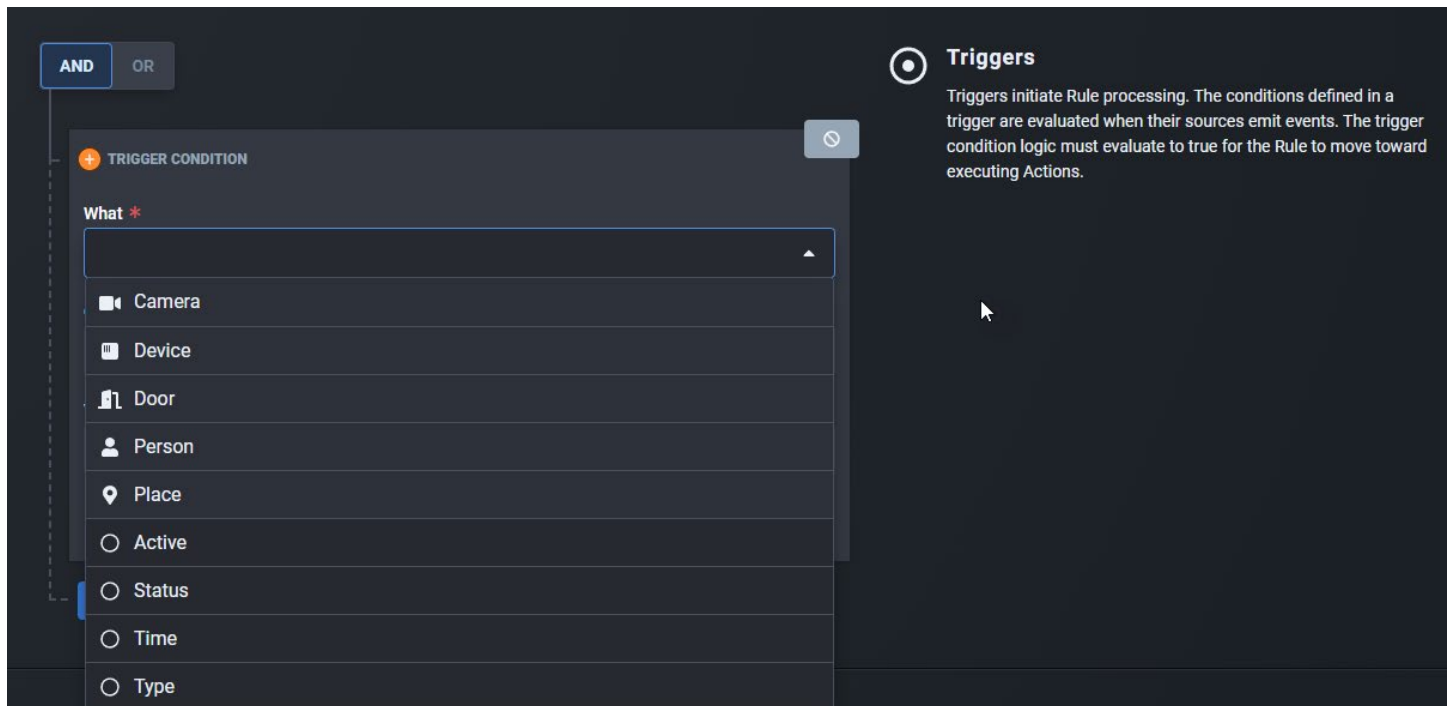
seconds

Actions

Actions are executed once the Rule is triggered and any configured guards have been resolved.

- 1) Displays manually entered (Not a system user) phone numbers and email addresses.
- 2) Displays People who receive notification and links back to their People Info Page.
- 3) Displays the message that will be sent, including any Data Tags applied as shown here where the Camera name, Status and Time the event occurred will be automatically displayed in the message.

Rules: Understanding Trigger Condition Options



One aspect of the Rules feature that makes it so powerful, is that the list of Trigger Conditions shares the same database of options as our powerful Smart Search.

This means that in addition to Devices, People, and other conditions you can also select from our list of supported Camera analytics, such as Crossline, Motion, Vehicle Detection and more.

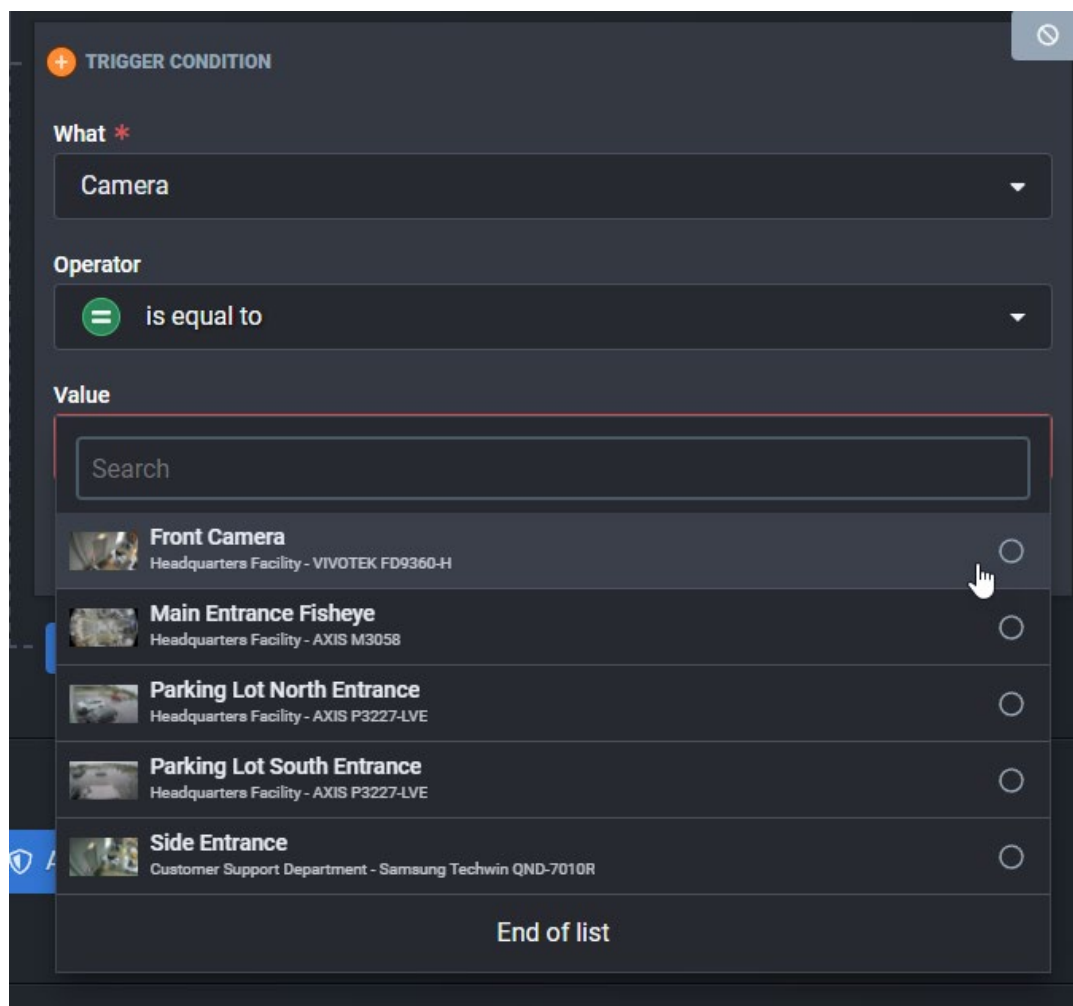
This database is also dynamic, and you will see more options available as the list of supported analytics grows, as well as the number of Devices and People grows.

To understand what options are available and where to find them, this section will break down the following sections to provide guidance:

- Resources (Camera, Device, Door, Person, Place)
- Active
- Status
- Time
- Type

Resources

These are the most intuitive options. Here you can select Resources from QxControl to use as a Trigger. In the example below, we have chosen a Camera:



The screenshot displays a configuration window titled "TRIGGER CONDITION". It is divided into three sections: "What", "Operator", and "Value".

- What:** A dropdown menu with "Camera" selected.
- Operator:** A dropdown menu with "is equal to" selected.
- Value:** A search bar with the text "Search" and a list of camera options. The first option, "Front Camera", is highlighted with a red border and a mouse cursor. The other options are "Main Entrance Fisheye", "Parking Lot North Entrance", "Parking Lot South Entrance", and "Side Entrance". Each option includes a small camera icon, the name, and the location and model number.

At the bottom of the list, it says "End of list".

Once you select the Camera option, you will then move to Value. As you can see the Value field will then present all available options for selecting a camera.

This procedure will work the same for Device, Door, Person, and Place.

Note: If you do not see all the items you expect to see, you should verify that you are set to the correct scope.

Active

Active allows you to set a condition based on the value of “On” or “Off”. This is another component that can be used in creating your And/or statement.

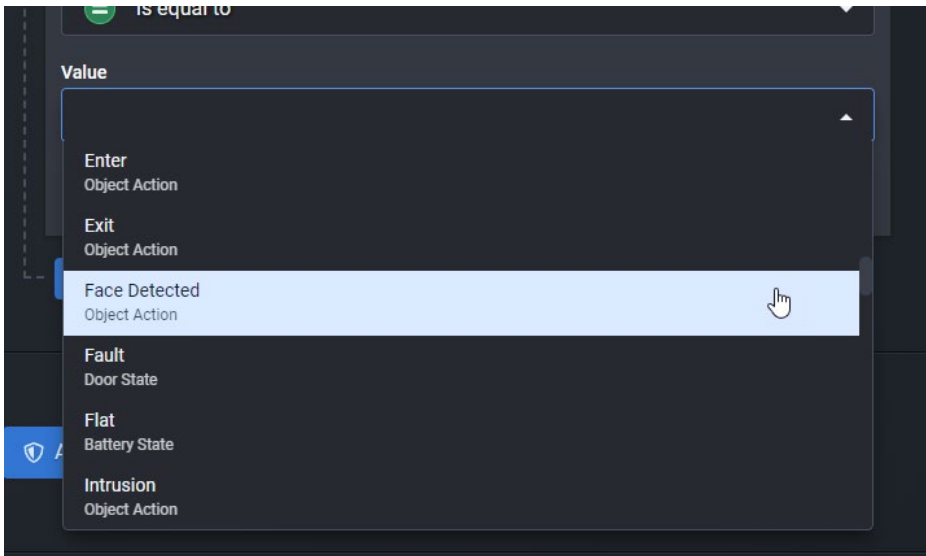
The screenshot displays a configuration interface for a trigger condition. At the top, there are two buttons: 'AND' (highlighted in blue) and 'OR' (grey). Below these is a 'TRIGGER CONDITION' section, indicated by an orange plus icon and a close button (grey circle with a slash). The section contains three fields:

- What ***: A dropdown menu with 'Active' selected.
- Operator**: A dropdown menu with 'is equal to' selected, accompanied by a green equals sign icon.
- Value**: A radio button interface with 'On' selected (indicated by a blue checkmark) and 'Off' (indicated by a grey circle).

Below the 'Value' field is a green 'Create' button. At the bottom of the interface are two blue buttons: 'Add Condition' and 'Add Group'. A dashed line on the left side of the 'TRIGGER CONDITION' box indicates it is part of a larger sequence.

Status

Status will provide you with several options, including many of the available Camera analytics.



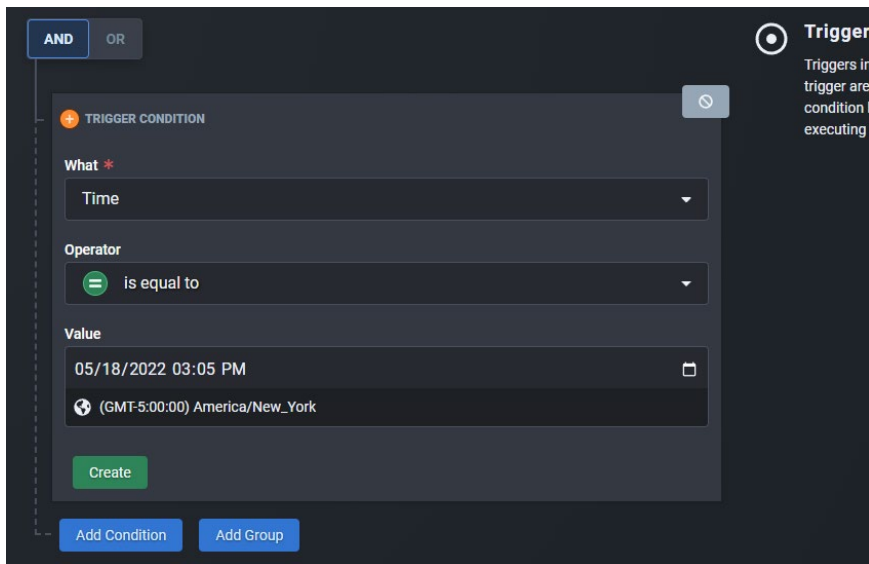
This is a dynamic table and will continue to grow, but some options you will see are:

- Accessed – Door Mode
- Appear/Disappear – Object Action
- Audio Detected – Object Action
- Battery Alarm – Door Alarm
- Blocked – Door Mode
- Closed – Door State
- Connected – Device Connection, Stream Status
- Count Exceeded – Object Action
- Credential Expired – Access Denied
- Cross Line – Object Action
- Disconnected – Device Connection, Stream Status
- Forced Open – Door Alarm
- Face Detected – Object Action
- Flat – Battery State
- Intrusion – Object Detection
- Left Object – Object Action
- Locked Down – Door Mode
- Loitering – Object Action
- Mask Detected – Object Action
- Open – Door State
- Person Detected – Object Action
- Vehicle Detected – Object Action

Note: There are many more options available. These are just some of the options available in Status.

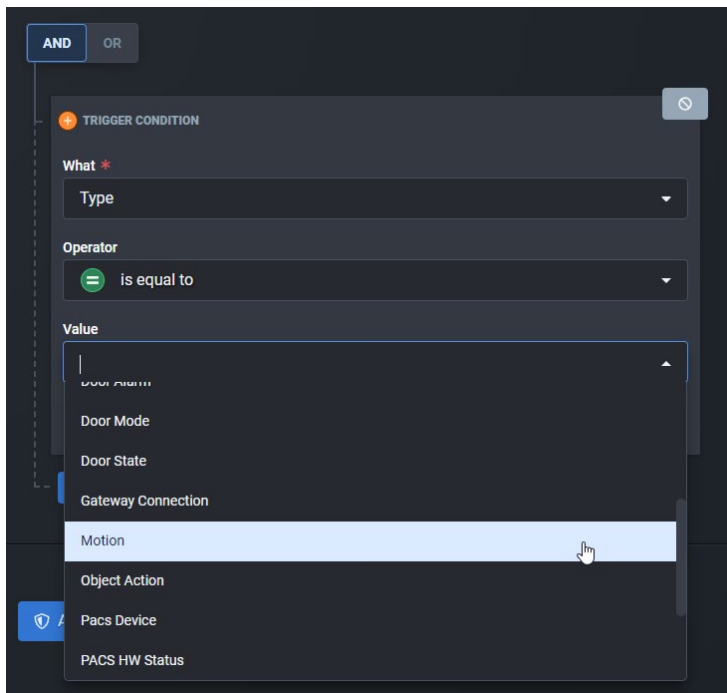
Time

Like “Active”, time allows you to specify a specific time in your And/or statement.



Type

Type is like “Events” in search. This will include any sub-options for the Type. An example of this would be Object Action would include all events that are an Object Action, such as Person Detected, Vehicle Detected, Left Object and so on. This is a good option to use when you want to Trigger an Action based on a broader scope of Conditions.



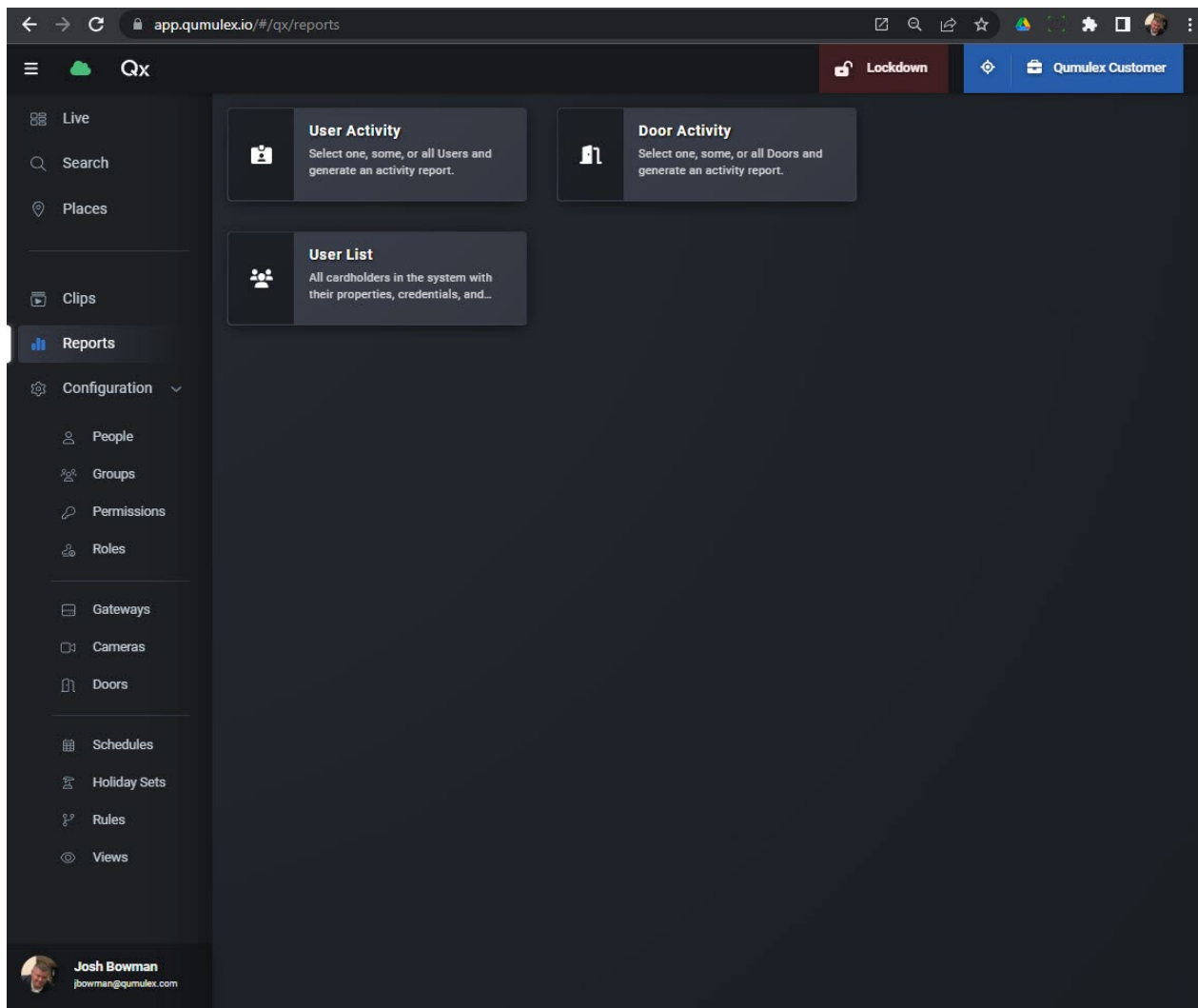
This is a dynamic table and will continue to grow, but some options you will see are:

- Access Denied
- Access Granted
- Access Not Found
- Access Not Taken
- Access Taken
- Battery State
- Device Connection
- Door Alarm
- Door Mode
- Door State
- Gateway Connection
- Motion
- Object Action
- Pacs Device
- Pacs HW Status
- Place Lockdown
- Stream Status
- Tamper

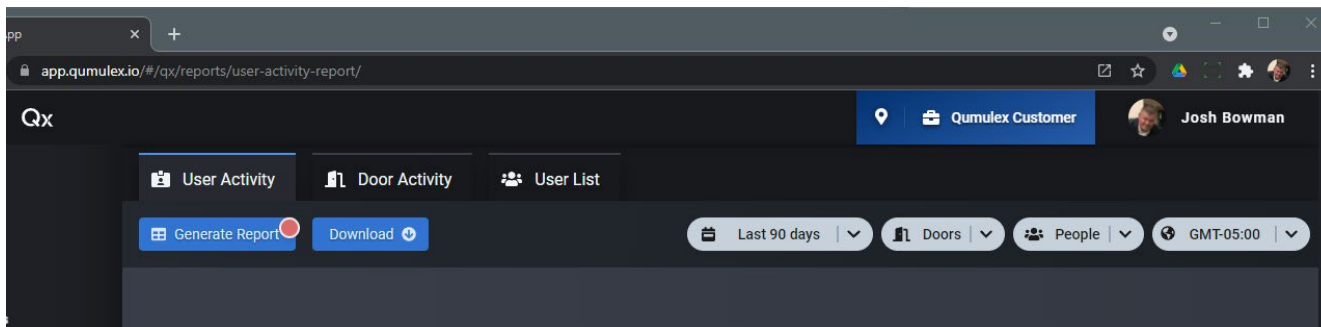
Reports

The Reports page is used to view and export information about Access Control users and events. Options may vary for each report that you can run but are similar. We will start by covering the basics of the reporting feature before describing each report type.

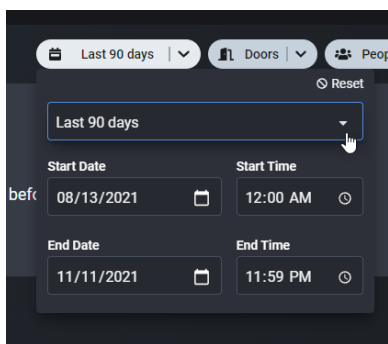
First, click on the report type that you wish to work with:



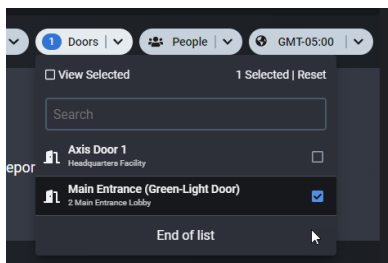
Next, you will choose from the available options to generate your desired report. These Options are located along the top of the page:



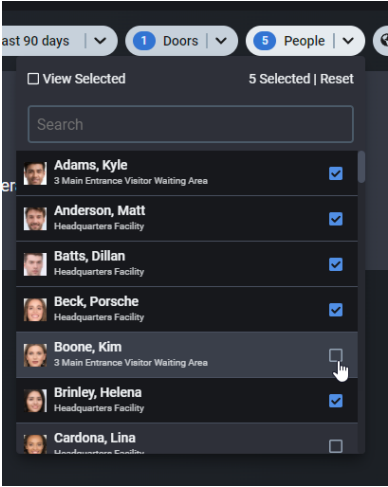
The first option is to select the time range for the report. You can either select the easy predefined options from the drop-down list (Such as last week, last 30 days etc.) or you can directly enter the specific time range you want to view.



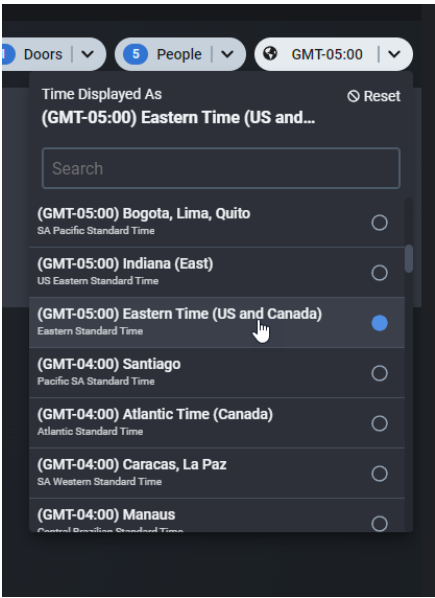
The next option is to select the Doors to include in the report. You can either scroll through the list of doors and select the doors you prefer, or you can use the search box to find specific doors and include them. As you select doors, you will see the quantity of selected doors represented inside the blue circle. In this example, we have one door selected and the number shown is "1".



The third option is to select the people to be included in the report. You can either scroll through the list of people and select the people you prefer, or you can use the search box to find specific people and include them. As you select people, you will see the quantity of selected people represented inside the blue circle. In this example, we have 5 people selected and the number shown is “5”.

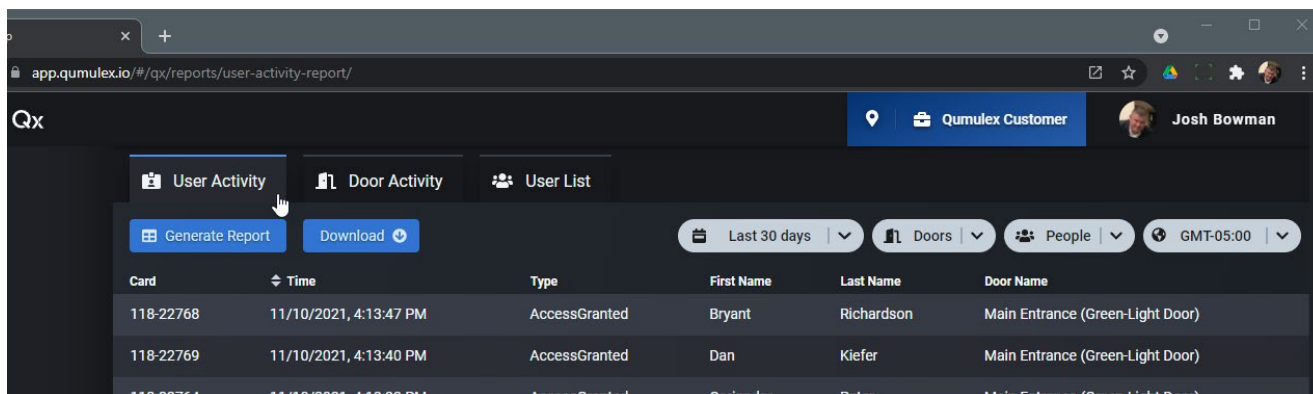


The final option is to select the time zone. By default, the time zone you are currently in will be selected. However, if you are remote to the site location you may need to manually select the time zone desired. An example may be that you are in California but are running reports for a location in Boston. In this example you would want to run the reports in the Eastern Time Zone, rather than Pacific.



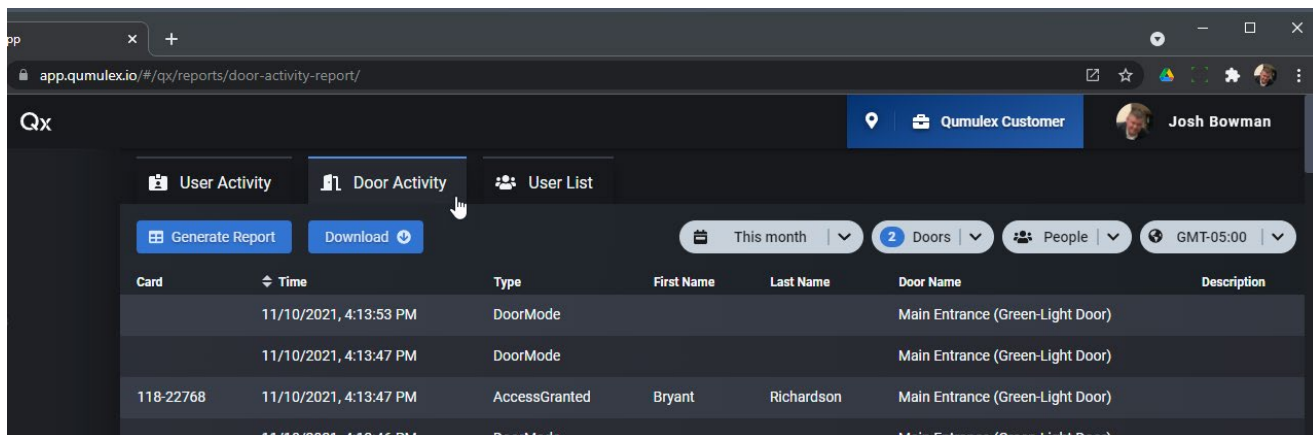
User Activity Report

The User Activity report provides data based upon credential holder activity. It will display along with card holder name the credential ID number, event type (such as access granted) and the door that was interacted with.



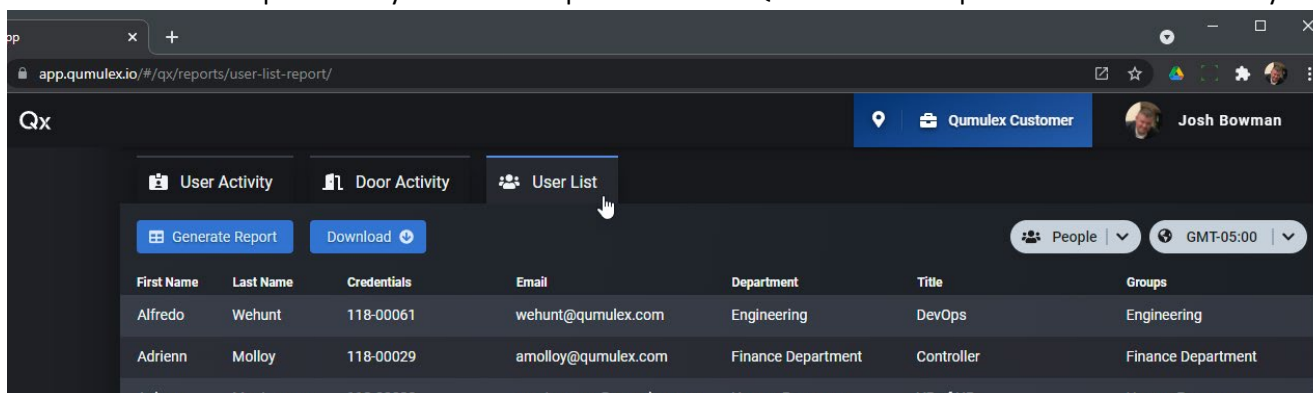
Door Activity Report

The Door Activity report provides data based upon door activity. It will display along with the door name the credential ID number, the card holder name, event type (such as access granted) and the door that was interacted with. In addition, this report will also show non-user related events such as connection status and battery life information for Aperio doors.



User List Report

The User List report provides does not provide activity related information. This report is used to provide a list of all card holders at the selected scope. It will display name, credential ID #, email address, department, title, and groups that are associated. This is helpful when you need to export a list from QxControl and import into other software systems.



Exporting Reports

For each of these reports you can easily export the information out of QxControl. Simply click on “Download” and you will receive a .csv file in your browser download area.

The screenshot shows the QxControl web application interface. The 'User List' report is displayed, showing a table of user information. A red arrow points to the 'Download' button above the table. Below the table, a notification states 'Attempting to download report. Please wait.' At the bottom of the browser window, a download notification for 'report (13).csv' is visible, with a red arrow pointing to it.

| First Name | Last Name | Credentials | Email | Department | Title | Groups |
|------------|------------|---------------------|------------------------|------------------------|--------------------|-----------------------------|
| Alfredo | Wehunt | 118-00061 | wehunt@qumulex.com | Engineering | DevOps | Engineering |
| Adrienn | Molloy | 118-00029 | amolloy@qumulex.com | Finance Department | Controller | Finance Department |
| Aubree | Montgomery | 118-00030 | montgomery@qumulex.com | Human Resources | VP of HR | Human Resources |
| Bryant | Richardson | 118-22768 | richardson@qumulex.com | International Sales | VP of Sales | Sales - International Sales |
| Cason | Janson | 118-00021 | janson@qumulex.com | International Sales | Account Manager | Sales - International Sales |
| Caillin | Ibbott | 118-00020 | ibbott@qumulex.com | Marketing | Marketing Manager | Marketing |
| Coriander | Peter | 118-22764 | peter@qumulex.com | Corporate Management | CEO | Corporate Management |
| Deryck | Todd | 118-00050 | todd@qumulex.com | Domestic Sales | VP of Sales | Sales - Domestic Sales |
| Dan | Kiefer | 118-22769 | kiefer@qumulex.com | Operations | Operations Manager | Operations |
| Dillan | Batts | 118-00003, 115-1005 | batts@qumulex.com | Domestic Sales | Account Manager | Tradeshow, Sales - Domestic |
| Eunice | Irvine | 118-22750 | irvine@qumulex.com | Customer Support | Support Agent | Customer Support |
| Eleonora | Kuznetsov | 118-00025 | kuznetsov@qumulex.com | International Sales | Account Manager | Sales - International Sales |
| Garth | Miller | 118-22767 | miller@qumulex.com | Information Technology | IT Director | Information Technology |
| Porsche | Beck | 118-22765, 115-1006 | beck@qumulex.com | Product Management | Director | Product Management, Admin |
| George | Dixon | 118-00012 | dixon@qumulex.com | Domestic Sales | Account Manager | Sales - Domestic Sales |
| Helena | Brinley | 115-1008, 118-00005 | brinley@qumulex.com | International Sales | | International Sales, Tr |

The screenshot shows a Microsoft Excel spreadsheet with the following data:

| personID | firstName | lastName | email | department | title | credentials | createdAt | groups |
|-------------|-----------|------------|------------------------|----------------------|--------------------|-------------|------------------------|-----------------------------|
| 01fBqwy00Mr | Alfredo | Wehunt | wehunt@qumulex.com | Engineering | DevOps | 118-00061 | 4/23/2021, 12:52:37 PM | Engineering |
| 01fBxZK00QO | Adrienn | Molloy | amolloy@qumulex.com | Finance Department | Controller | 118-00029 | 4/23/2021, 12:49:54 PM | Finance Department |
| 01fC4jPv0Nc | Aubree | Montgomery | montgomery@qumulex.com | Human Resources | VP of HR | 118-00030 | 4/23/2021, 12:54:27 PM | Human Resources |
| 01fCkiv0JM | Bryant | Richardson | richardson@qumulex.com | International Sales | VP of Sales | 118-22768 | 4/23/2021, 12:56:33 PM | Sales - International Sales |
| 01fClvQ00Jz | Cason | Janson | janson@qumulex.com | International Sales | Account Manager | 118-00021 | 4/23/2021, 1:00:40 PM | Sales - International Sales |
| 01fCYTyV0HG | Caillin | Ibbott | ibbott@qumulex.com | Marketing | Marketing Manager | 118-00020 | 4/23/2021, 12:58:42 PM | Marketing |
| 01fD8ghV0P8 | Coriander | Peter | peter@qumulex.com | Corporate Management | CEO | 118-22764 | 4/23/2021, 1:03:47 PM | Corporate Management |
| 01fDINVV0MX | Deryck | Todd | todd@qumulex.com | Domestic Sales | VP of Sales | 118-00050 | 4/23/2021, 1:08:55 PM | Sales - Domestic Sales |
| 01fDLtU00TT | Dan | Kiefer | kiefer@qumulex.com | Operations | Operations Manager | 118-22769 | 4/23/2021, 1:05:43 PM | Operations |

Places

What is a place?

The places tree is a multi-level hierarchy of places. Imagine the root structure of a tree, Qumulex is at the top, then integrators see their account and underneath the integrator are their customers and below that the customer's sites and areas.

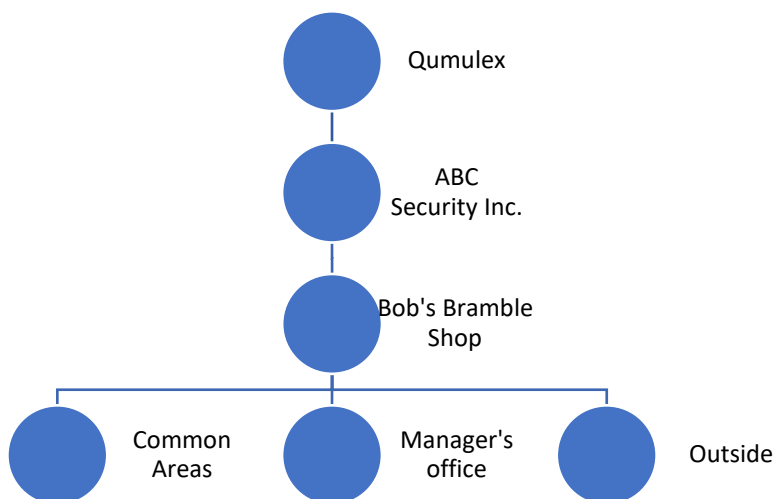
The hierarchy is used to determine what a user of the software can see. This is then paired with the user's role which defines what a user can do. It is this combination of what and where that defines a user's ability to operate in the software.

There are four types of places

| | |
|------------|--|
| Integrator | The customer of Qumulex that sells and installs security systems |
| Customer | Customer of the integrator, where the security equipment is installed, i.e. End User |
| Site | A physical location for a customer. Used if the customer has multiple locations |
| Area | A secured area for access control and also a logical intermediate level in the hierarchy |

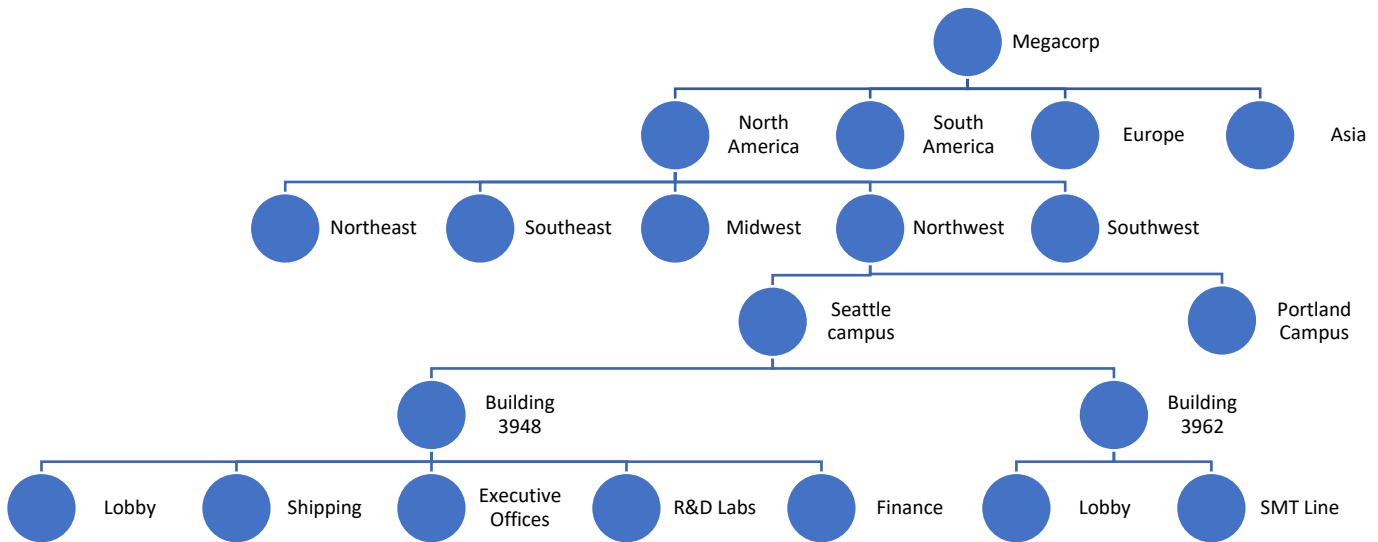
Examples

A typical structure for an integrator named ABC Security with a customer named Bob's Bramble Shop would look like:



The doors coming into the shop would go from Outside (unsecured) to Common Areas (secured). The door for the manager's office would go from Common Areas (unsecured) to Manager's Office (secured). Cameras get put in places, and when something happens in a place, video gets recorded. Later, someone can search for events on the Manager's door and see video clips from the cameras in the two places that door separates.

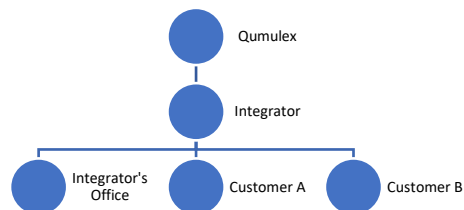
Below is an abbreviated example of a large organization.



As you can see, the hierarchy for a customer or integrator can be as simple or as detailed as necessary.

A national integrator might create a structure under their root account so that employees at each branch or region can only see and operate on their customers, but someone set up at the top level can operate on all customers and therefore can manage national accounts or step in and help out on a regional account.

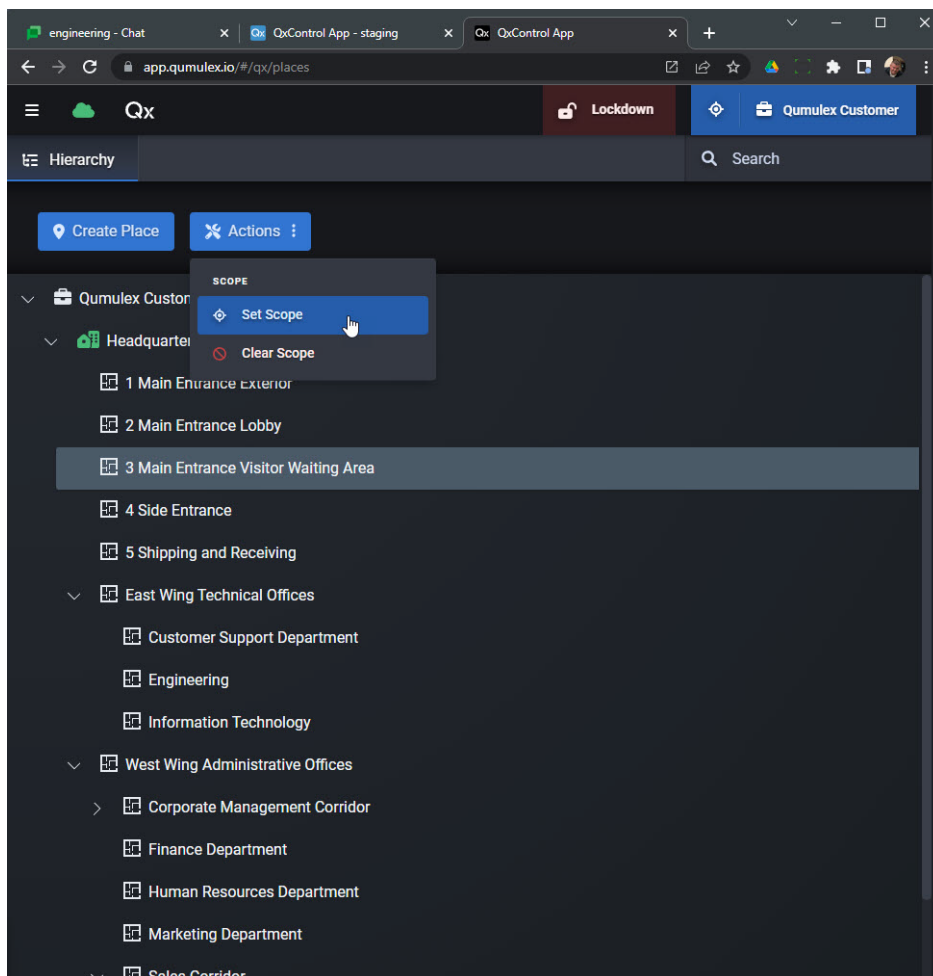
When installing a system in the integrator’s office, create a ‘customer’ below the integrator’s root level and use that as the starting point for the internal installation. This way a user can be added who can manage the company system and not see anything about any customers. The top of the hierarchy should look like:



Once the hierarchy from the integrator to where you wish to place customers is set up, move on to the next step. (Typically, the basic integrator node is sufficient and nothing additional is needed)

Scope

Every user is assigned to a place in the places tree and can see everything located at that place and any place below. To make managing a large system or multiple customers easier, use scope. Setting scope limits what is shown in the application to the place selected and anything below that place. This can be done from the Places page by selecting a point in the places tree and clicking Set Scope under the Actions menu or scope can be set while on any page, by clicking the folder tree icon in the upper left which will bring up the Area's Info page. Select the desired place and click OK. To revert, select clear scope under the Actions menu.

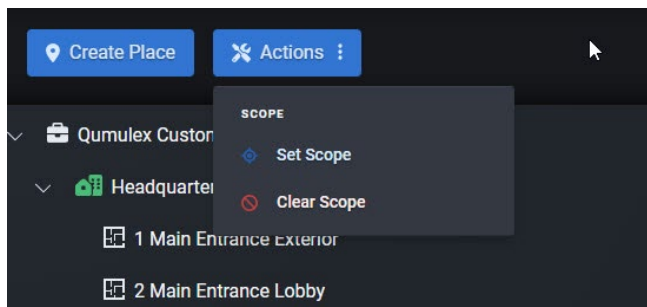


Places Actions Menu

The following actions are available in the Actions Menu:

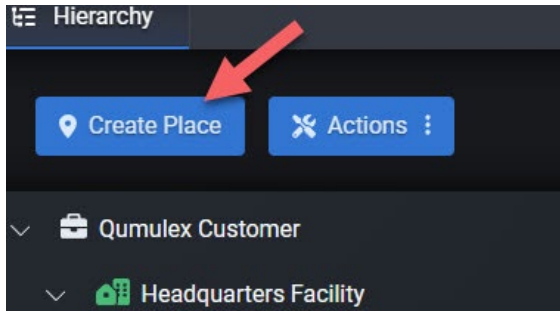
Set Scope: Set your Scope to the selected Area

Clear Scope: Clear the Scope to the top of your available Hierarchy (See every Area you have permissions for)

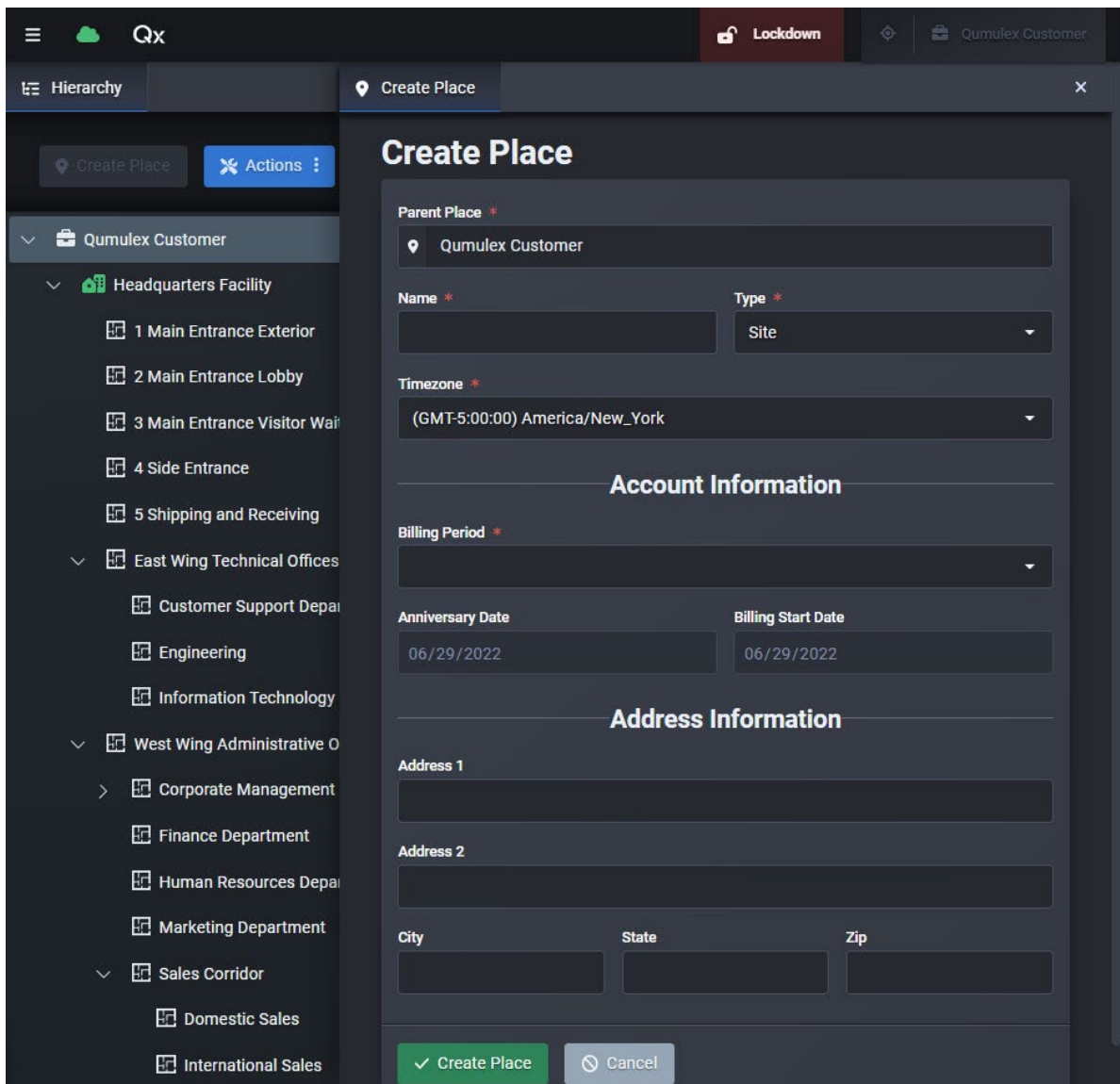


Places: Create Place Menu

The Create Place menu is access by choosing the “Create Place” button. You will use this menu to create an Area in QxControl.



Once you click the Create Place Button, the Create Place Menu will appear:

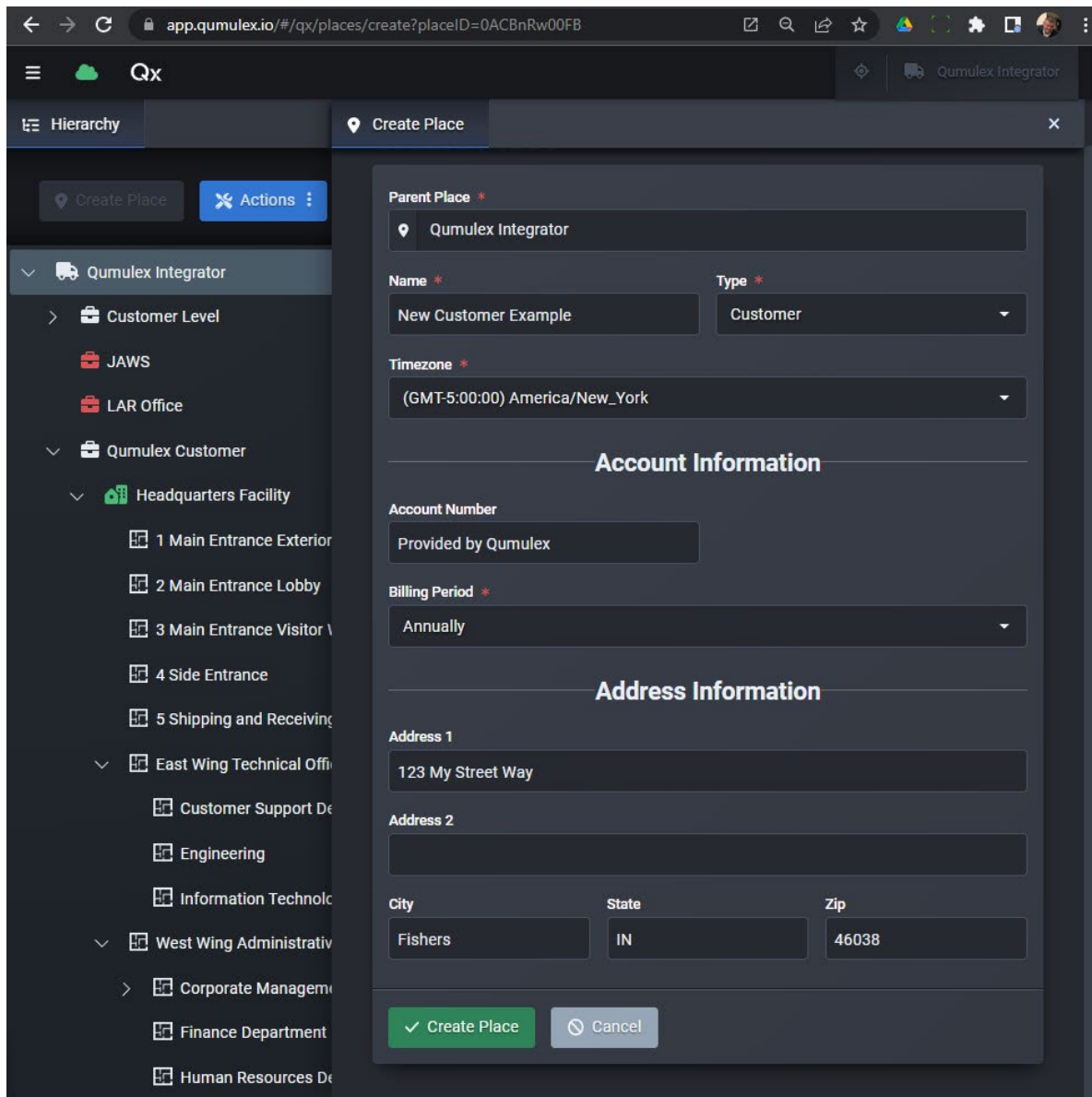


Creating a customer

A customer (or end user) is where the system is installed. An Integrator would typically be the one to create a new customer while installing cameras and/or access control onsite. Creating a customer is done in the Create Place Menu.

When setting up a new Customer, Qumulex will assign a Account Number and choose the Billing Period based upon the purchase order provided by the Integrator. The time zone will typically be automatically populated but is critical to many functions in QxControl and **should be verified**.

You will need to verify or provide the customer’s name and address information, and the choose “Create Place”. From there you can begin to setup any additional Sites or Areas for this Customer.



Rules for Creating a Customer

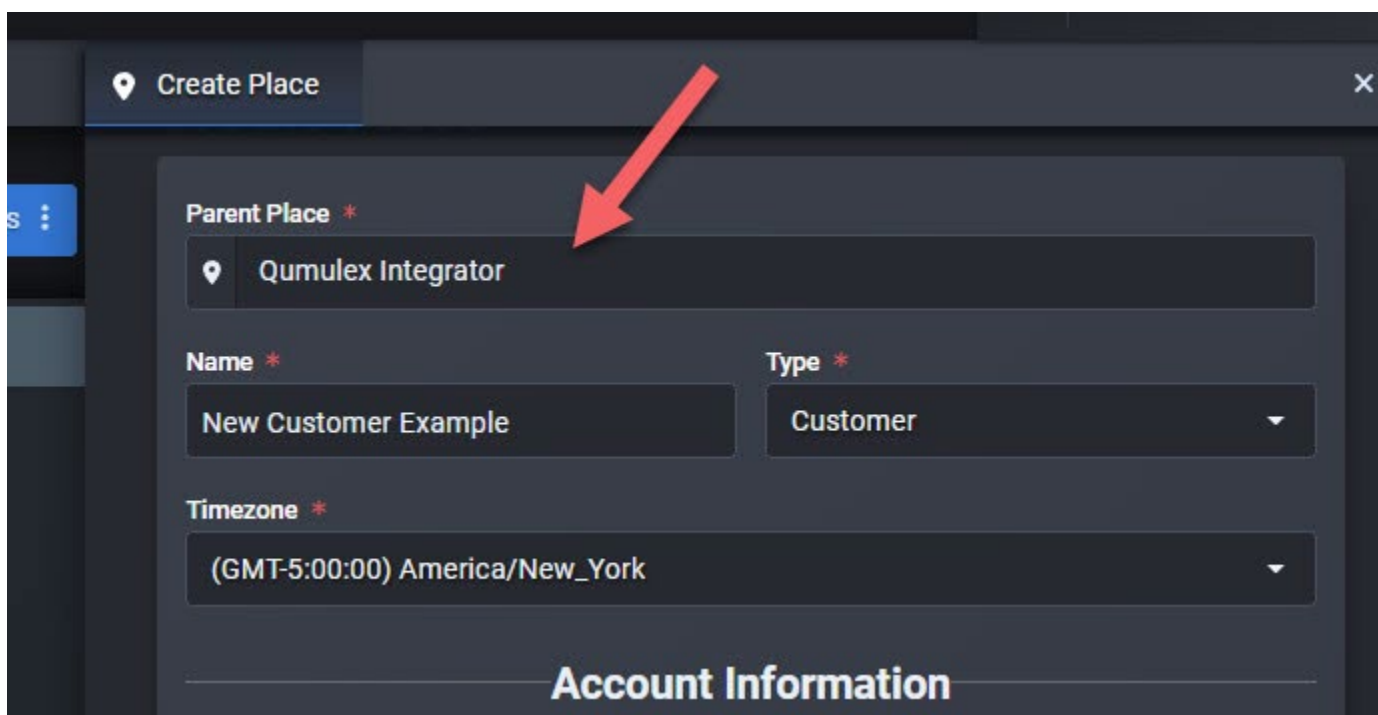
In QxControl there are certain “rules” that should be followed to ensure that the hierarchy is set up correctly. You will likely receive an error message indicating the required correction if one of these rules is not followed. Here is a list of the rules to follow for the best results:

Rule 1: An integrator must not have any other integrators, customers, or sites between itself and Qumulex. This means in other words that the Integrator account must always be at the top of their own hierarchy and should not attempt to place any folders above their own.

Rule 2: A customer must have one integrator and no other customers, or sites between it and Qx. This means in other words that a customer should be a direct descendant of one Integrator account and should also not pass through another customer’s account to get there in the hierarchy.

Rule 3: A Site must have a customer above it, as a site is a descendant of a customer. It should not be directly linked to the Integrator. A site also may not have other sites above it as it is a direct descendant of a customer.

Rule 4: Areas can be anywhere.



The screenshot shows a 'Create Place' dialog box with the following fields:

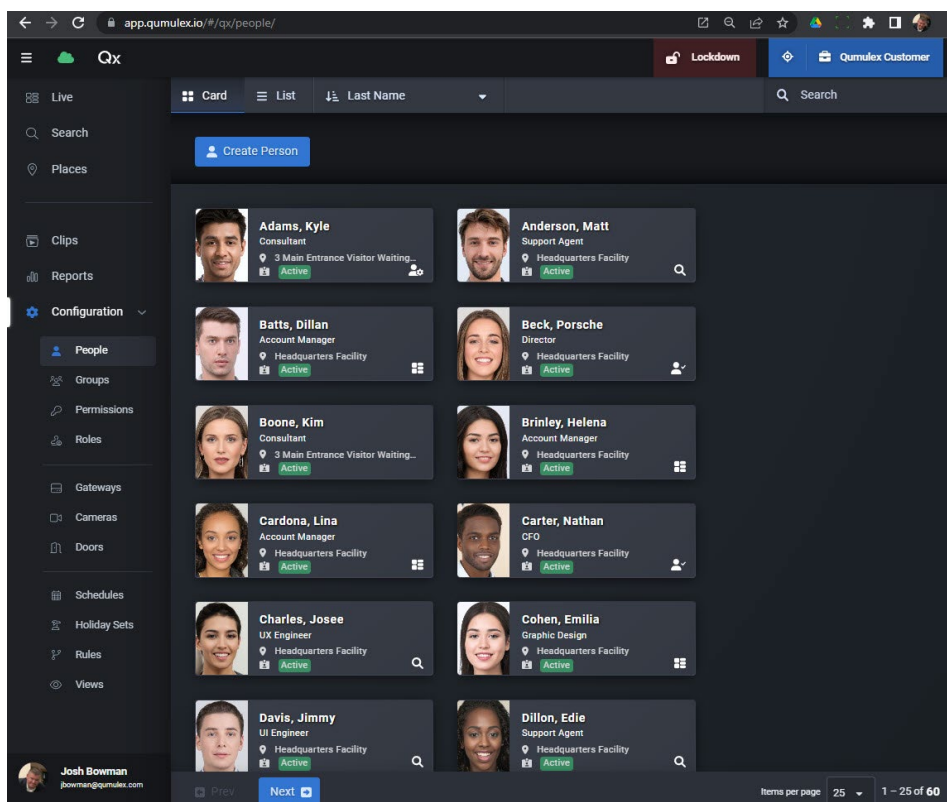
- Parent Place ***: A dropdown menu showing 'Qumulex Integrator'. A red arrow points to this field.
- Name ***: A text input field containing 'New Customer Example'.
- Type ***: A dropdown menu showing 'Customer'.
- Timezone ***: A dropdown menu showing '(GMT-5:00:00) America/New_York'.

At the bottom of the dialog, there is a section titled **Account Information**.

People

In QxControl, a person will have credentials of some type. A login to the software making them a user of the system is one type of credential. Badges, fobs, biometrics, etc. are also credentials. A person is only created once for the entire system and then is given whatever credentials they need to do their job. Only a few people will have a login, most people will have some form of access credential for getting in and out of a building.

To see the people in the system, click “People” on the left-hand navigation menu. With the people cards as shown to the right, if the desired person is not shown, scroll down to find them. If there are a lot of people, it can be much faster to use the search box and start typing some identifying information. The search will search by last name, first name and employee id.



People page (card view)

Once you have found the person you want to manage, you can click on the card to edit them.

Person Info and Actions

Once you have clicked on a Person's card you will see the info page. You will also see an Actions button just below the Person's name and their assigned Scope. The Actions button will allow you to 1) Disable the Person and 2) Print a Badge.

Please note: Currently there is no ability to edit or alter the format of the Badge when printing.

The screenshot shows a user profile for Janet Anders. At the top, there are tabs for 'Info' and 'Edit Person'. Below the profile picture and name, there is an 'Actions' button with a dropdown menu containing 'Print Badge' and 'Disable Person'. The 'INFORMATION' section lists fields like PHONE (317-207-0520), EMAIL (janders@qumulex.com), ROLE, EMPLOYEE ID (20-0835), DEPARTMENT (Engineering), LICENSE PLATE, and CERTIFICATION. The '1 CREDENTIAL' section shows an 'Active' status, Card ID (AQ200835), Pin (2203), and validity dates (Aug 23, 2020, 8:00:00 PM to Aug 23, 2040, 8:00:00 PM). The 'RECENT EVENTS' section is empty. The 'GROUPS' section has a search bar and a table with columns for Name, Place, and Permissions. One group is listed: 'Test' at 'Qumulex Demo' with '1' permission, and a 'View' button. The 'PERMISSIONS' section also has a search bar and a table with columns for Place and Schedule. One permission is listed: 'Qumulex Demo' with 'Exterior Doors Schedule' and a 'View' button.

Actions button to Disable or Print a badge.

Person information and Credential information

These fields display Groups and Permissions that the person belongs to. You can also select "View" to view the Group/Permission and see what other members are included.

Edit Person

To edit a person, simply choose the “Edit Person” tab and you can easily change or add any new details or Credentials required.

Note: To set or change the Scope of what a Person has access to, choose the appropriate Place, and for People with QxControl log in access you must also choose a Role. This defines their level of access.

The screenshot shows the 'Edit Person' page for Janet Anders. The interface is divided into several sections:

- Header:** 'Info' and 'Edit Person' tabs. Profile picture and name 'Janet Anders' with location 'Qx Lab'.
- Personal Information:** Fields for Place (Qx Lab), Salutation, First Name (Janet), Last Name (Anders), Email (janders@qumulex.com), Phone (317-207-0520), Employee ID (20-0835), Title (Product Management), Department (Engineering), Certification, and License Plate.
- Role:** A dropdown menu currently set to 'None'. Below it, it says 'User has no privileges.'
- Groups:** A section titled 'Groups' with an 'Add Groups' button and a 'MEMBER OF' list containing 'Test' (Qumulex Demo).
- Credential Section 1:** Fields for Site Code, Card Number (AQ200835), PIN (2203), and an 'Enabled' toggle (On). Activation and Expiration dates and times are also specified.
- Credential Section 2:** Similar fields for another credential, with Card Number, PIN, and 'Enabled' toggle (On). Activation and Expiration dates and times are also specified.
- Footer:** 'Add Credential' button, 'Save Person' (green), 'Cancel' (grey), and 'Delete Person' (red) buttons.

Add or edit basic information here, as well as set the user Scope.

Add or remove Group memberships and select a Role.

Add or view Access Control Credentials.

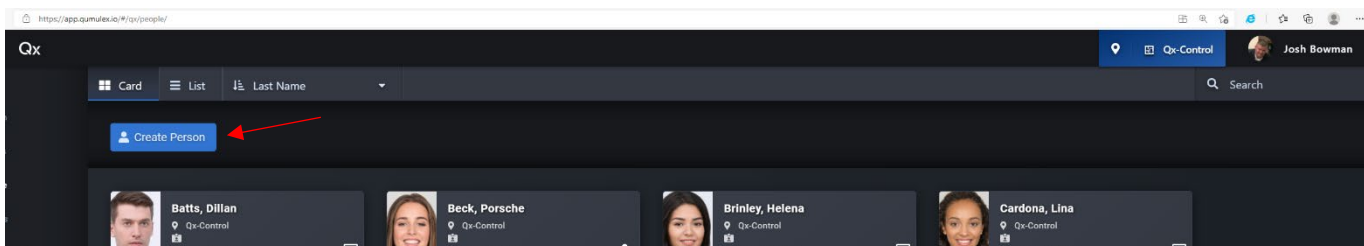
Save or cancel changes or delete the Person.

Creating a Person

When creating a person, at a minimum they need a first name, last name. Issuing an access control credential and group membership is required for door access. (The group membership will be given one or more permissions to get into specific areas based on a schedule.)

To create a Person that logs into QxControl, the Person will need a Role assigned and an email address.

To begin creating a new person, choose “Create Person”.



This will present the “Create Person” page.

Follow these steps to create a new Person:

https://app.qumulex.io/#/qx/people/create

Create Person

1 - Set the Scope by

2 - Enter basic Person Info and upload a photo

3 - Choose a Role if the person will need to log in to

4 - Add the Person to any Groups as required

5 - Add any Access Control credentials and then choose "Create Person"

Picture

Place *

Salutation First Name * Last Name * Suffix

Email Phone Employee ID Title

Department License Plate

Role

None

User has no privileges.

Groups

Add Groups

MEMBER OF

No options selected.

Credential

Site Code * Card Number PIN Enabled On

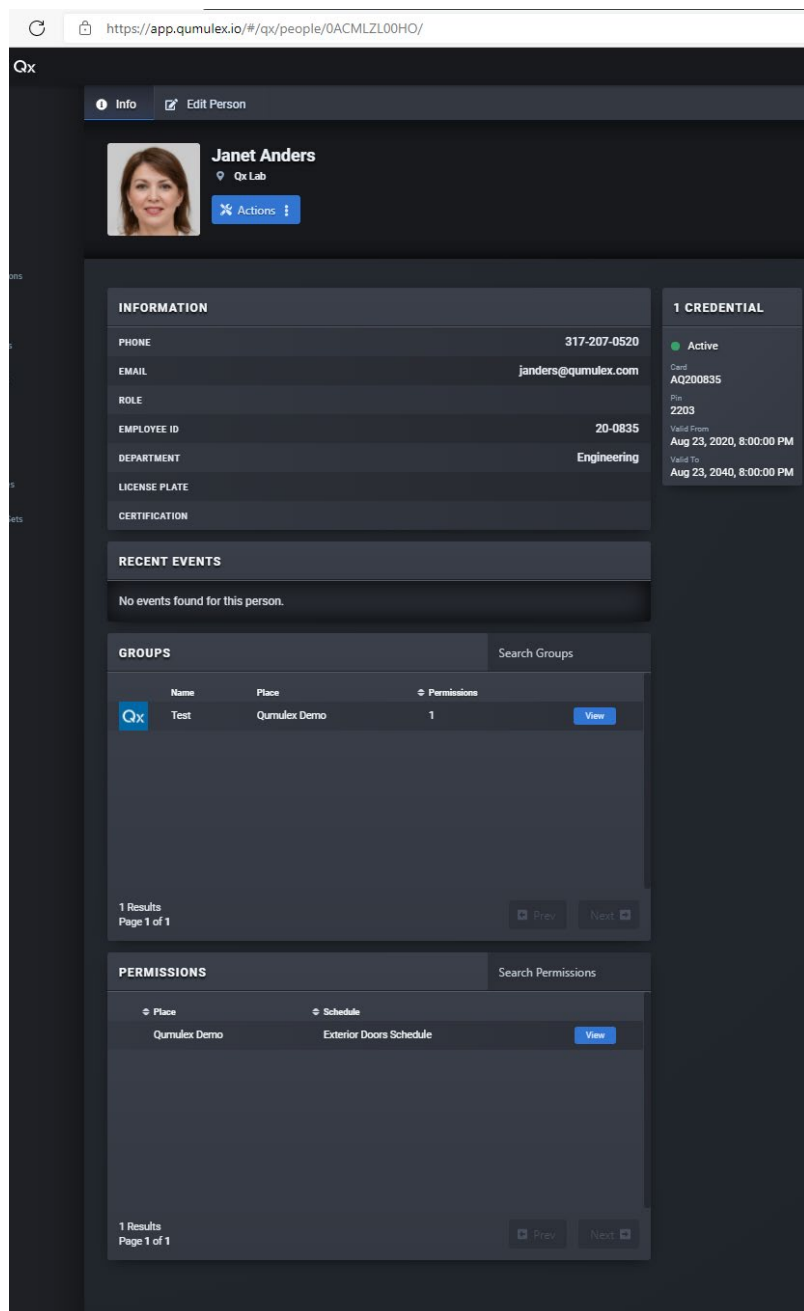
Activation Date * Activation Time * Expiration Date * Expiration Time *

2021 - 06 - 08 4:45 AM PM 2061 - 06 - 08 4:45 AM PM

Add Credential

Create Person Cancel

The result will look similar to this:



For more detailed information on Groups or Roles, please visit the chapters that discuss these options.

Note: If a user will need to login to QxControl, you MUST assign (1) a valid email address and (2) a Role must be assigned. If a user is unable to login to QxControl, check these items first.

A user does not require an email address or role if they are simply an access credential user with no need to login to QxControl.

Groups

A group is a collection of people. Many operations such as granting access permissions use groups to make it easier and faster to configure your QxControl Site.

In QxControl, a Group is one of three parts required to make up a Permission. To create a Permission you need:

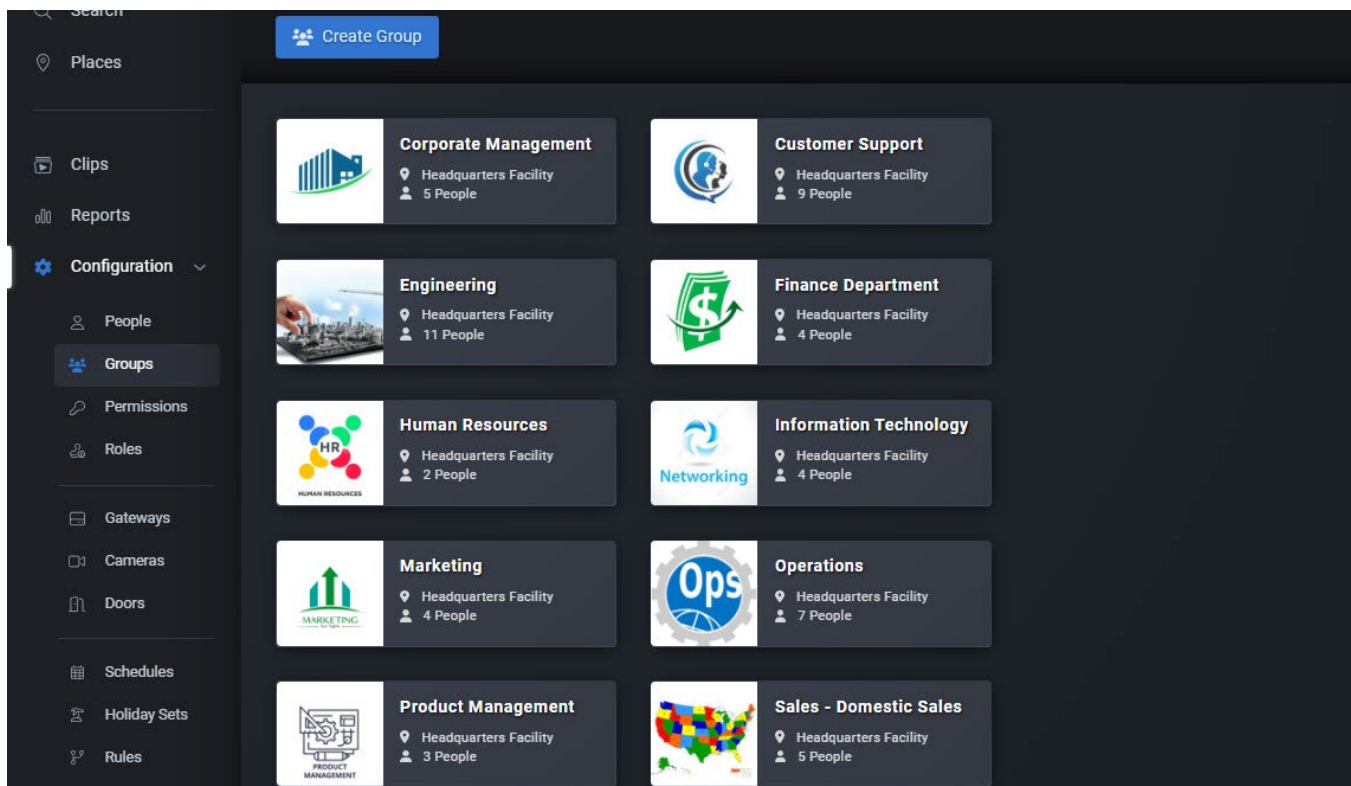
- 1) A group
- 2) A Schedule
- 3) The Permission itself

For Door permissions, this is how People can access a Door with their Credential. By assigning a schedule and Group to a Permission you can assign access to a Door or group of Doors.

Note: Pay close attention to the Scope assigned to these components. As one example, If you create a Schedule that is set out of Scope (where it is assigned in Places) for the Group, or the Permission you may not be able to achieve the desired access level.

In the future QxControl will expand and use Groups to control other levels of access or provide benefit in other ways. As of this revision of the User Guide, Groups is primarily used a component related to Permissions for Access Control.

To view a Group, click on a Group Card.




The Group info page provides information such as the list of People assigned to the Group, and any Permissions that the Group is assigned to.

You can choose “View” on any of the People or Permissions and you will be taken to the associated Info page. (These pages are covered in the sections covering People and in Permissions, respectively.)

https://app.qumulex.io/#/qx/groups/0IMv7GN00PG/





Qx

Info Edit Group

 **Sales - International Sales**

- Qx-Control
- 4 People
- 1 Permission


PEOPLE Search People

| Role | Name | Employee ID | Department | |
|---|---------------------|-------------|---------------------|----------------------|
|  Live | Brinley, Helena | 0824 | International Sales | View |
|  Live | Janson, Cason | 2266 | International Sales | View |
|  Live | Kuznetsov, Eleonora | 3367 | International Sales | View |
|  Live and Search | Richardson, Bryant | 1235 | International Sales | View |

4 Results
Page 1 of 1

Prev Next

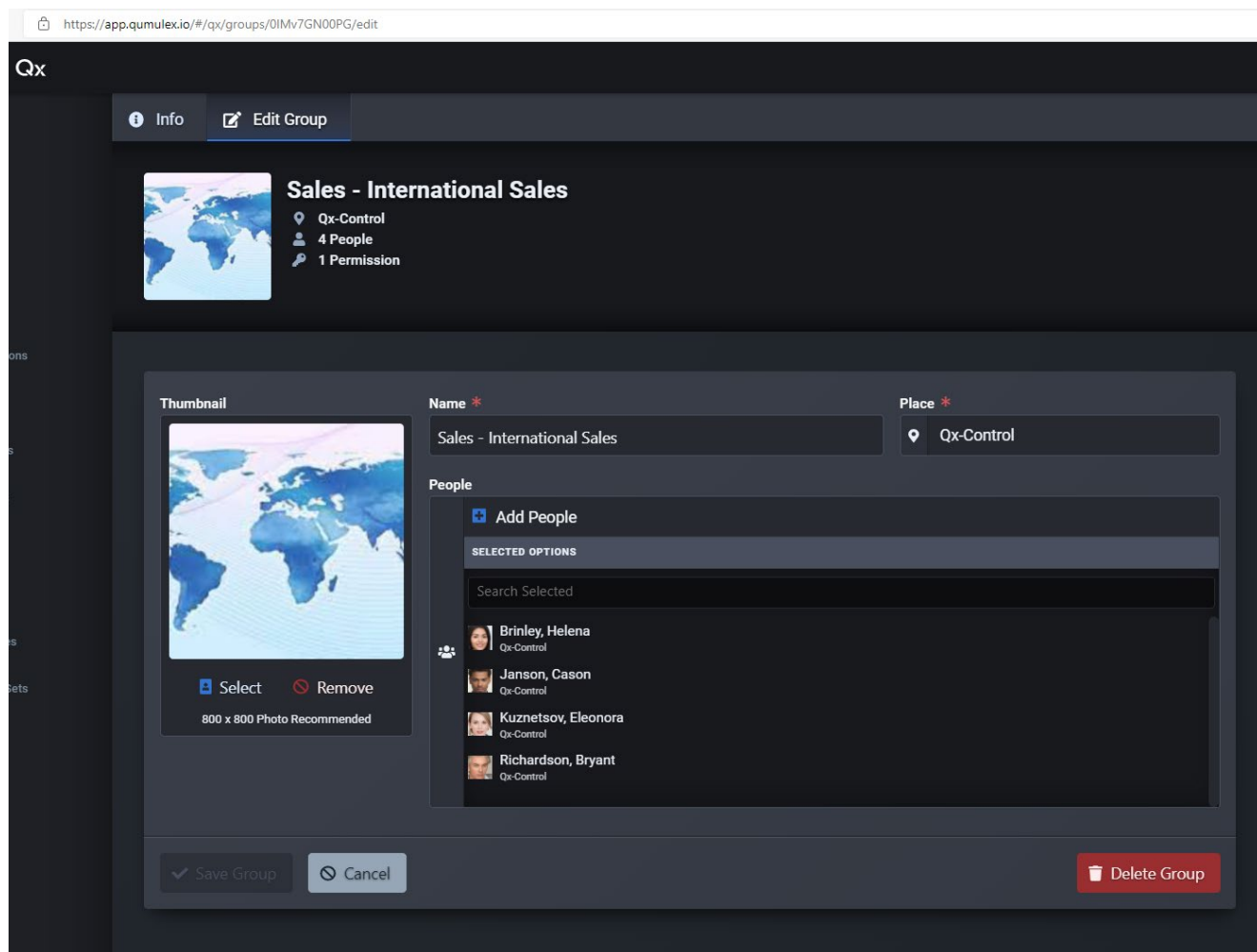
PERMISSIONS Search Permissions

| Place | Schedule | |
|--|--------------------------------|----------------------|
|  Qx-Control | Executive Office Door Schedule | View |

1 Results
Page 1 of 1

Prev Next

To edit the Group, choose “Edit Group” from the Info page.



From this page, you can:

- Change the Group Name
- Change the Place (Assign Scope)
- Add or remove People from the Group
- Add or Change the Thumbnail Image
- Delete the Group

Please remember that you can also assign a Person to a group from the People edit page.

To create a Group, choose “Create Group” from the main Groups page.

The screenshot shows the 'Create Group' interface. It features a 'Thumbnail' section with a large image placeholder and 'Select' and 'Remove' buttons. The 'Name *' and 'Place *' fields are text inputs. The 'People' section includes an 'Add People' button and a 'SELECTED OPTIONS' area with a search bar and a message 'No options selected.' The bottom of the form has a 'Create Group' button with a checkmark and a 'Cancel' button.

To create a Group, you will need to enter the following information:

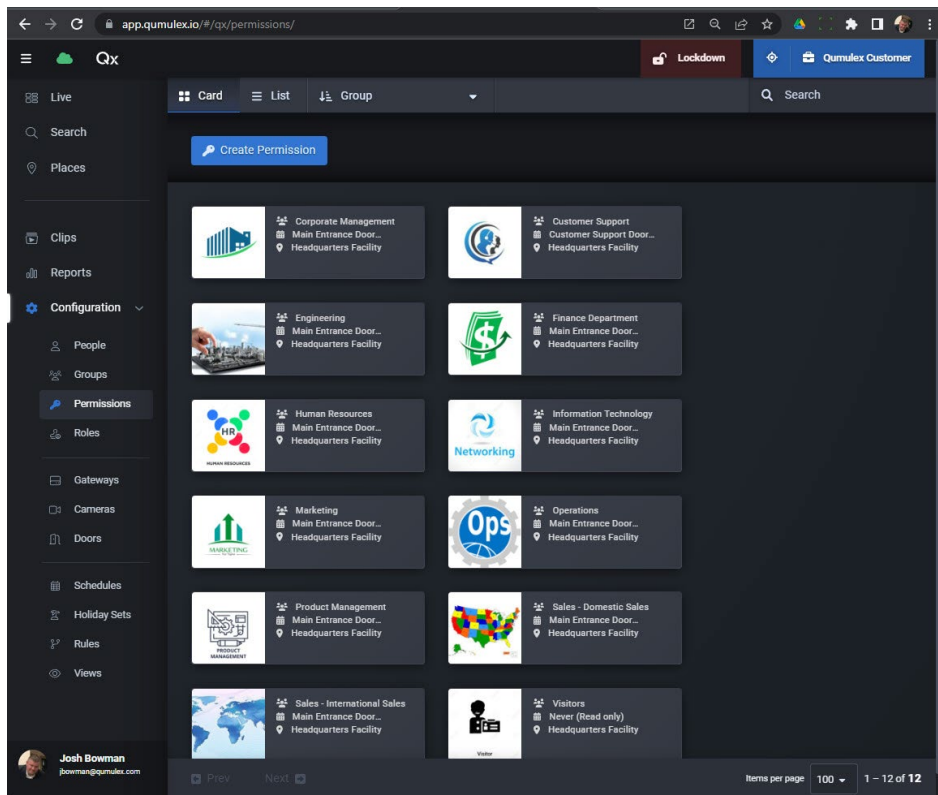
- The Group Name
- The Place for the Group (Assign Scope)
- Add People to the Group
- Add the Thumbnail Image

Once completed, choose “Create Group” to complete the process and save the Group.

Permissions

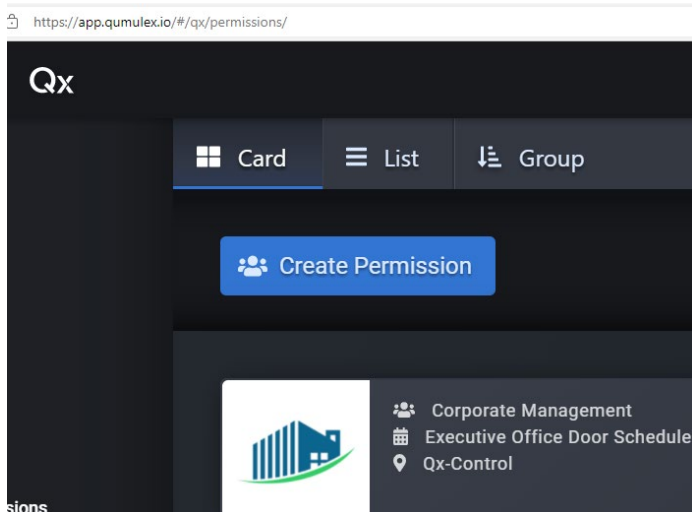
A permission has three parts and is how you grant a group of people access to a place on a schedule (Group – Place – Schedule).

For example, employees (group) have 7am to 6pm access (schedule) to the shipping area (place).



Permissions Page

To add a new permission, choose “Create Permission”.



https://app.qumulex.io/#/qx/permissions/create

Create Permission

Thumbnail

Group *

Place *

Schedule *

Select Remove

800 x 800 Photo Recommended

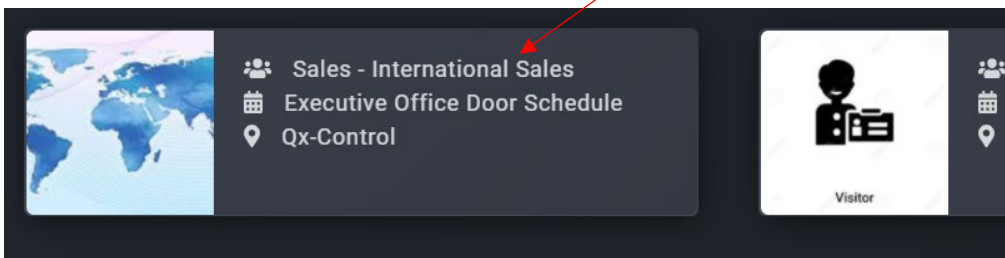
✓ Create Permission Cancel

To create a Permission, you will need to enter the following information:

- Choose a Group from the List
- Choose a Place (Assign Scope)
- Choose a Schedule
- Add a Thumbnail Image

Once completed, choose “Create Permission” to complete the process and save the Permission.

Once saved you will see the Permission is automatically labeled based upon the three required components. (Group, Schedule and Place/Scope)



Once a Permission is created, the Permission info page will show:

- The assigned Schedule
- A list of People who belong to Groups assigned this Permission

You can click “View” on any of the People and will be routed to their Info page.

https://app.qumulex.io/#/qx/permissions/01N1eNp0006/

Qx

Info Edit Permission

SCHEDULE

Qx Lab - Executive Office Door Schedule

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

| Day | 12am | 1am | 2am | 3am | 4am | 5am | 6am | 7am | 8am | 9am | 10am | 11am | 12pm | 1pm |
|-----------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|-----|
| Sunday | | | | | | | | | | | | | | |
| Monday | | | | | | | | | | | | | | |
| Tuesday | | | | | | | | | | | | | | |
| Wednesday | | | | | | | | | | | | | | |
| Thursday | | | | | | | | | | | | | | |
| Friday | | | | | | | | | | | | | | |
| Saturday | | | | | | | | | | | | | | |

PEOPLE Search People

| | Role | Name | Employee ID | Department | |
|--|-----------------|---------------------|-------------|---------------------|----------------------|
| | Live | Brinley, Helena | 0824 | International Sales | View |
| | Live | Janson, Cason | 2266 | International Sales | View |
| | Live | Kuznetsov, Eleonora | 3367 | International Sales | View |
| | Live and Search | Richardson, Bryant | 1235 | International Sales | View |

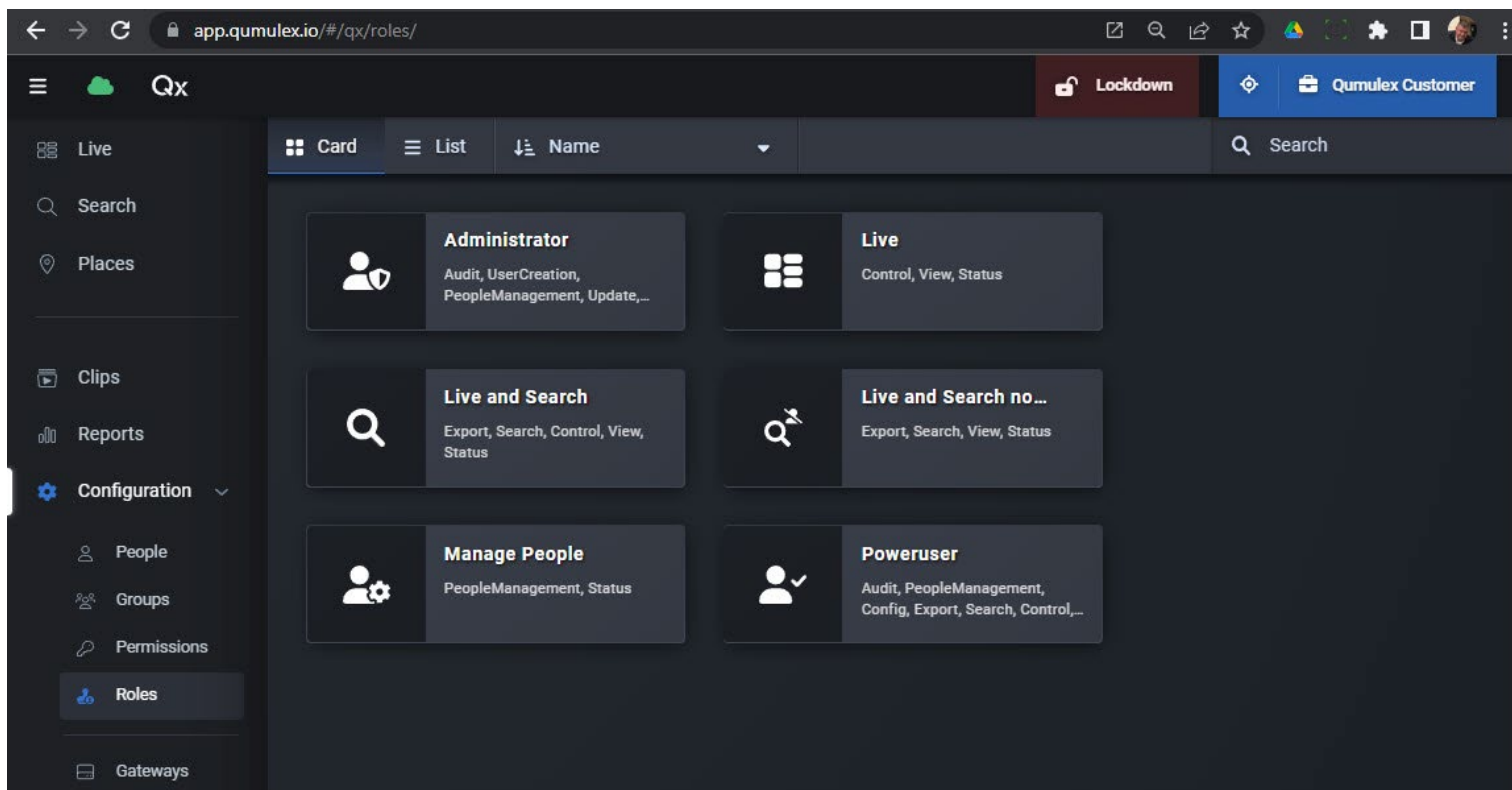
4 Results
Page 1 of 1

Prev Next

You can choose “Edit Permission” to edit any of these details.

Roles

Roles define what privileges are assigned to an individual user in QxControl. These Roles are currently predefined and cannot yet be modified.

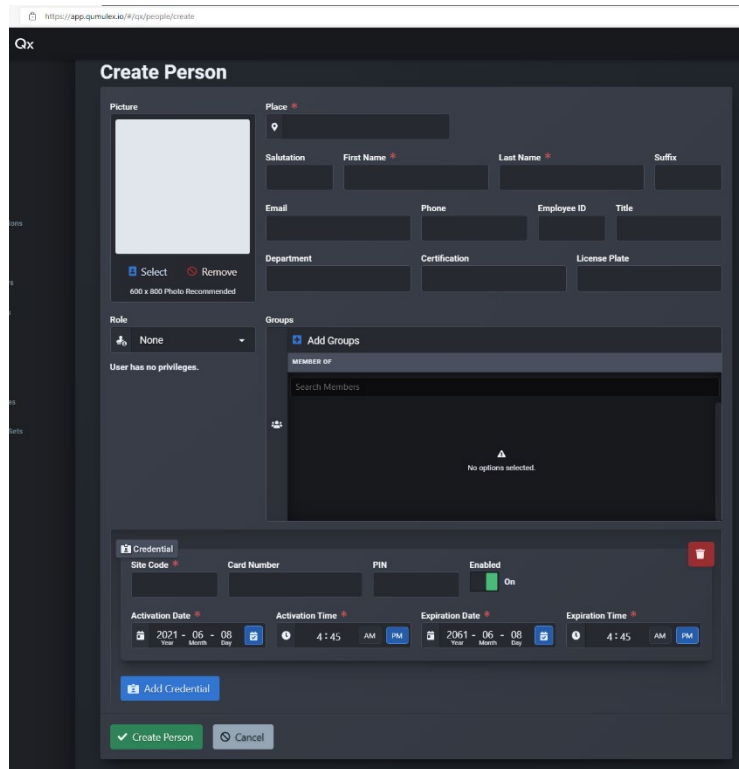


Roles page

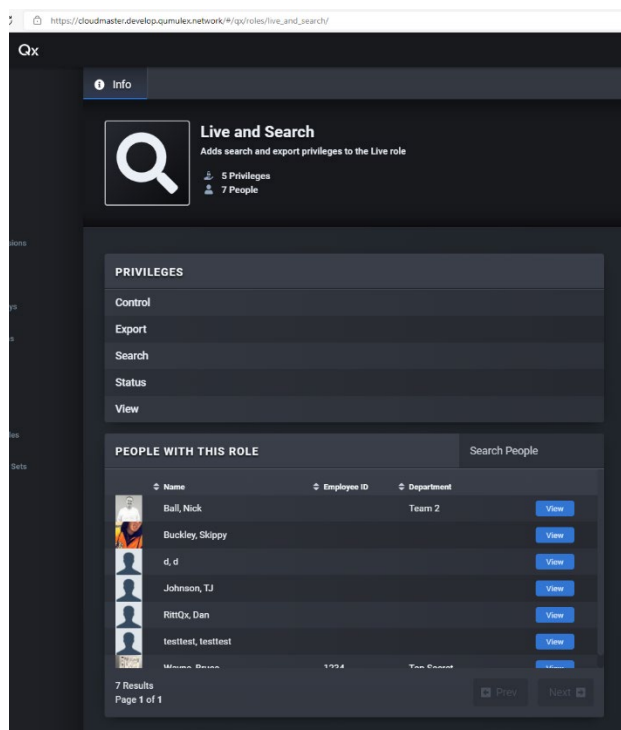
Role Privileges:

- **Administrator** – View, User Creation, Update, Status, Search, People Management, Export, Control & Config.
- **Live** – View, Status & Control
- **Live and Search** – View, Status, Search, Export and Control.
- **Manage Configuration** – Status, Control and Config.
- **Manage People** – Status, People Management
- **Poweruser** – View, Status, Search, People Management, Export, Control, Config.

Roles are assigned in the People page, by editing a specific user. From the Role field, choose a role from the drop-down menu.

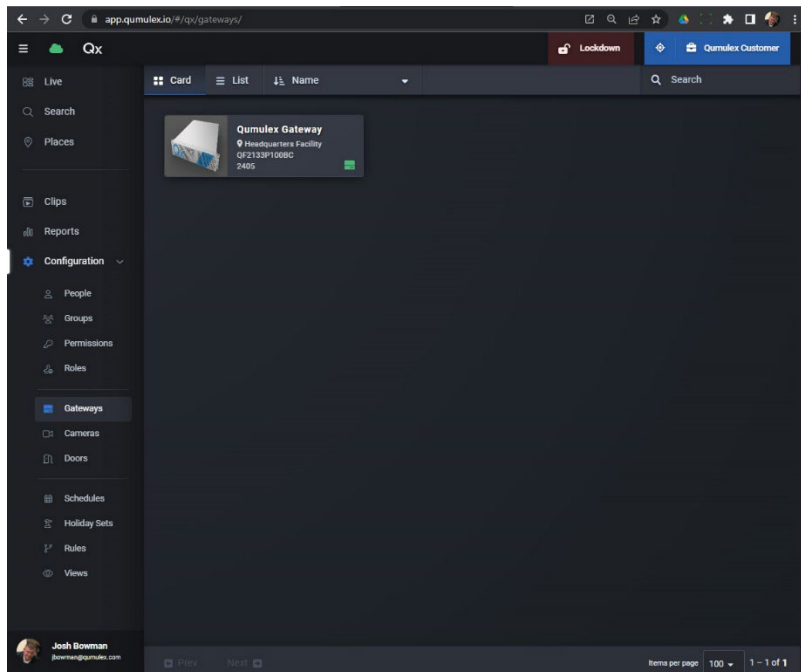


You can also click on any of the Role Cards to see a description of the Privileges for the Role, and what People are assigned to the Role. Choose "View" to see the Info page for the Person.



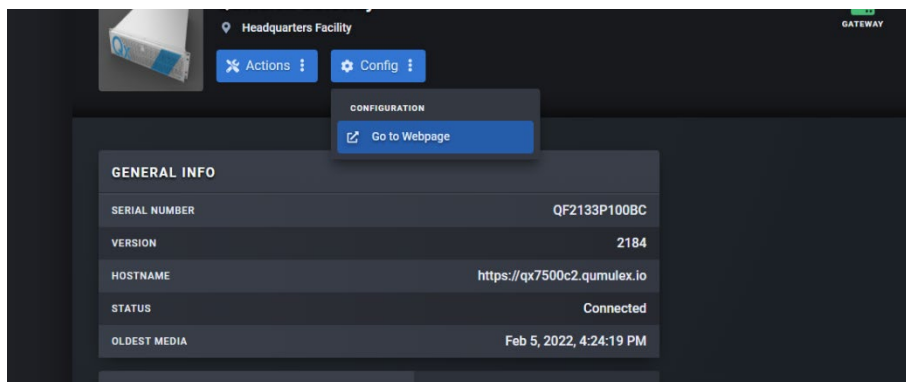
Gateways

Gateways are especially important in the QxControl architecture and can be managed by using the Gateways page.



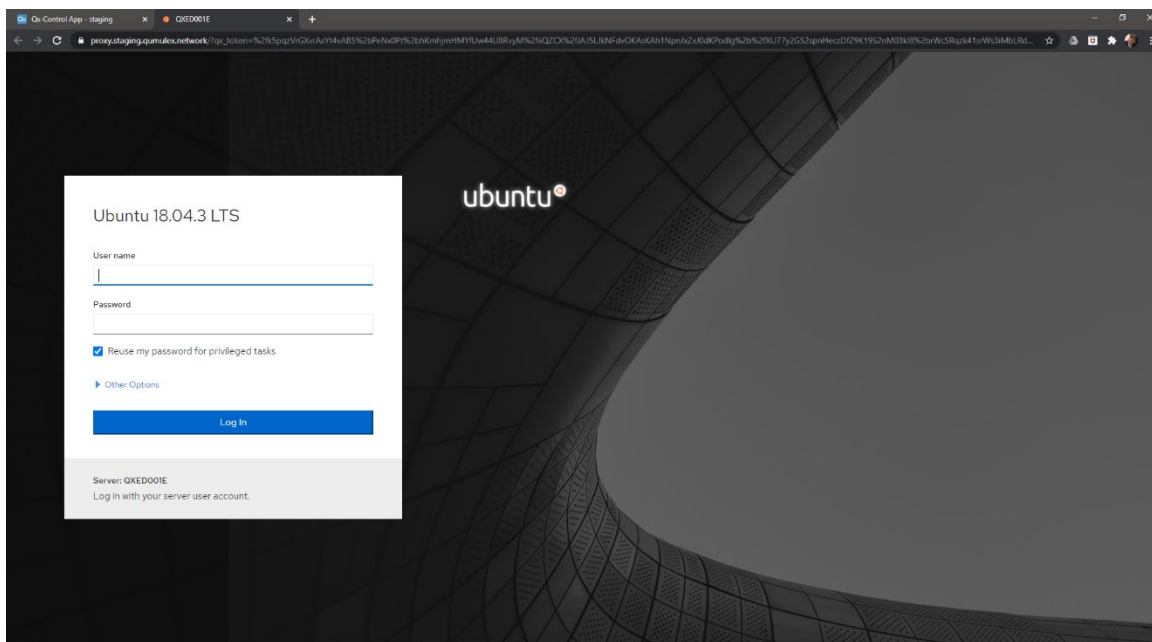
Gateways page (Card View)

Clicking on a Gateway will reveal the Gateway’s Info page. At the top of this page, you can choose “Config” to access the Cockpit interface.

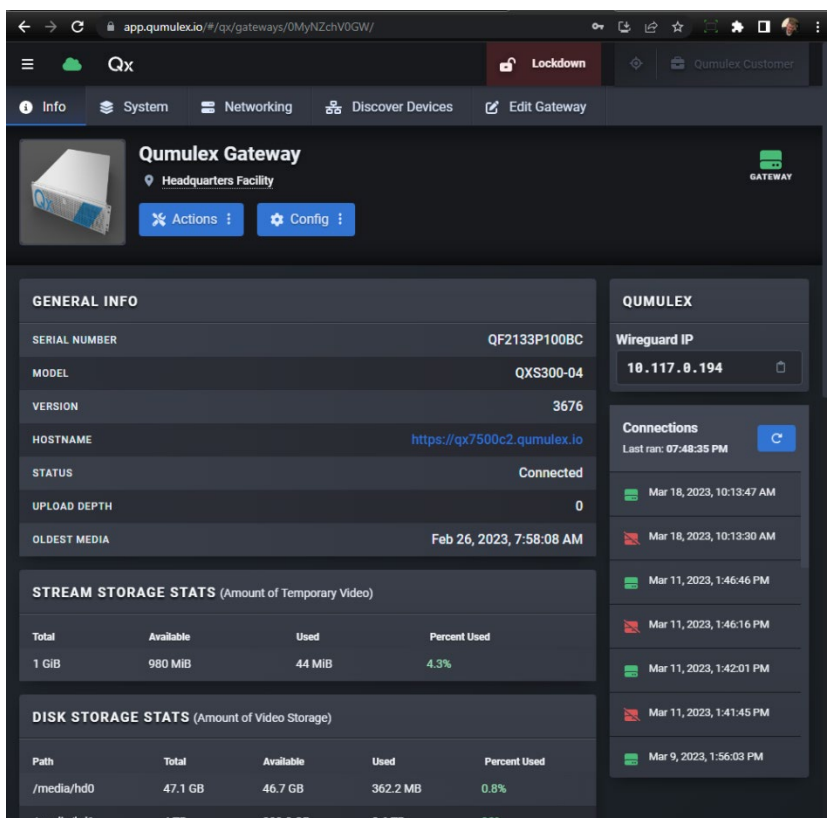


Cockpit is used to manage the Linux Ubuntu operating system and is available locally or remotely (with Cloud Subscription) to System Administrators who need to perform maintenance actions for the Gateway itself. This access is easily gained by choosing the “Go To Webpage” option in the “Configuration” menu.

This will then present the Ubuntu interface in a new browser tab. The OS password is unique to each gateway and was provided on the documentation that accompanied the gateway.



The Gateway Info page also offers other information, such as Gateway specific details like Serial Number and Status, as well as a list of Cameras and Doors that are installed on the Gateway. You can also view recent connection statuses, storage utilization and even your VPN IP Address.



The Gateway System tab contains information about the software and build versions. This is especially useful for troubleshooting and also prevents you from having to use Go To Webpage to access this information.

The screenshot shows the 'System' tab in the Qumulex interface. The top navigation bar includes 'Info', 'System' (selected), 'Discover Devices', and 'Edit Gateway'. The user 'Josh Bowman' is logged in. The main content area displays four sections: AGENT, MINION, DISCOVERY, and QXDC. Each section contains a table with boot times and production/development levels and build IDs.

| AGENT | | |
|-----------------------------------|------------------|-------------------------------|
| Mar 5, 2022, 3:02 PM BOOT TIME | | Mar 17, 2022, 6:26 PM TIME |
| production PROD LEVEL | 2184 BUILD ID | develop.2184 VERSION |

| MINION | | |
|--------------------------|-----------------|------------------------|
| BOOT TIME | | TIME |
| production PROD LEVEL | 775 BUILD ID | develop.775 VERSION |

| DISCOVERY | | |
|--------------------------|----------------|-----------------------|
| BOOT TIME | | TIME |
| production PROD LEVEL | 88 BUILD ID | develop.88 VERSION |

| QXDC | | |
|--------------------------|-----------------|------------------------|
| BOOT TIME | | TIME |
| production PROD LEVEL | 268 BUILD ID | develop.268 VERSION |

Gateways: Networking Tab & Scheduling Bandwidth Throttling

The Gateway Networking tab provides feedback on bandwidth usage (similar to the Widgets used in Live) and also offers the ability to manage the amount of bandwidth that can be used for Cloud uploading, and when, based on a schedule. This is one of the most valuable pages in the QxControl application.

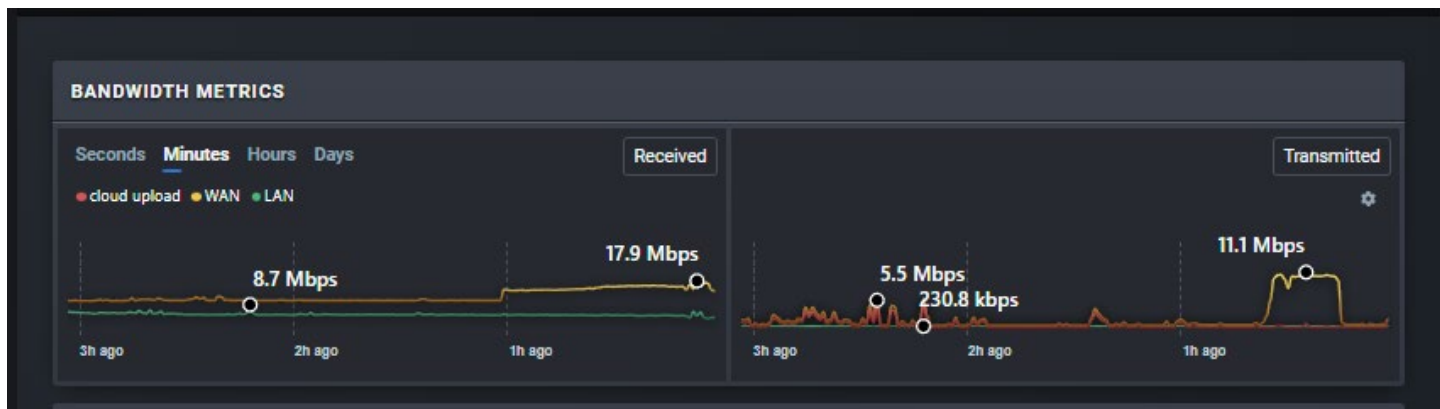
The screenshot displays the Qumulex Gateway Networking interface. At the top, there's a navigation bar with tabs for Info, System, Networking (selected), Discover Devices, and Edit Gateway. The main content area is titled 'Qumulex Gateway' and includes a location tag 'Headquarters Facility' and buttons for Actions and Config. Below this are three main sections:

- BANDWIDTH METRICS:** This section contains two line graphs. The left graph, labeled 'Received', shows bandwidth usage over time with a peak of 17.9 Mbps. The right graph, labeled 'Transmitted', shows usage with a peak of 11.1 Mbps. Both graphs include data for cloud upload, WAN, and LAN.
- CLOUD UPLOAD METRICS:** This section contains two line graphs. The left graph, labeled 'Seconds', shows upload times with peaks of 3s and 2s. The right graph, labeled 'Bytes', shows upload volumes with peaks of 929.5 kB and 678.9 kB.
- CLOUD RECORDING BANDWIDTH MANAGEMENT:** This section includes a control panel for bandwidth management. It shows a current limit of 10000 Mbps, set to 'Always (Read only)' and 'ON'. Below this is a grid for scheduling bandwidth management across days of the week (Sunday to Saturday) and times (12am to 9pm).

At the bottom left, there is a user profile for Josh Bowman (jbowman@qumulex.com).

Bandwidth Metrics

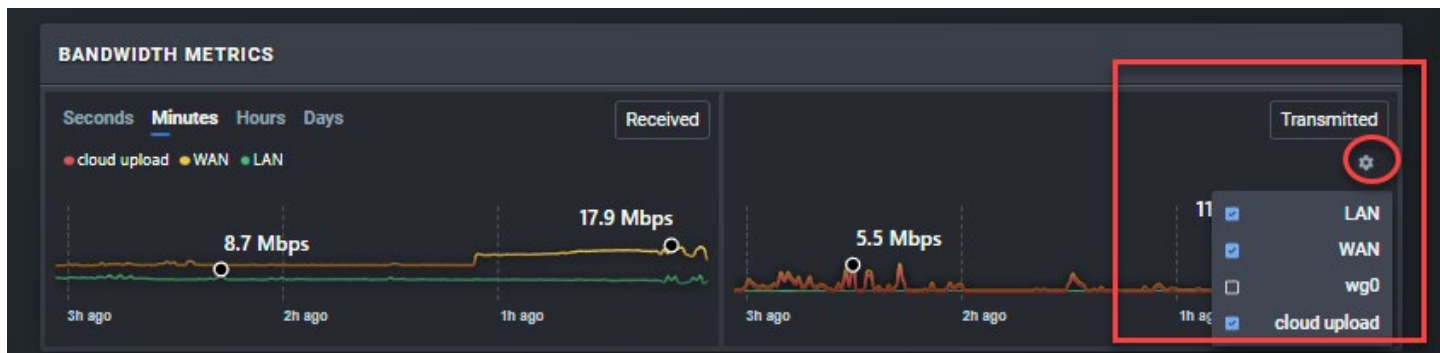
The Bandwidth Metrics charts allow you to monitor the network traffic from your WAN and LAN ports and can also be used to monitor the VPN (wg0) and Cloud Upload Traffic.



You can choose to evaluate these metrics against Seconds, Minutes, Hours and Days. You can make this selection by clicking on the desired time metric at the top of the graph.

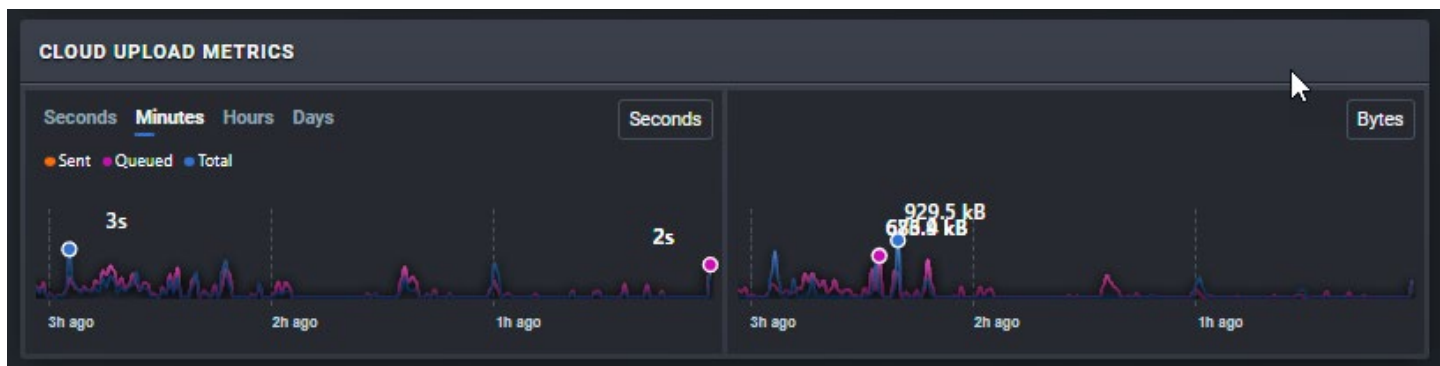
By choosing the gear icon you can choose what Network Traffic is monitored. You can choose between LAN, WAN, wg0 (VPN) and Cloud Upload.

You can choose to monitor one, or all these options at once.

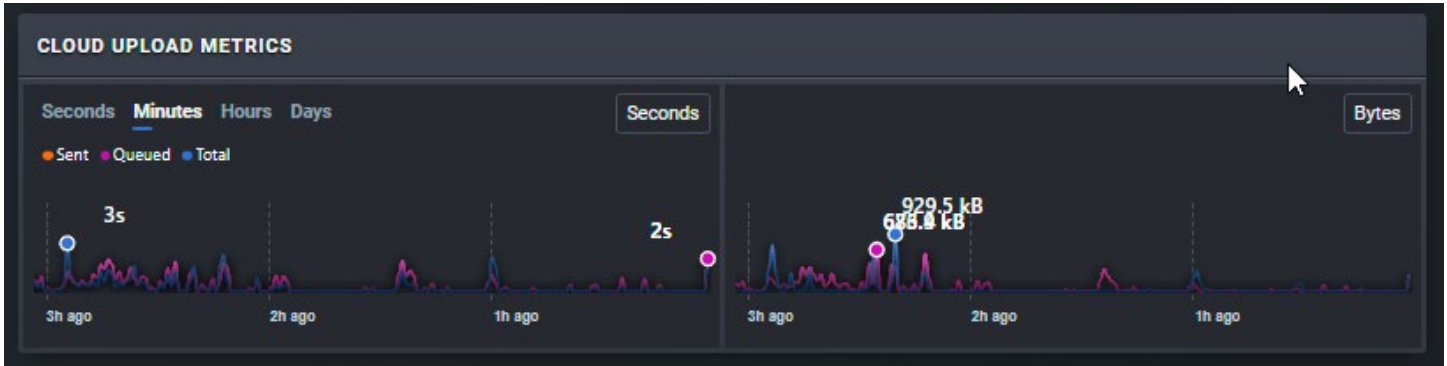


Cloud Upload Metrics

The next available graph is cloud upload metrics. This is useful to see how much traffic is being queued.



This is helpful to determine how much data is being queued/buffered and scheduled to upload to the cloud.



You can change the time metric by selecting Seconds, Minutes, Hours, or Days from the top of the Graph.

Scheduling Bandwidth Throttling

One of the most important aspects of the Networking tab is the ability to control how much bandwidth is available for cloud uploads and to base these constraints on a schedule.

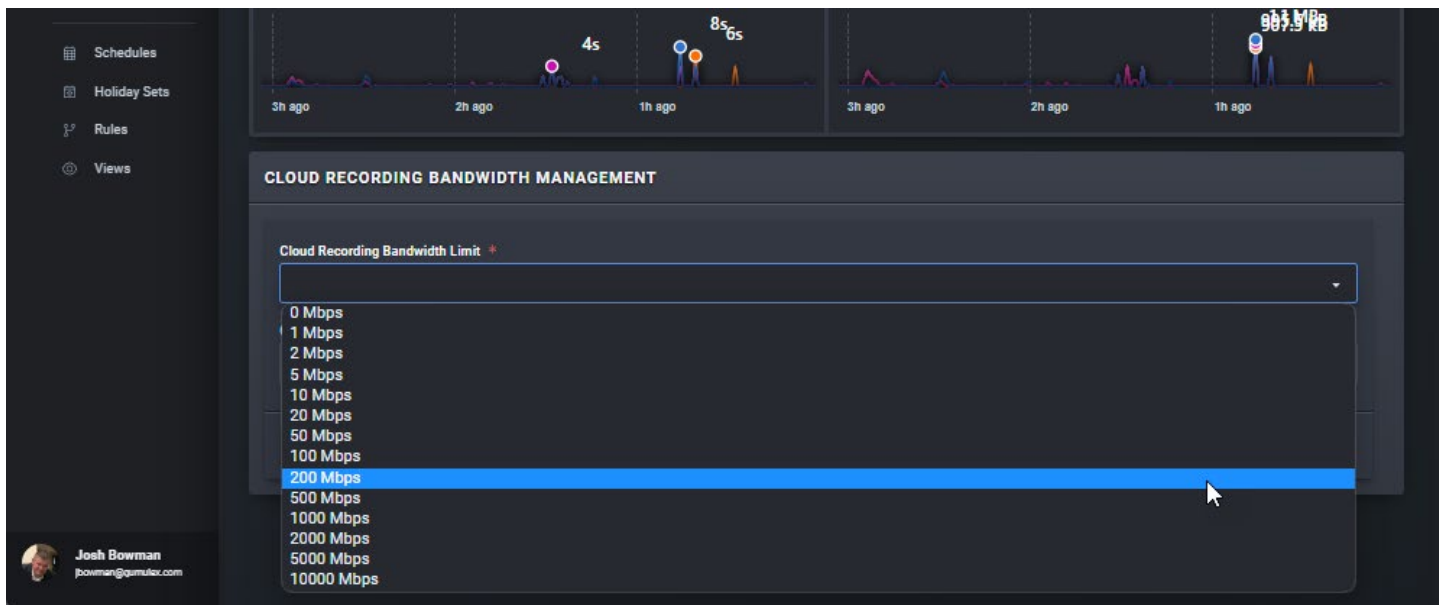
If no Bandwidth Schedule is assigned, QxControl will send all Gateway data required to the cloud in real time. If there is not enough bandwidth available, the Queuing system will stage it to synchronize as bandwidth is available.

What if, however, we share the available bandwidth with other systems? What if we want to control how much ISP bandwidth QxControl consumes so that other systems are not disrupted?

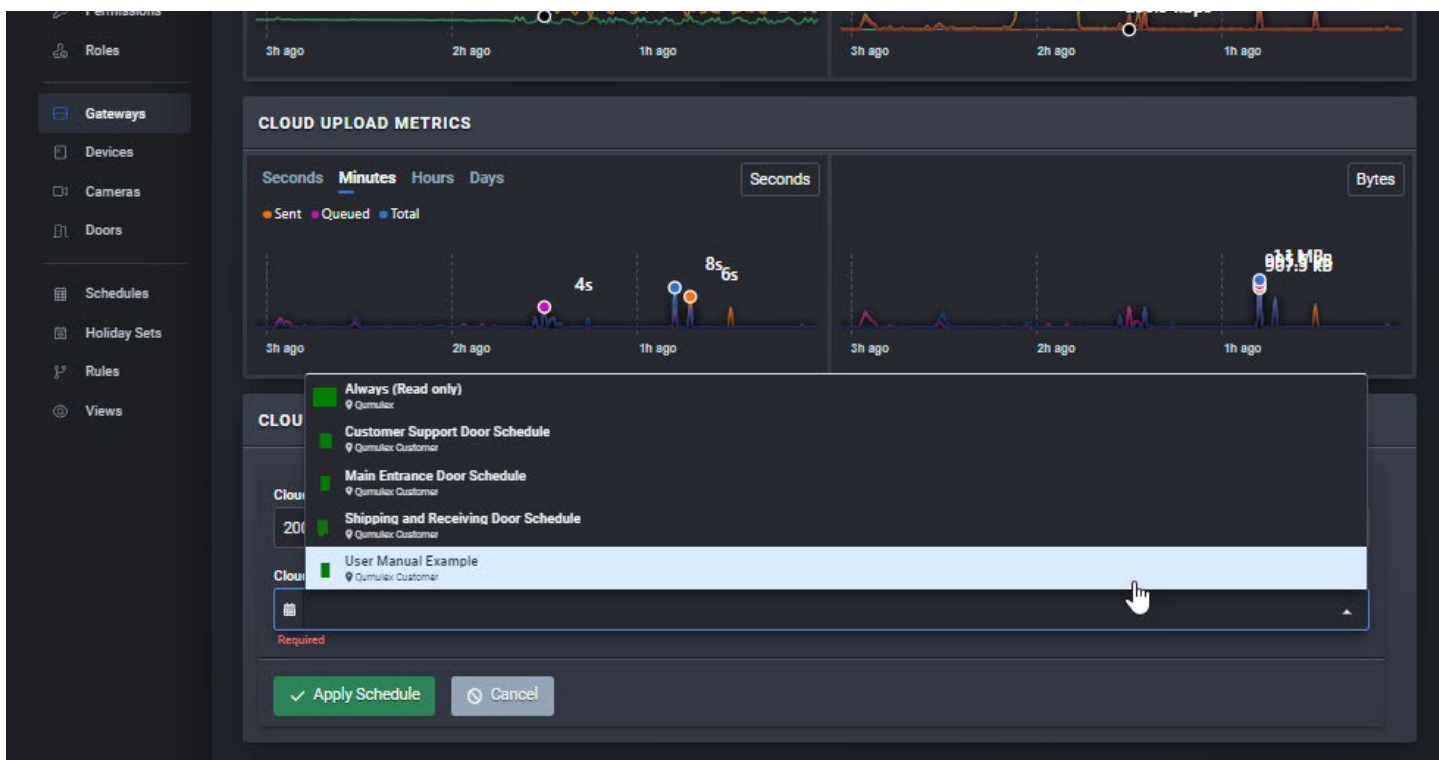
The answer to this question is that we create a Bandwidth Schedule. This process is extremely easy and uses any available schedule. To begin creating our Bandwidth Schedule, choose "Add Bandwidth Schedule" at the bottom of the Networking Page:

The screenshot shows the Networking page interface. At the top, there are two 'CLOUD UPLOAD METRICS' graphs, similar to the one in the previous figure. Below them is the 'CLOUD RECORDING BANDWIDTH MANAGEMENT' section. A message in this section reads: 'No Schedules Found. Upload will proceed with no bandwidth limits. Click "Add Bandwidth Schedule" to add a schedule.' A blue button with a plus sign and the text '+ Add Bandwidth Schedule' is located at the bottom of this section and is highlighted with a red rectangular box.

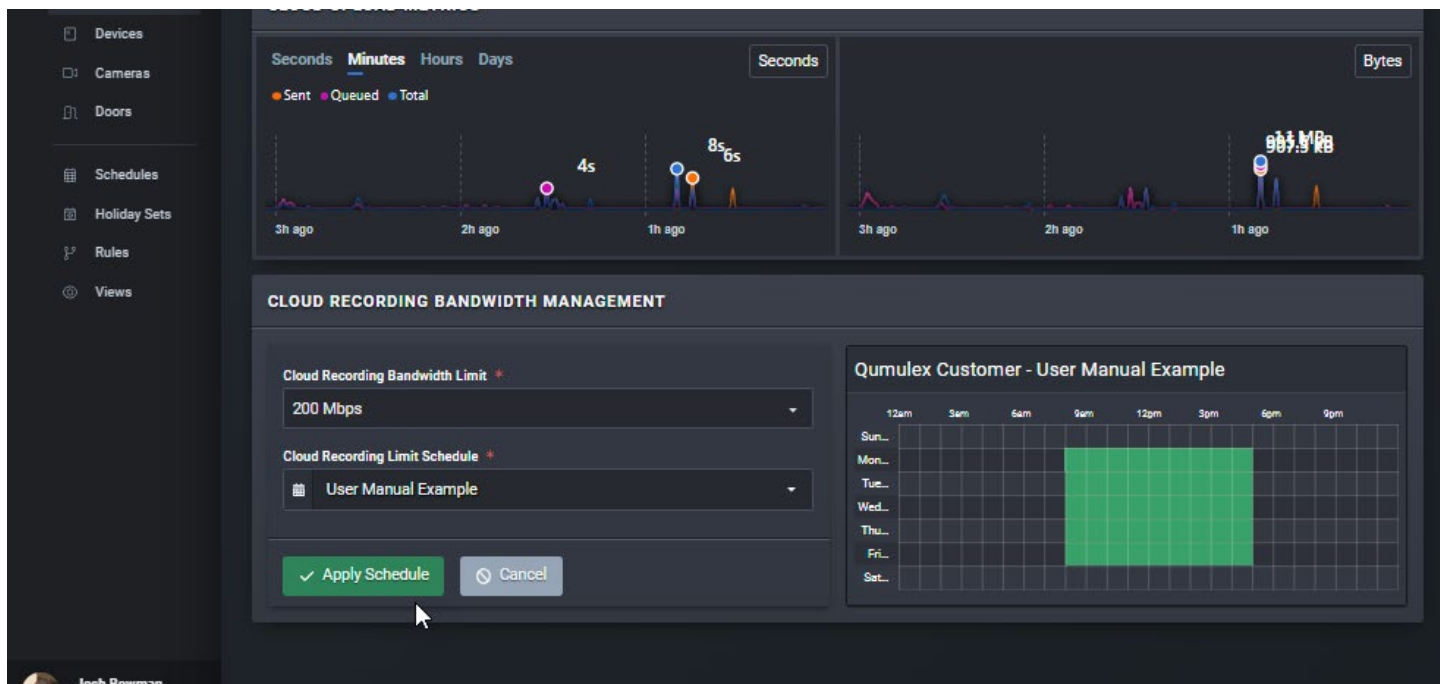
The next step is to choose the desired bandwidth limitation:



Next, Choose a Schedule from the drop-down menu. You can use any available schedule, or you can go to the Schedules Page and create a schedule just for this purpose.

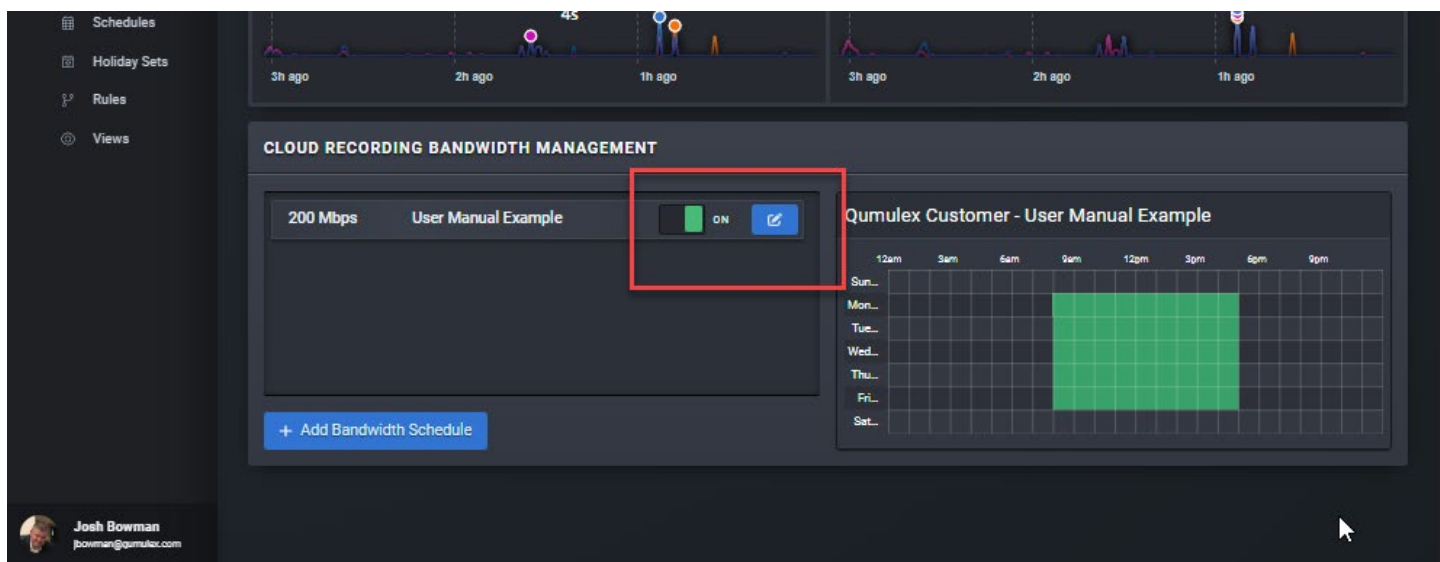


Now that we have selected our desired limit and a schedule, you will see the hours where the throttling will be active displayed in the right-side display area. If you are pleased with the selections, choose “Apply Schedule” to save it.



Once you saved the schedule, you will see two options in the Saved Schedule:

First you will see that you can toggle the Schedule On/Off :



Next you will see the option to edit the schedule.

After choosing the blue edit button, you will be able to choose a new schedule or bandwidth limit as needed. You also have the option to “Remove Schedule” if it is no longer needed.

CLOUD RECORDING BANDWIDTH MANAGEMENT

Cloud Recording Bandwidth Limit *
200 Mbps

Cloud Recording Limit Schedule *
User Manual Example

Apply Schedule Cancel Remove Schedule

Qumulex Customer - User Manual Example

| | 12am | 3am | 6am | 9am | 12pm | 3pm | 6pm | 9pm |
|-------|------|-----|-----|-----|------|-----|-----|-----|
| Sun.. | | | | | | | | |
| Mon.. | | | | | | | | |
| Tue.. | | | | | | | | |
| Wed.. | | | | | | | | |
| Thu.. | | | | | | | | |
| Fri.. | | | | | | | | |
| Sat.. | | | | | | | | |

Lastly, it should be noted that you can add multiple schedules and either toggle them on/off or choose varying schedules that apply at different times. This helps for more complex scenarios where you may have varying needs at different times.

However, be very careful to ensure that the schedules do not overlap in a way that interferes with the intended result.

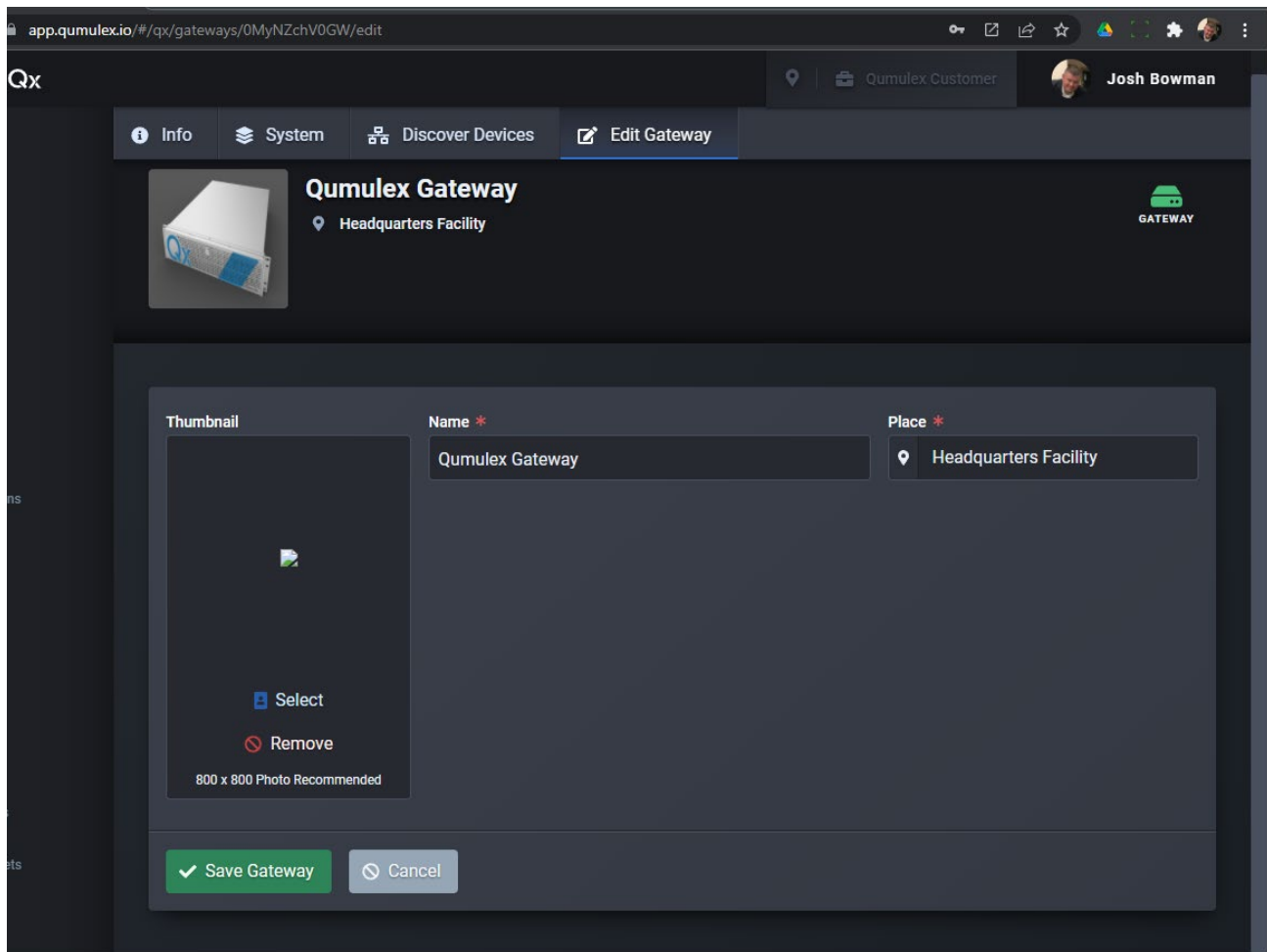
In most cases, you are best served to keep it simple and use as few schedules as possible.

Gateway Edit Page

The Gateway Edit page allows you to:

- Rename the Gateway
- Choose the Place of the Gateway (Assign Scope)
- Edit the thumbnail image that used for the Gateway

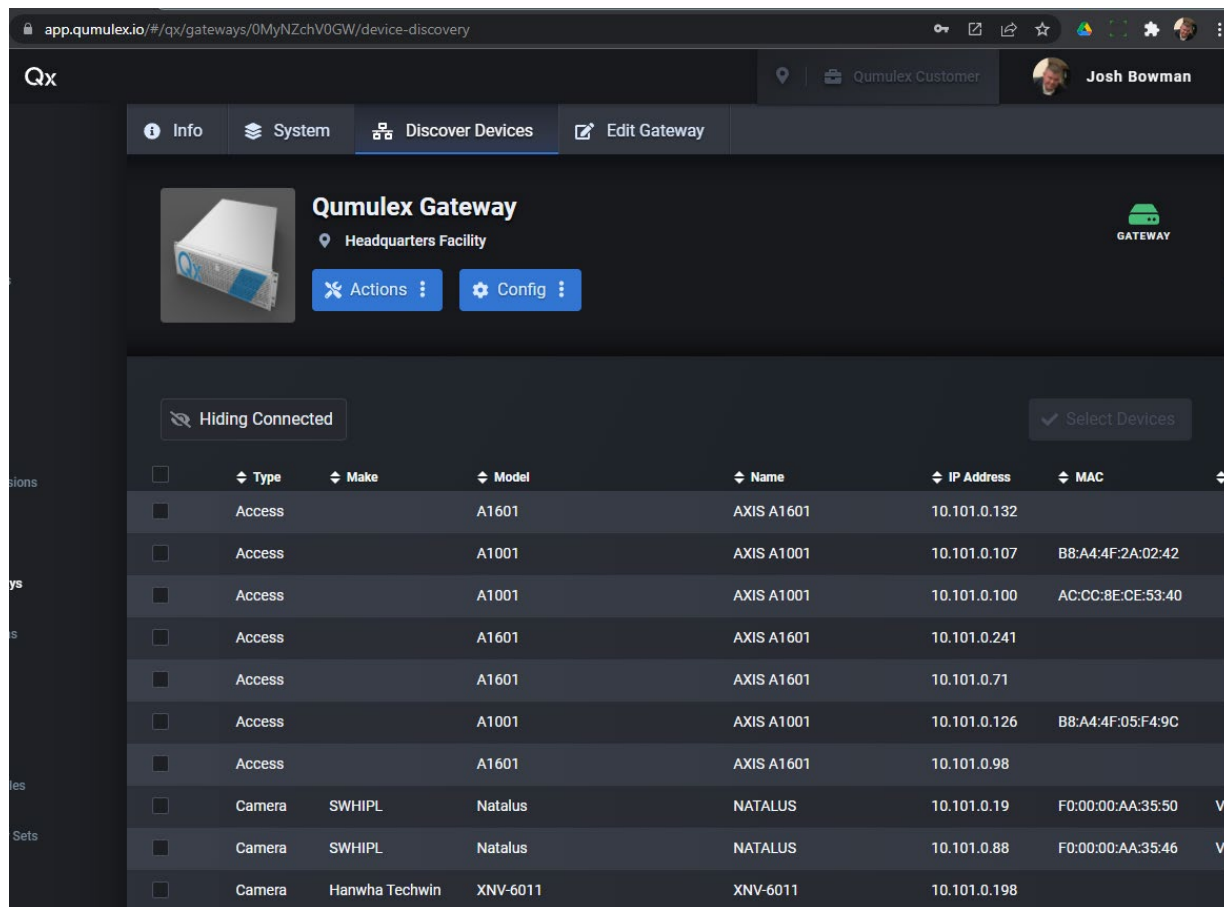
If you edit any settings on the Edit Gateway tab, choose “Save Gateway” to apply the changes.



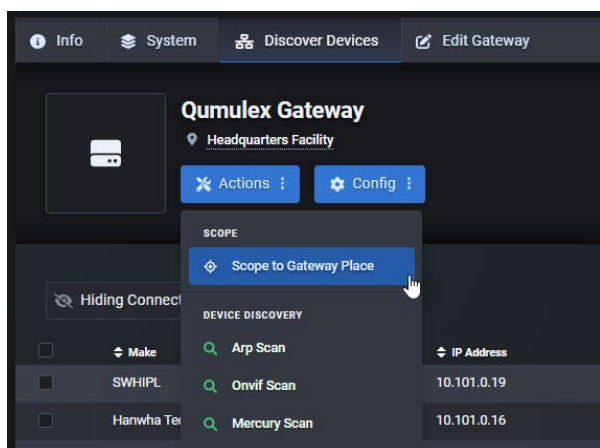
Gateways: Discover Devices

An extremely useful, and time saving feature is available from the Gateway management tabs. “Discover Devices” allows you to scan and find devices that you want to install in QxControl.

When you first choose the Discover Devices tab, the Gateway will automatically choose an “Onvif” network scan and will present any available devices that have an Onvif profile that is compatible.



You can also choose to run the scan again by choosing the “Actions” menu.



From the Actions menu, you will have four options:

Scope to Gateway – This very simply will set your scope to the scope of the Gateway itself. This is an easy way to reduce scope to only the site you are working with, without having to leave the Gateway Info Page.

Arp Scan – Scan for all devices on a Network regardless of any available Onvif profile. This is useful if you are not seeing the devices that you intended, or if you are getting incomplete information from the Onvif profile. This will return all visible devices on the network and will require more filtering to sort and find the devices relevant to QxControl.

Onvif Scan – This scan will only look for devices that have an Onvif profile. This option is preferable as you will not see devices that are incompatible with QxControl (such as printers and laptops).

Mercury Scan – This scan will only look for Mercury Controllers and SIO modules.

Note: The Arp scan is best reserved as a second step when needed after first trying an Onvif scan.

The following Device properties will be shown after a scan:

Type

Make

Model

Name

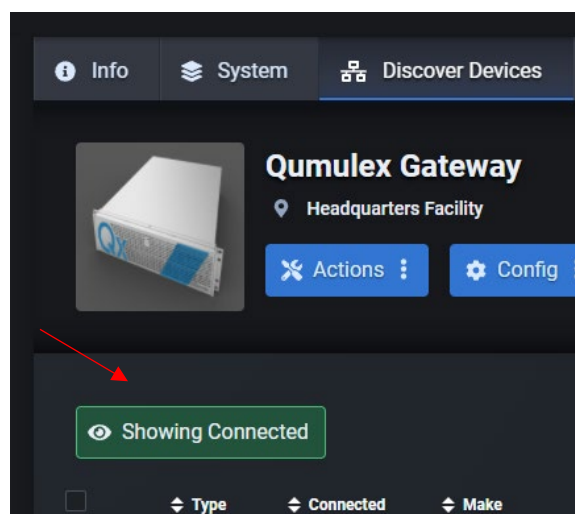
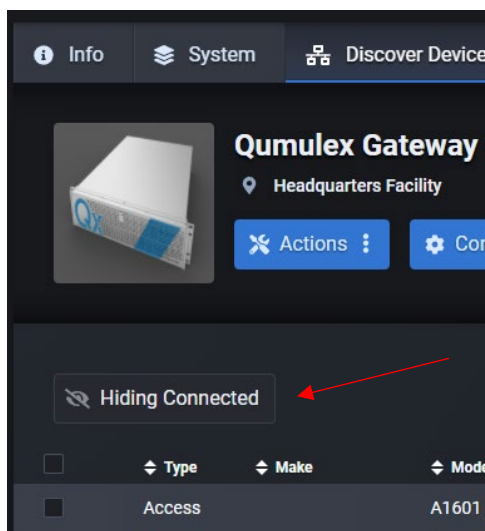
Ip Address

MAC Address

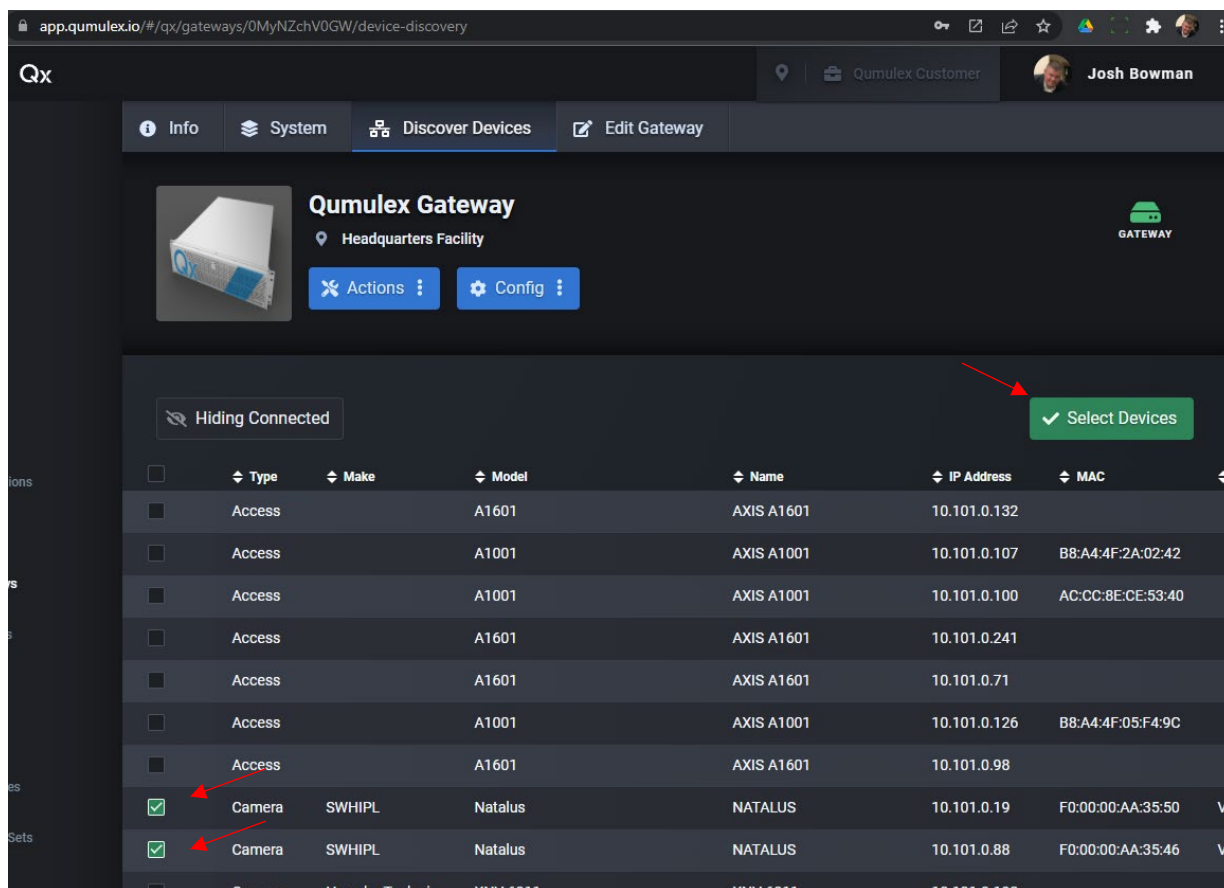
Firmware Version

NIC (Indicates if the device was found on the LAN or WAN port of the Gateway)

You can also toggle between showing devices already installed on your QxControl Gateway, or only showing non-installed devices. This is available by choosing the “Hiding Connected” or “Showing Connected” button:



Once you are satisfied with your scan, you can now use Discover Devices to install one or multiple Devices in QxControl. Start by clicking on any Devices that you wish to install (As many as you want) and then choose “Selected Devices” to continue to the next step:



That will bring you to the next page, where you will need to click on each Device you want to add and provide the required details to install in QxControl.

The screenshot shows the 'Discover Devices' tab in the Qumulex Gateway management interface. The main header includes 'Qumulex Gateway' and 'Headquarters Facility'. Below this is a table of discovered devices with columns for IP Address, Make, MAC, NIC, and Status. All devices are currently in a 'Needs Config' state.

| IP Address | Make | MAC | NIC | Status |
|--------------|----------------|-------------------|-----|--------------|
| 10.101.0.19 | SWHIPL | F0:00:00:AA:35:50 | WAN | Needs Config |
| 10.101.0.88 | SWHIPL | F0:00:00:AA:35:46 | WAN | Needs Config |
| 10.101.0.130 | SWHIPL | F0:00:00:9C:7F:FF | WAN | Needs Config |
| 10.101.0.16 | Hanwha Techwin | | WAN | Needs Config |
| 10.101.0.114 | Hanwha Techwin | | WAN | Needs Config |
| 10.101.0.195 | Hanwha Techwin | | WAN | Needs Config |

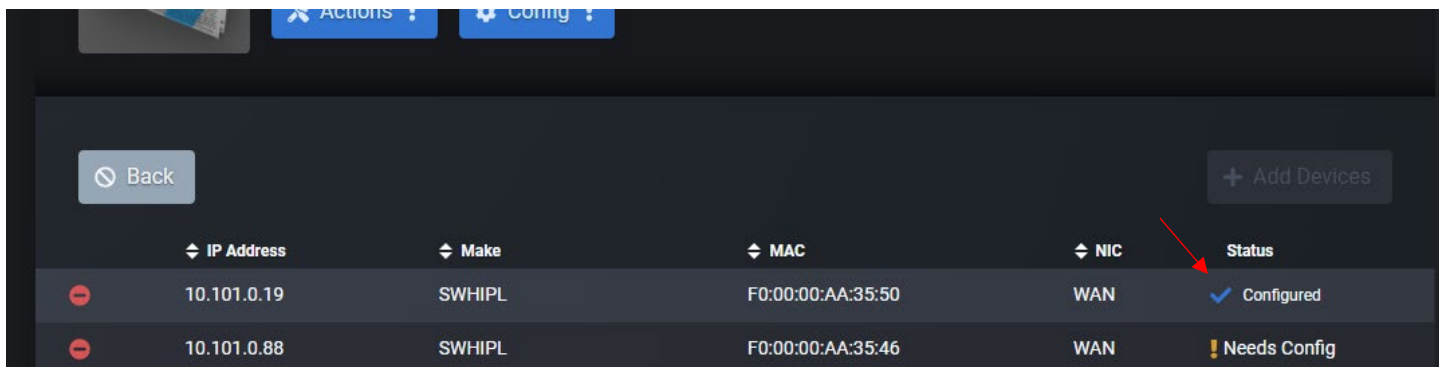
Next, choose the first Device you want to install from the list by clicking on it. Enter the required information then “OK”

The screenshot shows the 'Configuring Device 1/6' form in the Qumulex Gateway management interface. The form is used to configure a selected device from the list. The fields are as follows:

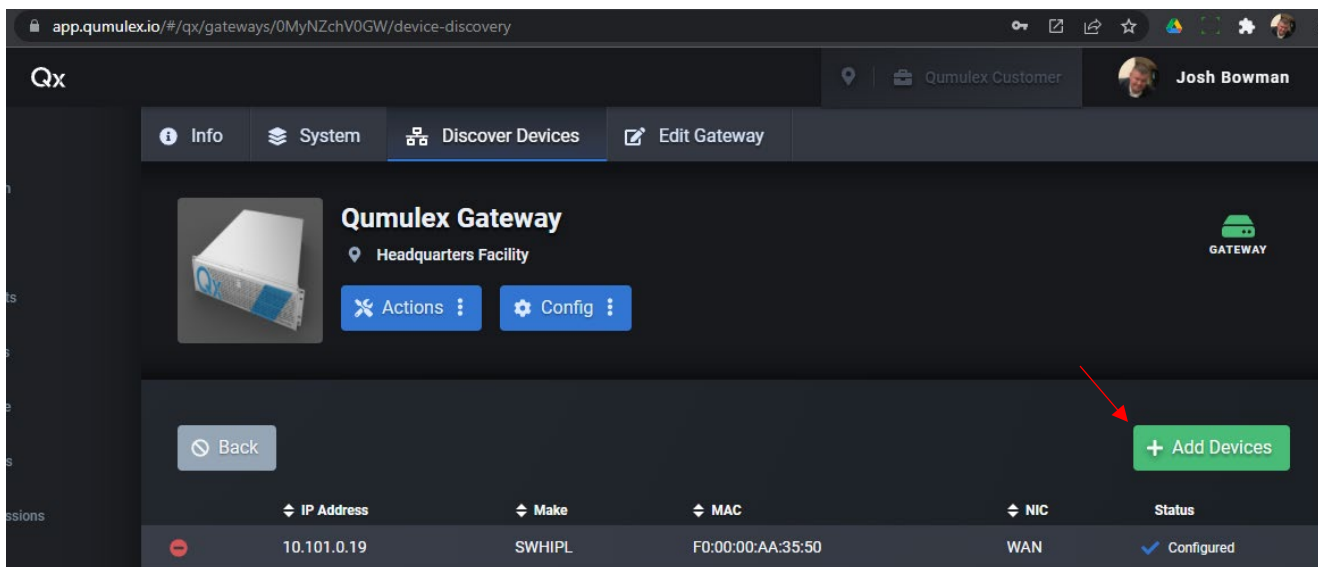
- Type:** Camera
- Name:** NATALUS
- Description:** Example Camera
- Gateway:** Qumulex Gateway
- Hostname/ IP Address:** 10.101.0.19
- Port:** 80
- TLS:** Off
- Username:** jbowman@qumulex.com
- Password:** (masked)

Buttons at the bottom include 'OK', 'Close', 'Prev', and 'Next'.

Or choose “Next” to move to the next Device to configure. When a Device has been configured you will see the status change from “Needs Config” to “Installed”:

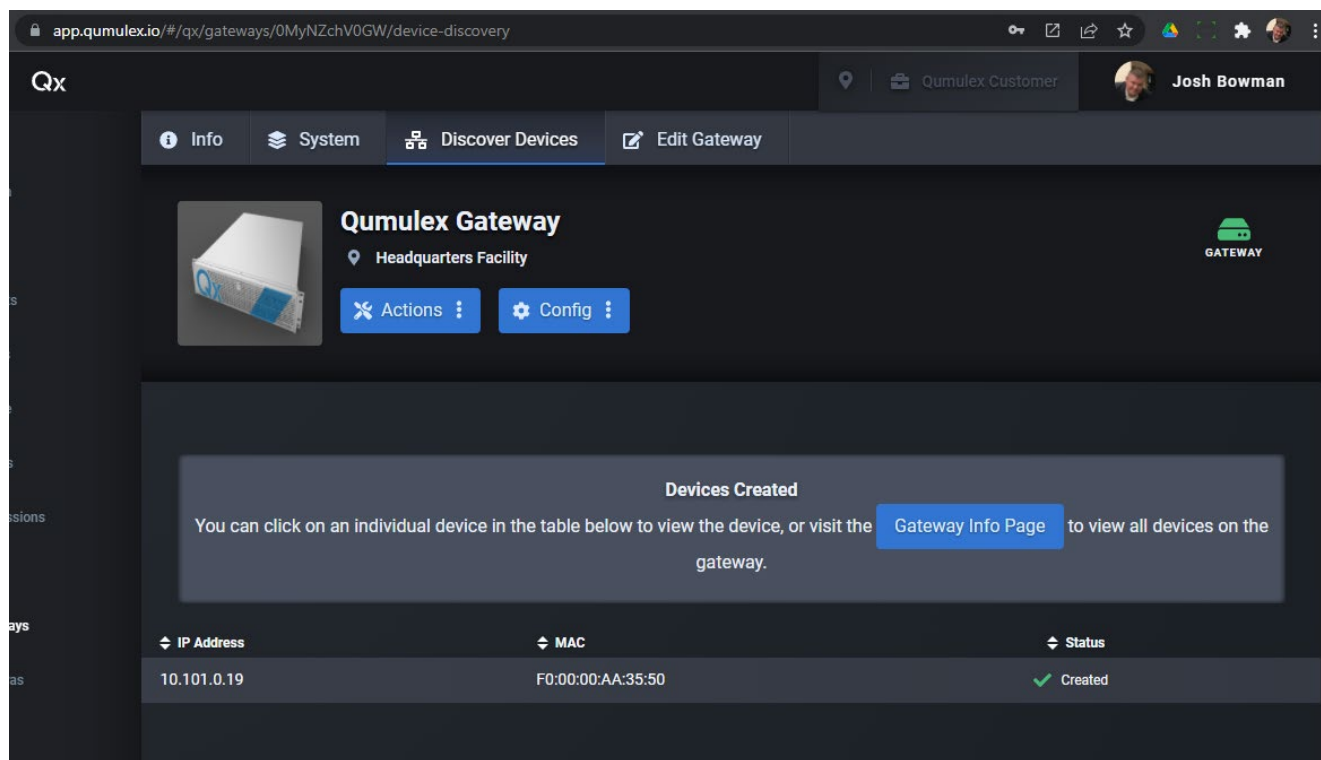


Once you have configured all Devices that you wish to install, press “Add Devices”:

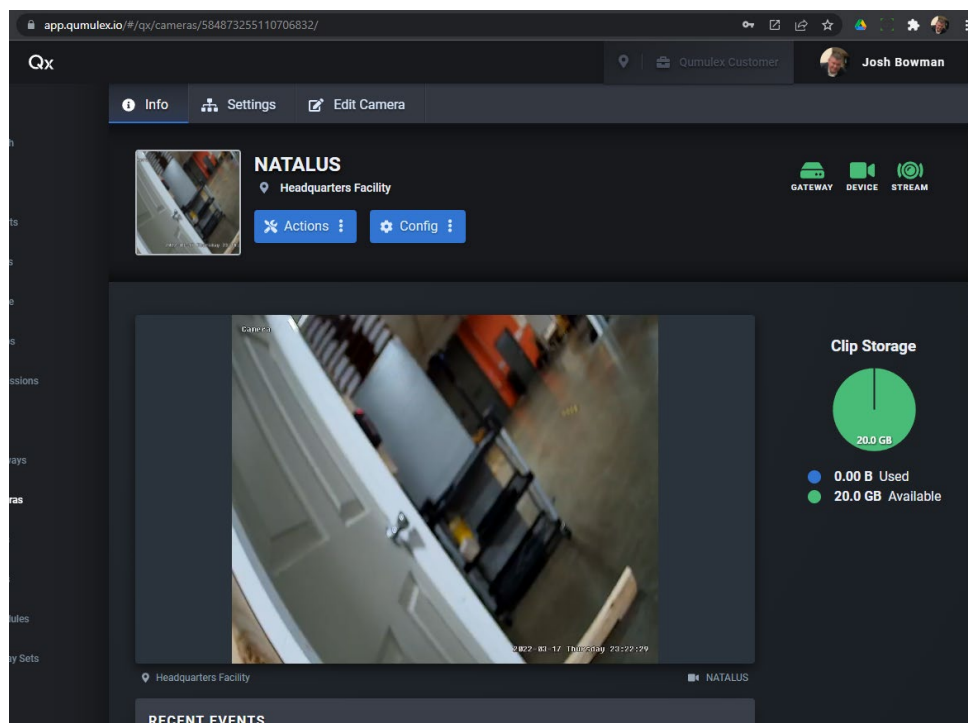


Note: The Add Devices button will grey out until all selected devices are added. If you wish to move forward without installing all of the selected Devices, choose the delete button on the far left side of the row.

Once you choose “Add Devices”, you will then see a notification that the Devices have been created, and instructions on where you can find the Devices:

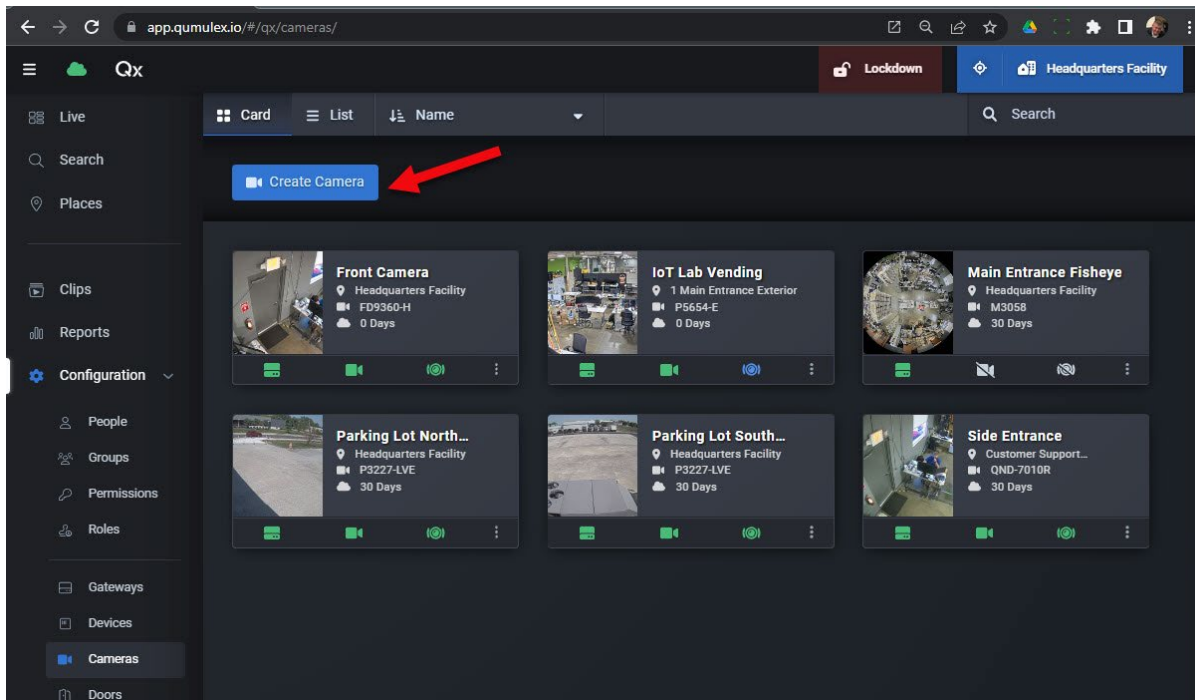


You can also click on the row itself and it will take you to the Device’s Info Page:



Cameras

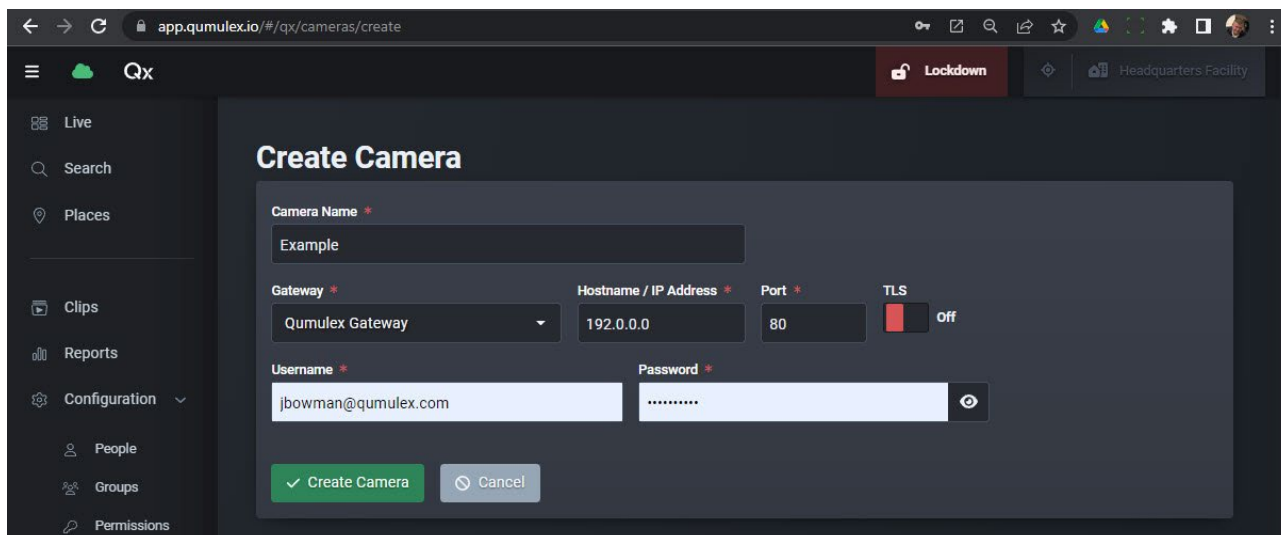
Cameras are managed using the Cameras page.



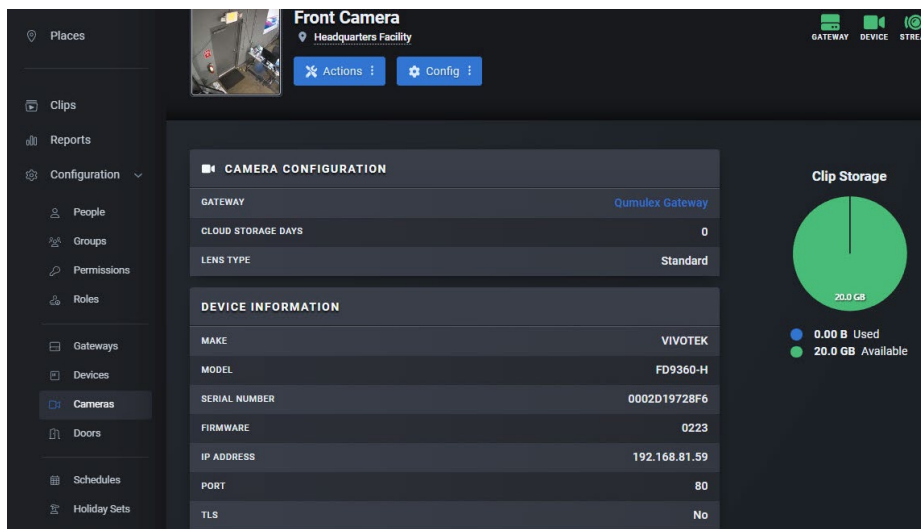
Cameras page

Adding and Managing Cameras

Adding a camera is easy and can be done from either the “Devices” Page, or, from the cameras page, choose “Create Camera” from the top menu. At minimum, you will need to enter the IP address, port (if other than Port 80) , username, and password, choose a Gateway from the drop-down menu, and then click save. QxControl will attempt to connect to the camera and if successful, will populate the make, model, firmware version and serial number automatically after you save the camera.



Once a camera has been saved, you can now manage the camera settings in QxControl.



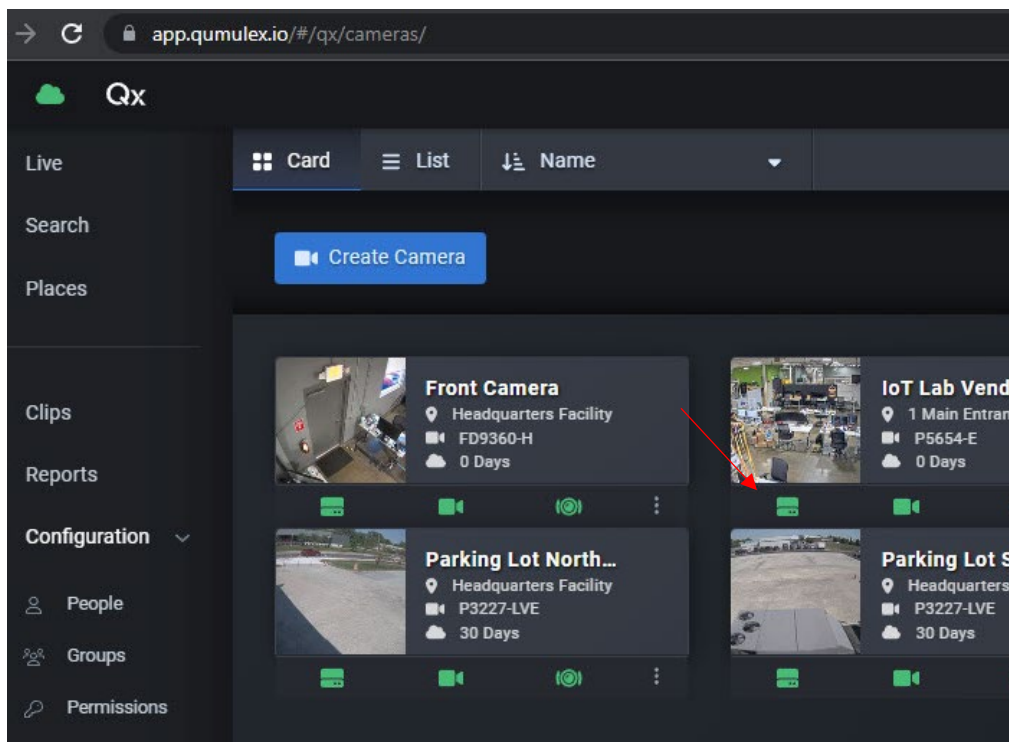
Cameras Page: Card View

On the Cameras main page, you have the option to manage cameras from either Card or List view. This can be toggled at the top menu for the page itself. In this section we will focus on Card view options. Available actions for each camera card are available in the 3-dot menu. For cameras you will have two options in the menu:

Go to Search: This function will take you to the search page with a tag pre-applied for this camera to quickly view events for this camera.

Go To Live: This function will take you to the Live page in a 1x1 layout allowing you to quickly begin live viewing this camera.

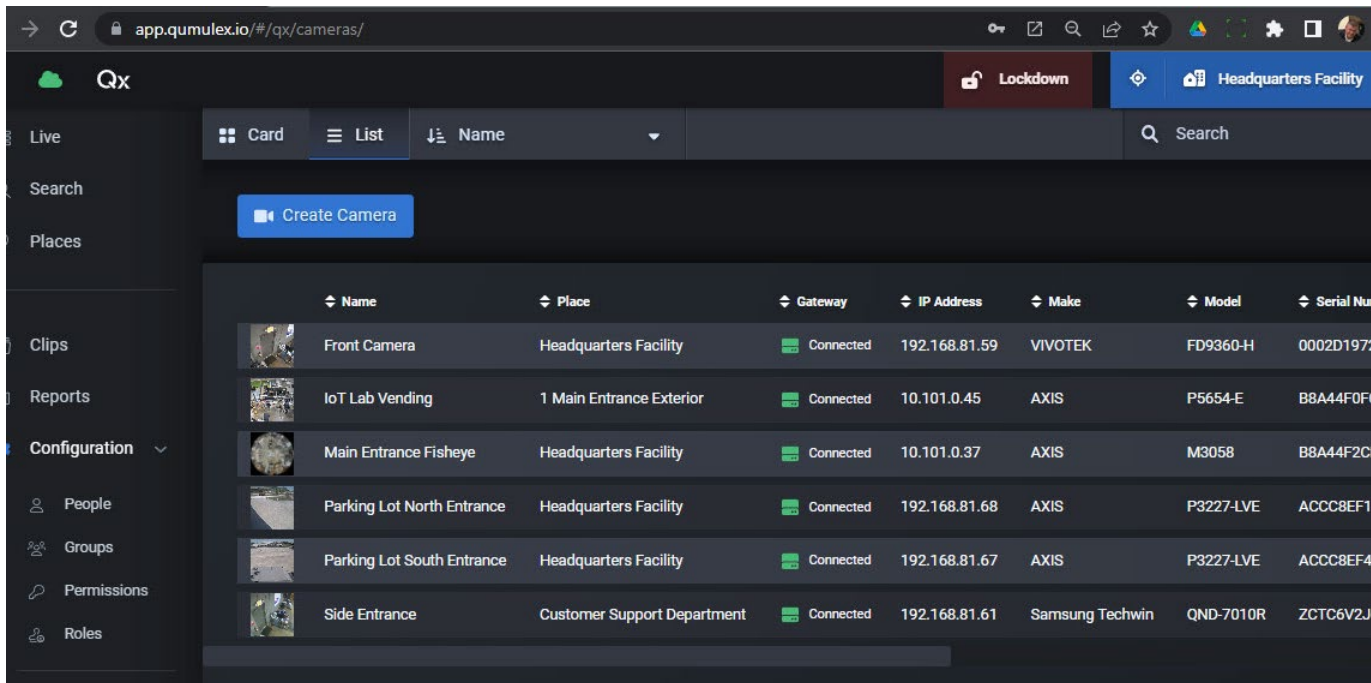
You will also see status icons that are identical to those displayed for camera widgets in Live.



Cameras Page: List View

In this section we will focus on List view options. List view is higher density allowing more cameras per page than Card view. Also, there is more detailed information available.

Please note that due to the number of columns displayed, it may be advantageous to use a more focused resolution and slide your screen cursor left and right to view all columns.



Columns Displayed are the following:

Name: Name of the camera.

Place: Scope of the camera.

Gateway: The Gateway that the camera is associated with.

IP Address: The IP Address of the camera.

Make: The manufacturer of the camera.

Model: The model number of the camera.

Serial Number: The serial number of the camera.

Firmware: Version of firmware installed on the camera.

Cloud Storage: The cloud storage subscription assigned to the camera.

Enabled: Green check mark indicated camera is enabled. Red x indicates disabled.

Status: Provides the status of the camera, whether it is online, offline.

Stream Status: Provides the status of streams for the camera. Multiple streams will show as a green icon, only one indicates blue for more is desirable. Red indicates that the streams are all disconnected.

View: This function will take you to the Live page in a 1x1 layout allowing you to quickly begin live viewing this camera.

Camera Info Page

Selecting a camera from List or Card view will take you to the camera info page. This is where you manage and edit a camera that is installed in QxControl.

In addition to the Top Menu, the camera info page provides the following:

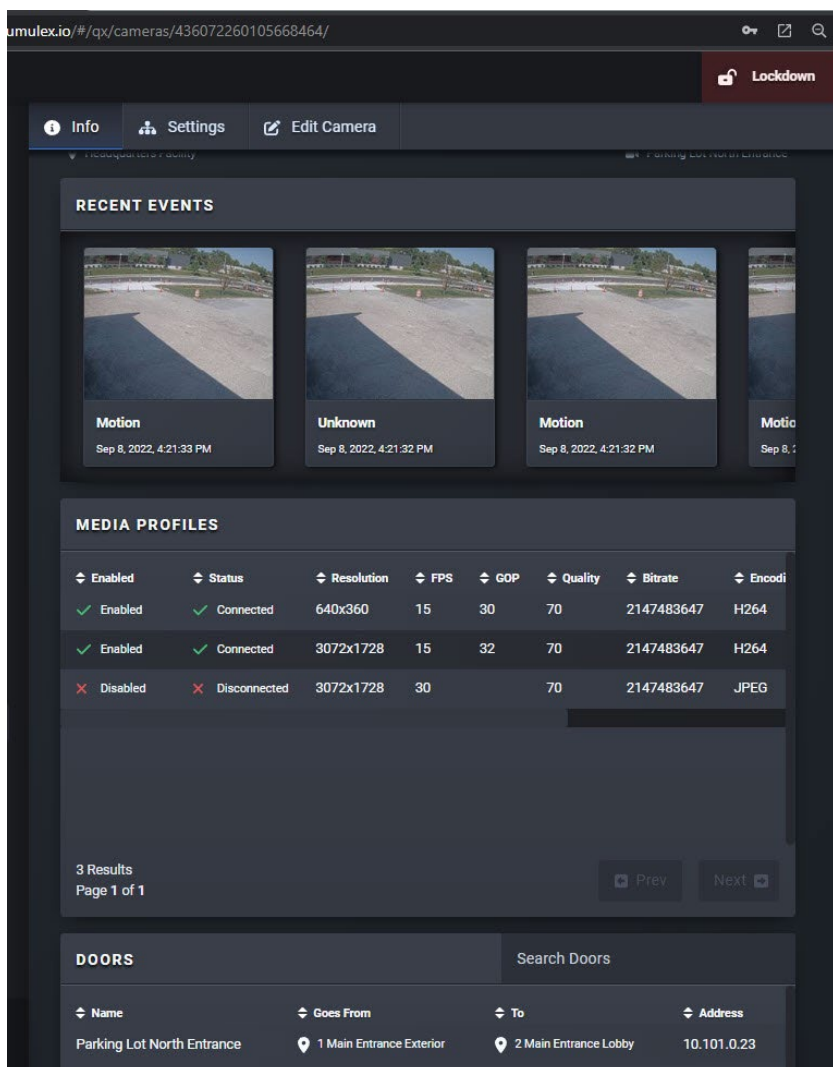
Live View: Live view of the camera. This view also allows full screen, digital PTZ and on screen display.

Recent Events: Allows you to swipe left and right to identify recent events for this camera.

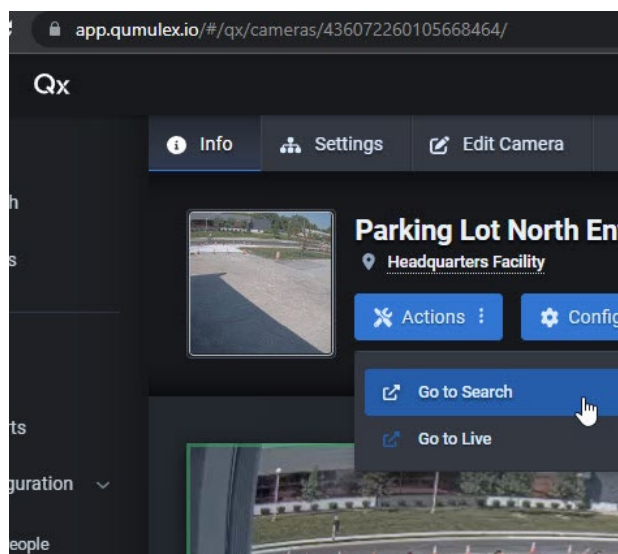
Media Profiles: Displays Media Profiles and their connection status.

Doors: Any door that is associated with this camera will be listed here. Choose “View” to visit that Door’s info page.

Multi-Sensor Relation: If the camera has multiple sensors this field allows you to see the relation to the other sensors. Clicking on the other sensors will take you to their associate camera page.



The top menu provides additional options under Actions and Config. Starting with Actions, you will have similar options as the 3-dot menu for a Door Card in Card View.



Go to Search: This function will take you to the search page with a tag pre-applied for this camera to quickly view events for this camera.

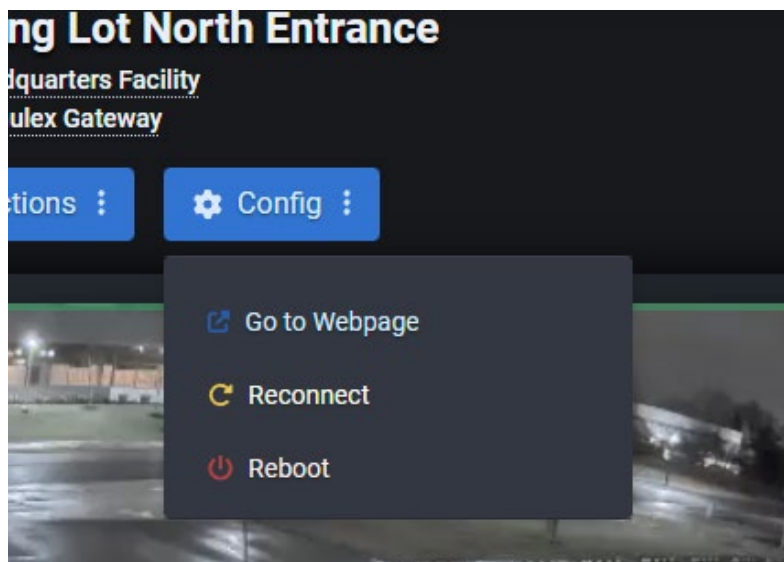
Go To Live: This function will take you to the Live page in a 1x1 layout allowing you to quickly begin live viewing this camera.

Choosing the Config button adjacent to Actions, will provide you two options:

Go to Webpage: This function will take you to the camera’s web interface page to allow configuration of the device.

Reconnect (Default Settings): This option is a shortcut to deleting and re-adding a camera that is not functioning properly. Choosing this will cause QxControl to refresh the connection to this camera and the settings associated with it.

Reboot: Sends an Onvif call to the Camera and initiates a power cycle



Camera Settings Page

Selecting Settings above the Top Menu takes you to the Settings page. This is where you can review and find valuable information about the camera:

Camera Configuration: This will display the Gateway associated to this camera and provides a clickable link to the Gateway page. This section also displays the current cloud storage retention in days.

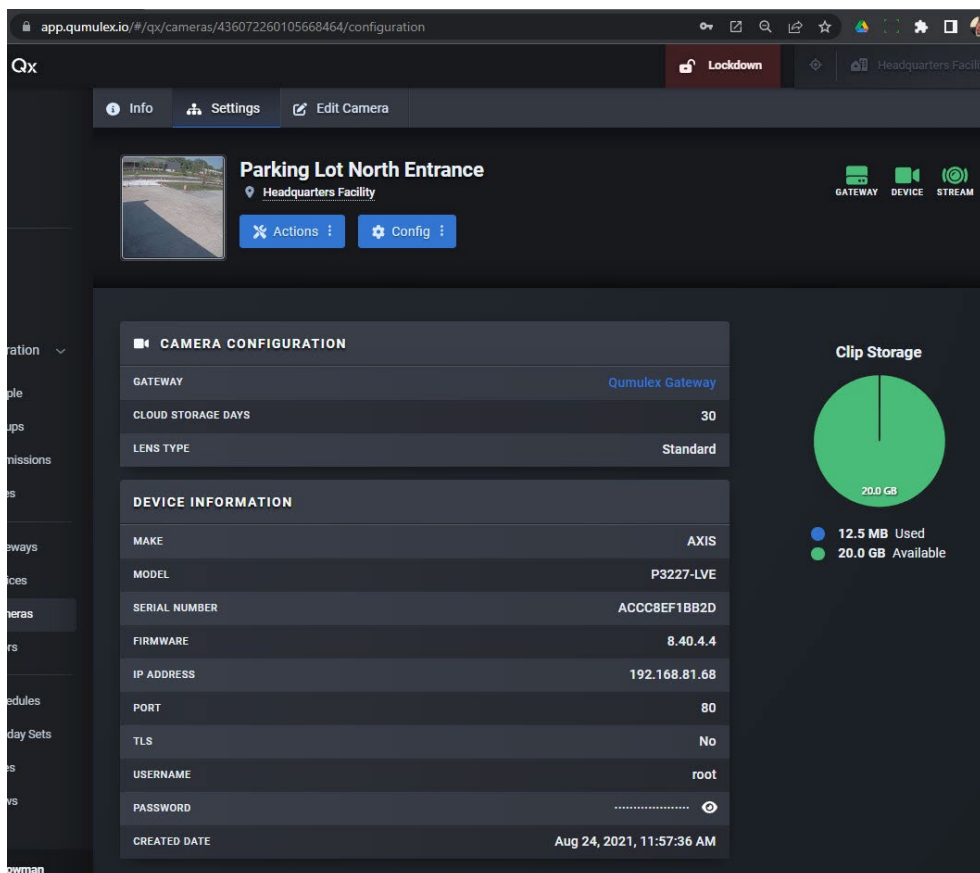
Device Information: This displays important information about the camera such as the make, model, serial number, firmware version, IP Address and the username and password of the camera can be found here as well.

Multi-Sensor Relation: If the camera has multiple sensors this field allows you to see the relation to the other sensors. Clicking on the other sensors will take you to their associate camera page.

Clip Storage: Each cloud subscription (issued per camera) also includes 20GB of cloud storage for clips at no additional charge. To help manage the available clip storage for each camera, Clip Storage used, and available, is displayed in the Clip Storage field.

Note 1: If you save clips with no expiration date you will need to manually delete from the Clips page once storage is exceeded. It will not overwrite what is already stored.

Note 2: Cloud clip storage is not offered for QxOP systems. (On-Premises) These systems will utilize local storage onboard the Gateway for clip storage.



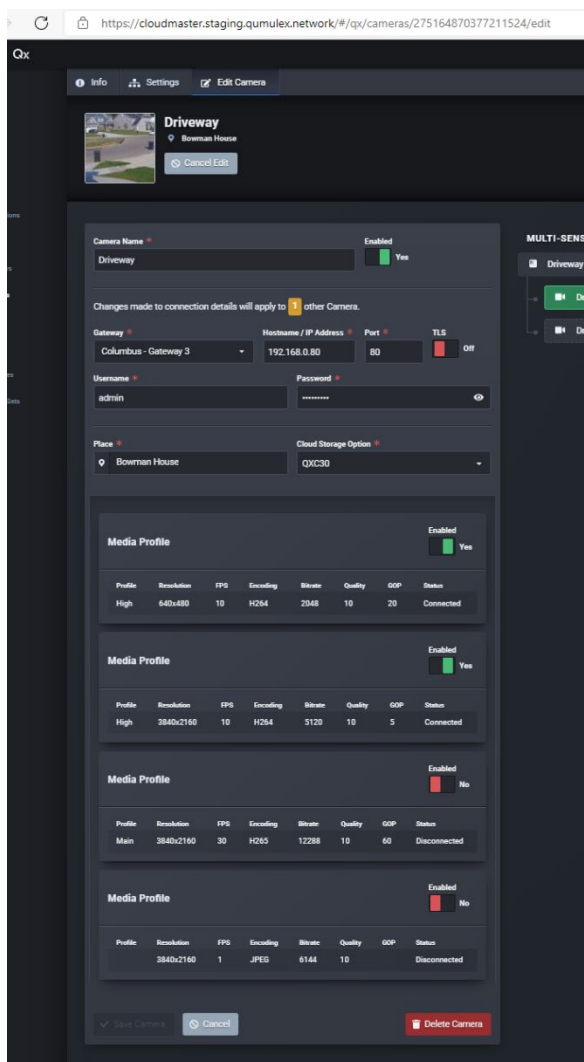
Edit Camera Page

Selecting Edit Camera above the Top Menu takes you to the Edit Camera page. This is where you can modify and edit settings related to the camera:

In the first field you can edit the camera name, enable/de-enable, change the Gateway association, IP Address, Port, enable TLS, update the username and password, the Scope where the camera is available and the cloud storage option. You will also see a warning for multi-sensor cameras that changes may affect other cameras (sensors) that are attached to this one.

Please Note: When you change setting for IP Address and username/password, you are changing the information that QxControl uses to log in to the camera. This will not update the camera itself. You must log into the web interface of the camera and apply changes there.

In the second field you will see all available media profiles (streams) listed. You can use the Enabled option to enable or de-enable these streams in QxControl. For example, QxControl will ignore any streams not enabled. Just below the media profiles you can save or cancel your changes or delete the camera.



Choosing Continuous or Event Based Gateway Recording

In both On-Premises (QxOP) and Cloud (QxC+) applications your Gateway will locally record and store video. How much local storage you have is dependent on the options you choose when ordering your Gateway. There are ways to maximize your local storage, starting with choosing which local recording mode you use. Let's take a closer look at both to understand which is recording mode better for you:

Continuous

Continuous recording mode will use the most local storage, as it stores continuously 24x7. This is useful for making sure all events are recorded regardless of motion or analytic triggers from your camera. In the case of Exporting a clip to the cloud, using this recording mode also allows you to extend the duration of a clip.

Note: A future update of QxControl will allow you to view and scrub through continuously recorded video. At this time, you can only search for video based upon events.

Event Based

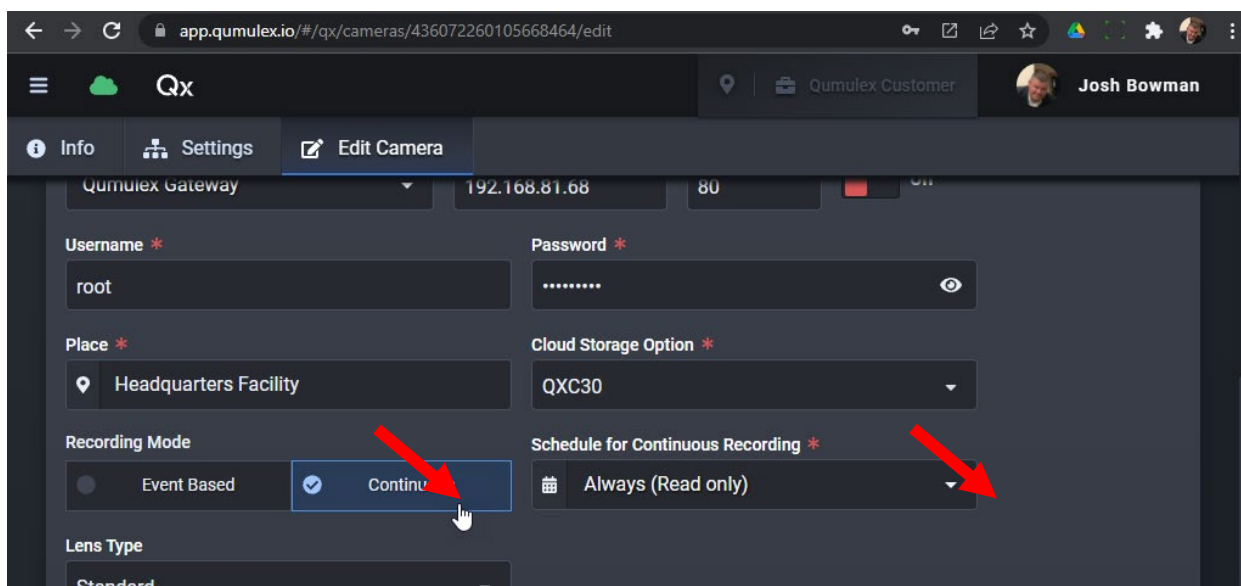
Choosing this recording mode allows you to record only when there is an event, such as motion. Choosing this option is the most storage efficient recording mode and will allow a longer retention of locally stored video, depending on how many motion events you have.

Note: While more efficient in use of storage, you will not be able to extend the length of an exported video clip using this recording mode.

Schedule for Continuous Recording

Lastly you can assign a schedule for your Continuous recording. To create a schedule, visit the "Schedules" page. To use a schedule, choose from the available options in the drop-down menu.

For clarity, this feature means that during the schedule times you are continuously recording. Outside of those times, you are Event Based recording.

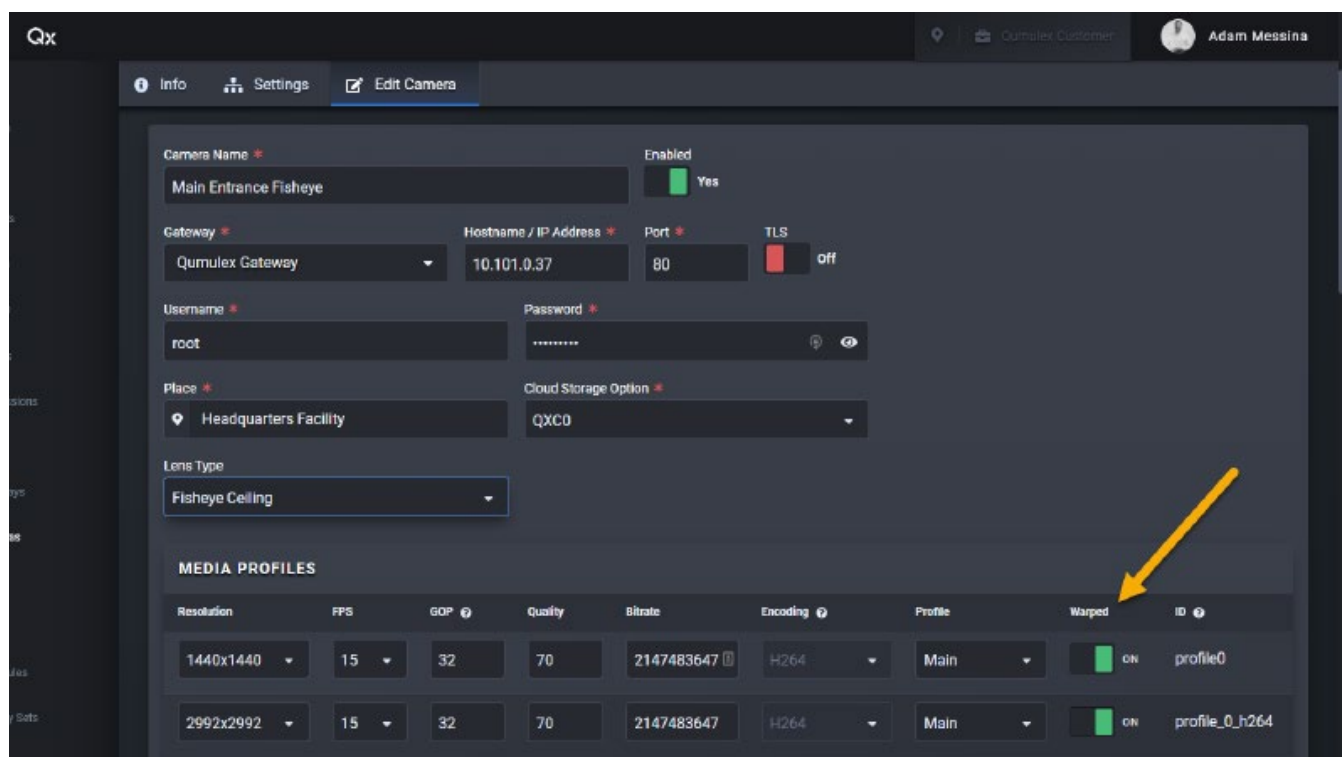


Adding and Using Fisheye Cameras

Adding a Fisheye camera is very similar to adding any other camera. There are, however, a couple of extra steps to consider so that your experience matches expectations.

First, when adding a Fisheye camera to QxControl you need to ensure that you disable Dewarping of the Fisheye in the camera itself (edge dewarping), if you wish to record the full Fisheye view, use Digital PTZ to navigate the full viewing area, and Dewarp from within QxControl. For many cameras this should be the default setting.

Second, be sure to enable “Warped” for the selected streams when adding to QxControl. This will allow you to record the entire viewing area and then Dewarp/DPTZ in both Live and Recorded footage to see your desired viewing angle.



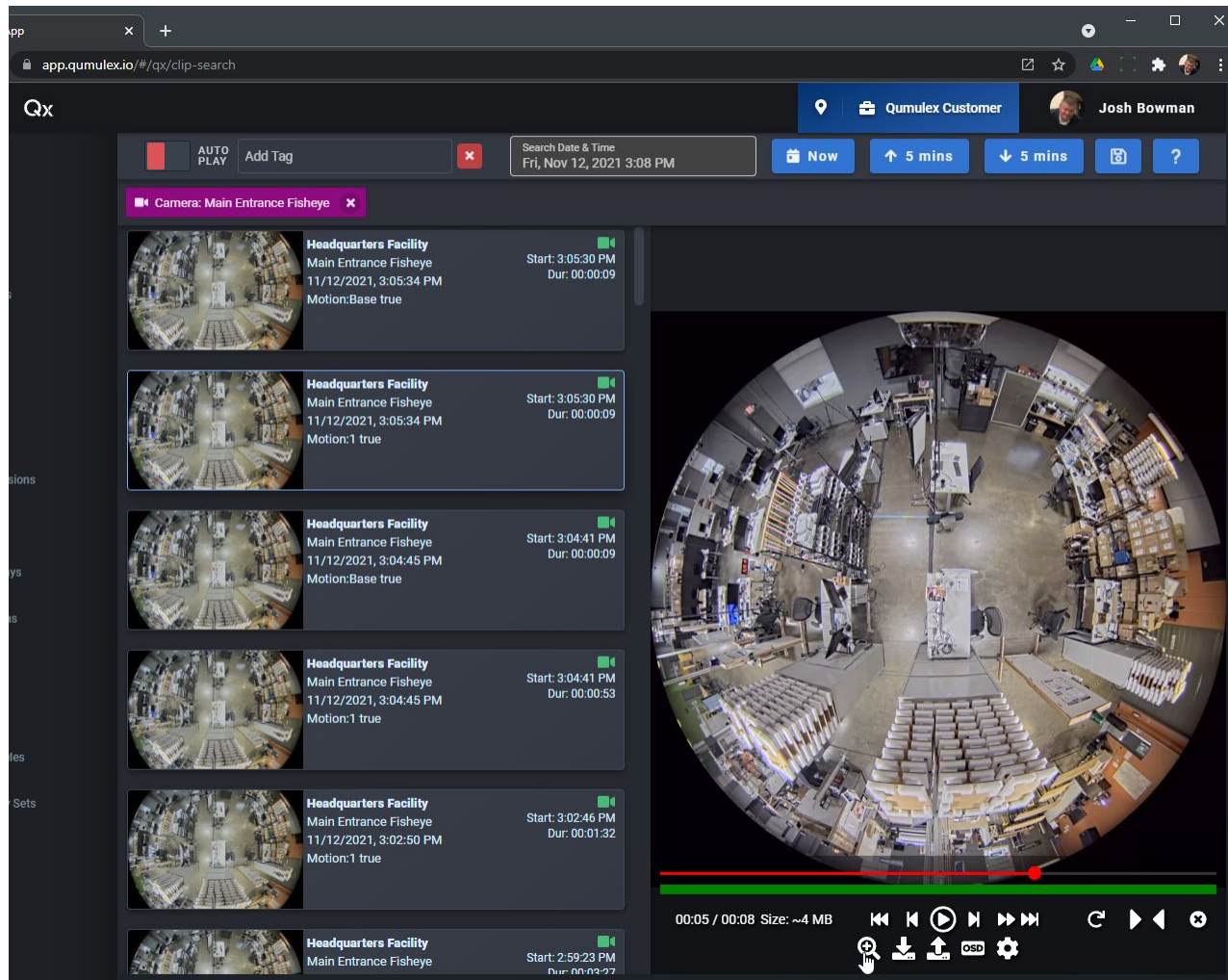
The screenshot displays the QxControl interface for configuring a camera. The 'Edit Camera' tab is active, showing the following settings:

- Camera Name: Main Entrance Fisheye
- Enabled: Yes
- Gateway: Qumulex Gateway
- Hostname / IP Address: 10.101.0.37
- Port: 80
- TLS: off
- Username: root
- Password: [masked]
- Place: Headquarters Facility
- Cloud Storage Option: QXC0
- Lens Type: Fisheye Ceiling

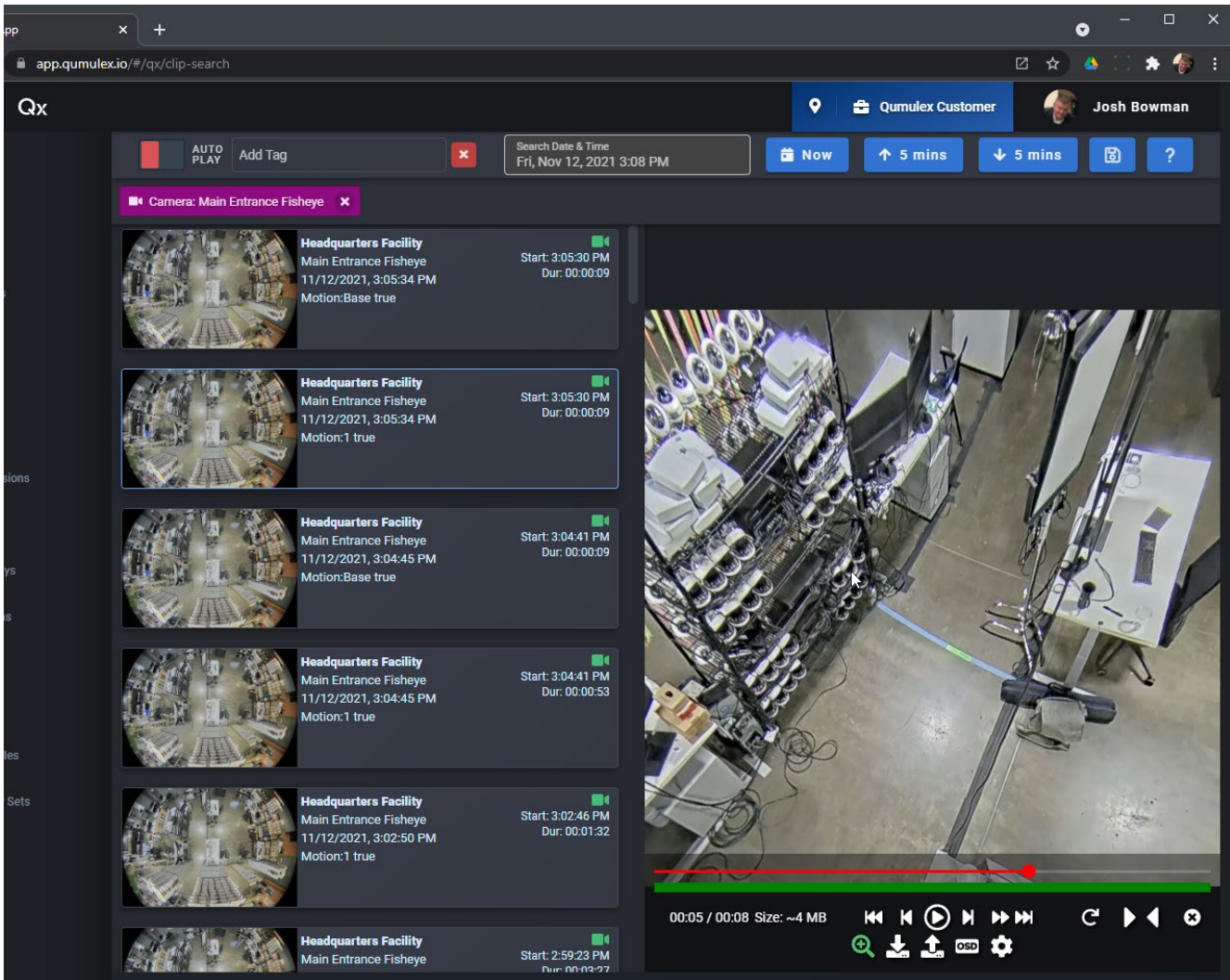
The 'MEDIA PROFILES' section is visible, showing two profiles with the 'Warped' checkbox checked for both:

| Resolution | FPS | GOP | Quality | Bitrate | Encoding | Profile | Warped | ID |
|------------|-----|-----|---------|------------|----------|---------|--------|----------------|
| 1440x1440 | 15 | 32 | 70 | 2147483647 | H264 | Main | ON | profile0 |
| 2992x2992 | 15 | 32 | 70 | 2147483647 | H264 | Main | ON | profile_0_h264 |

When viewing Fisheye cameras, use the DPTZ function to move around the Fisheye viewing area and see the desired viewing angle.



Recorded clip showing warped view

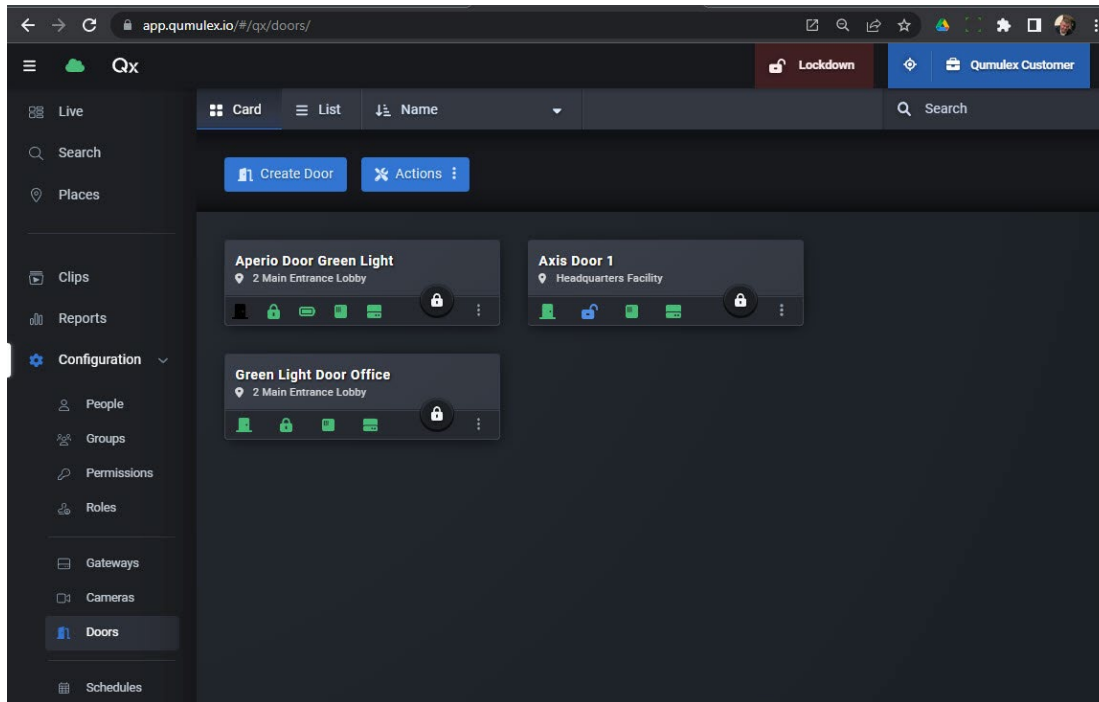


Dewarped View

Using your mouse or by pinching on mobile, you can easily navigate within the now dewarped view and see the angle you desire. This works on both Live and Recorded video.

Doors

The Doors page is where Doors are managed and is the primary area that Access Control functions are managed and performed.



You will use the Doors page for the following:

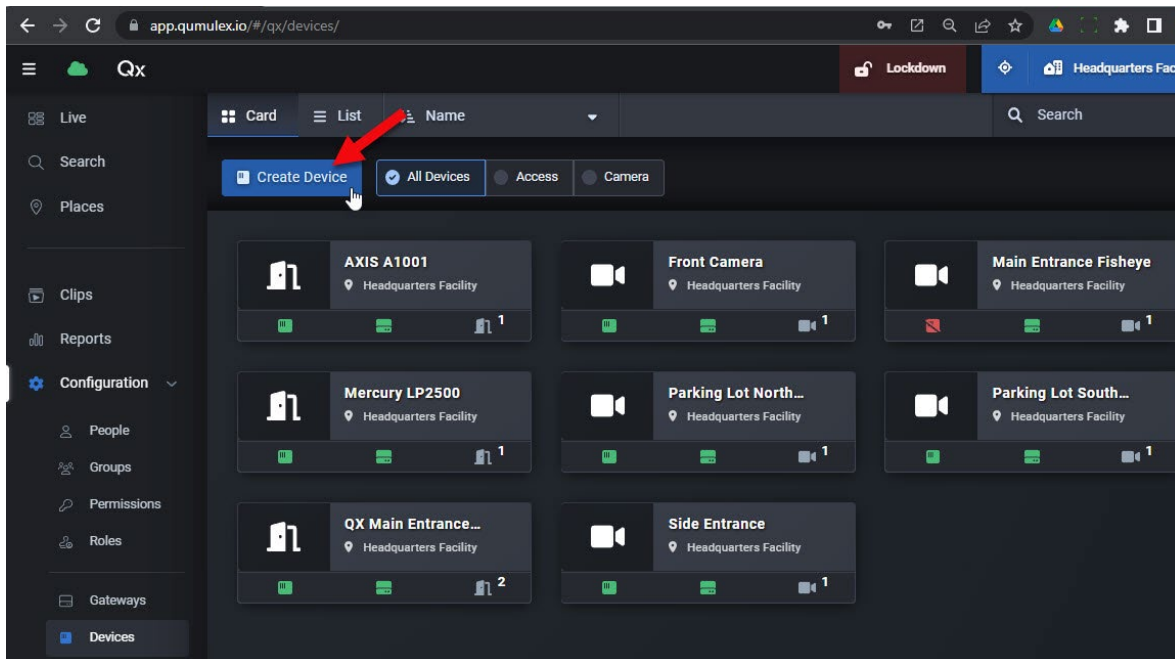
- Add a new Door
- Edit a Door
- Operate a Door
- Associate a Camera with a Door
- View Door related events
- Assign Groups and Schedules to a Door
- Update and push new config, users and other settings to Door Controllers

As QxControl is a Unified Video and Access Control solution, there are other areas where some of these functions may be performed.

- Devices Page – This page is used to create the “Device”, the Door Controller itself. You can also perform a Reboot of a Door Controller from the Config menu here.
- Live Page – Use Door Widgets to operate doors from a View or Layout.
- Search Page – Search for Door related events (Search Door Name, Doors, Person, Person Name, Event Actions)
- Create Schedules, Groups, Holiday Sets and Permissions that are assigned to these Doors from their respective pages.
- Create Access credentials and assign roles and disable users in the People page.

Adding Axis Door Controllers

The first step in using Access Control in QxControl is to add a Door Controller. The process to add a Door Controller in QxControl is simple and easy. In this example we will add an Axis door controller. To add a new Door Controller, navigate to the “Devices” Page and select “Create Device”



Next, we are presented with the “Create Device” Page. Choose Device Kind “Access” to reveal access control hardware options. You will need the IP Address, login and password, and then choose “Axis” for the Make.

The screenshot shows the 'Create Device' form in the Qumulex interface. The 'Device Kind' dropdown is highlighted with a red arrow and set to 'Access'. The 'Make' dropdown is also highlighted with a red arrow and set to 'Axis'. The form includes fields for Device Name, Description, Gateway, Hostname/IP Address, Port, TLS, Username, Password, and Device Protocol. At the bottom are 'Create Device' and 'Cancel' buttons.

Create Device

Device Kind *

- Access** (Selected): Add a device for access control management.
- Camera**: Add a device with 1 or more video sensors.

Device Name *: Example Axis Door Controller

Description: Example For User Manual

Gateway *: Qumulex Gateway

Hostname / IP Address *: 192.0.0.000

Port *: 80

TLS: Off

Username *: jbowman@qumulex.com

Password *: [Redacted]

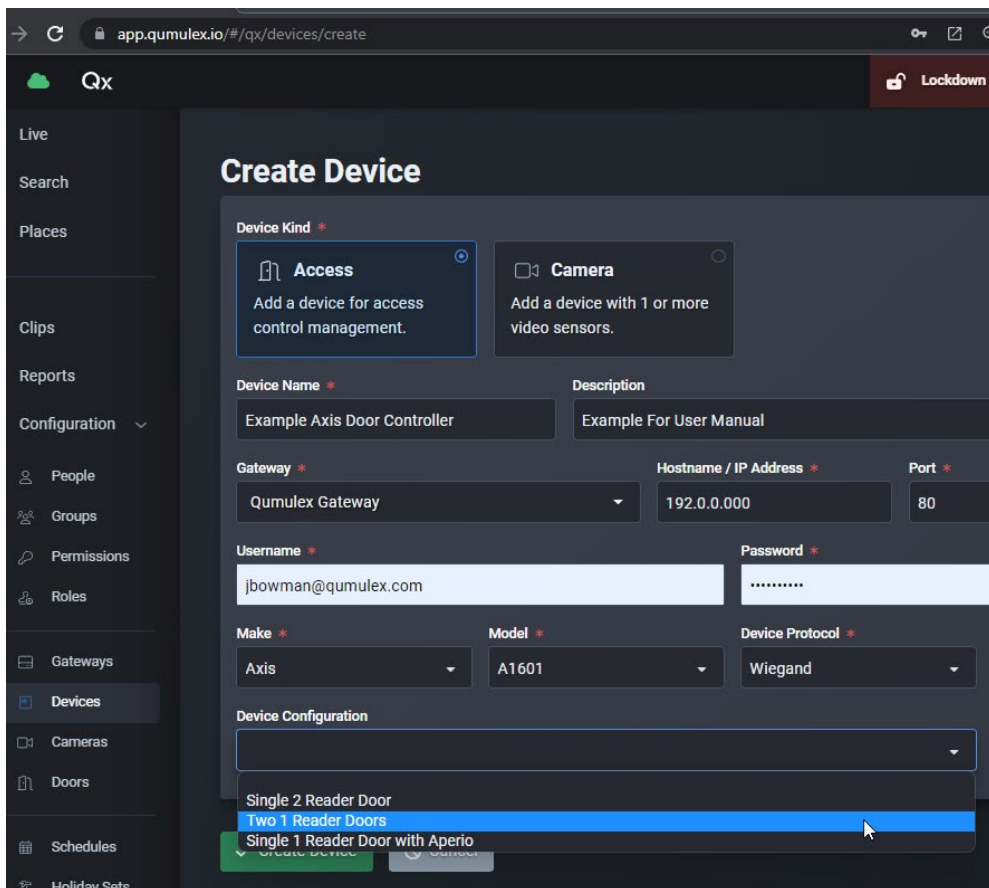
Make *: Axis (Selected)

Model *: [Empty]

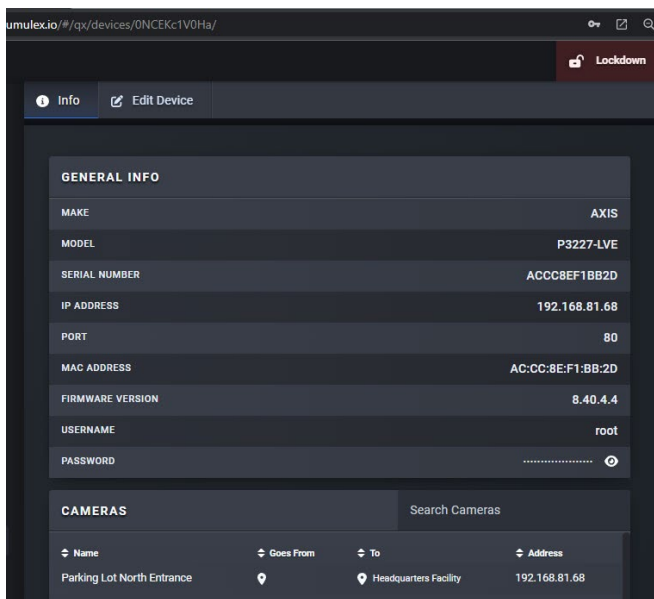
Device Protocol *: [Empty]

Create Device **Cancel**

Next, we can choose the Model of Axis, A1601 in this example, and we can choose the Device Protocol. We will choose Wiegand for this controller. After choosing these options, we can then choose the Device Configuration. The A1601 is capable of being either a Single 2 Reader Door, Two One Reader Doors, or a Single 1 Reader Door with Aperio Wireless Lock. We will choose Two One Reader Doors:

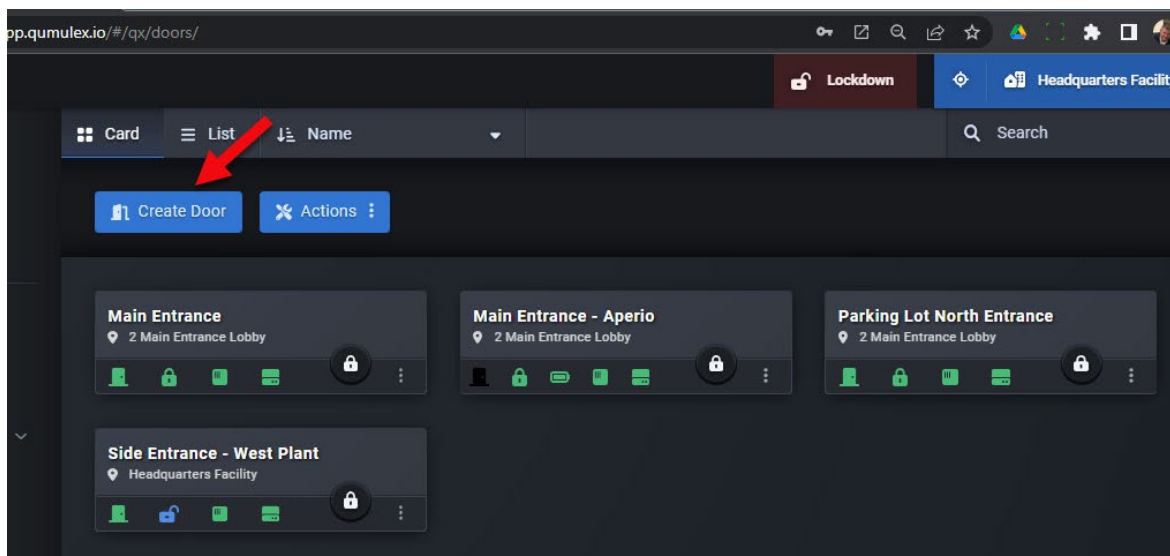


Now choose “Create Device” to save this new Door Controller. You can now visit the Info and Edit Pages to manage this controller from the Devices Page.

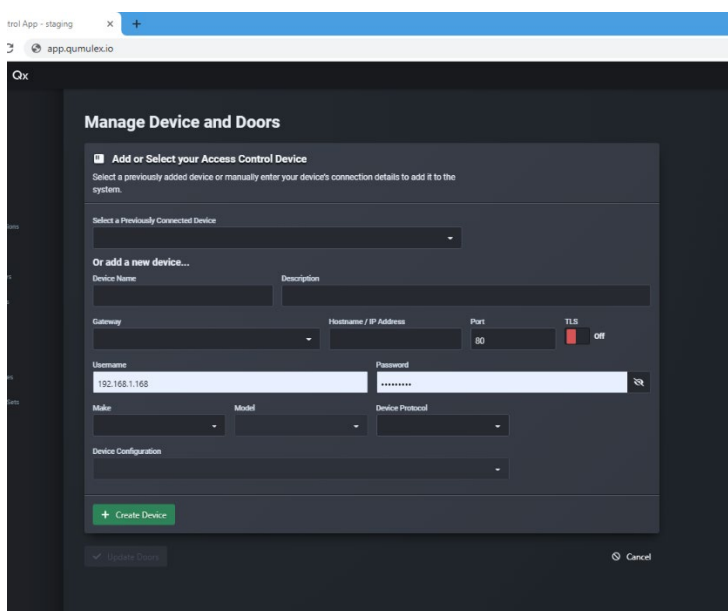


Adding Axis Doors

Now we are ready to install a door using our new Axis Door Controller. First, Navigate to the Doors Page and then select “Create Door” at the top left of the Doors page.



This will present the Add Door Menu.



You have the option to select and manage an existing device from the drop-down menu or use the fields below to add a new device. In this example we will add a new device.

In the data fields below, enter the required information to add the new Door Controller.

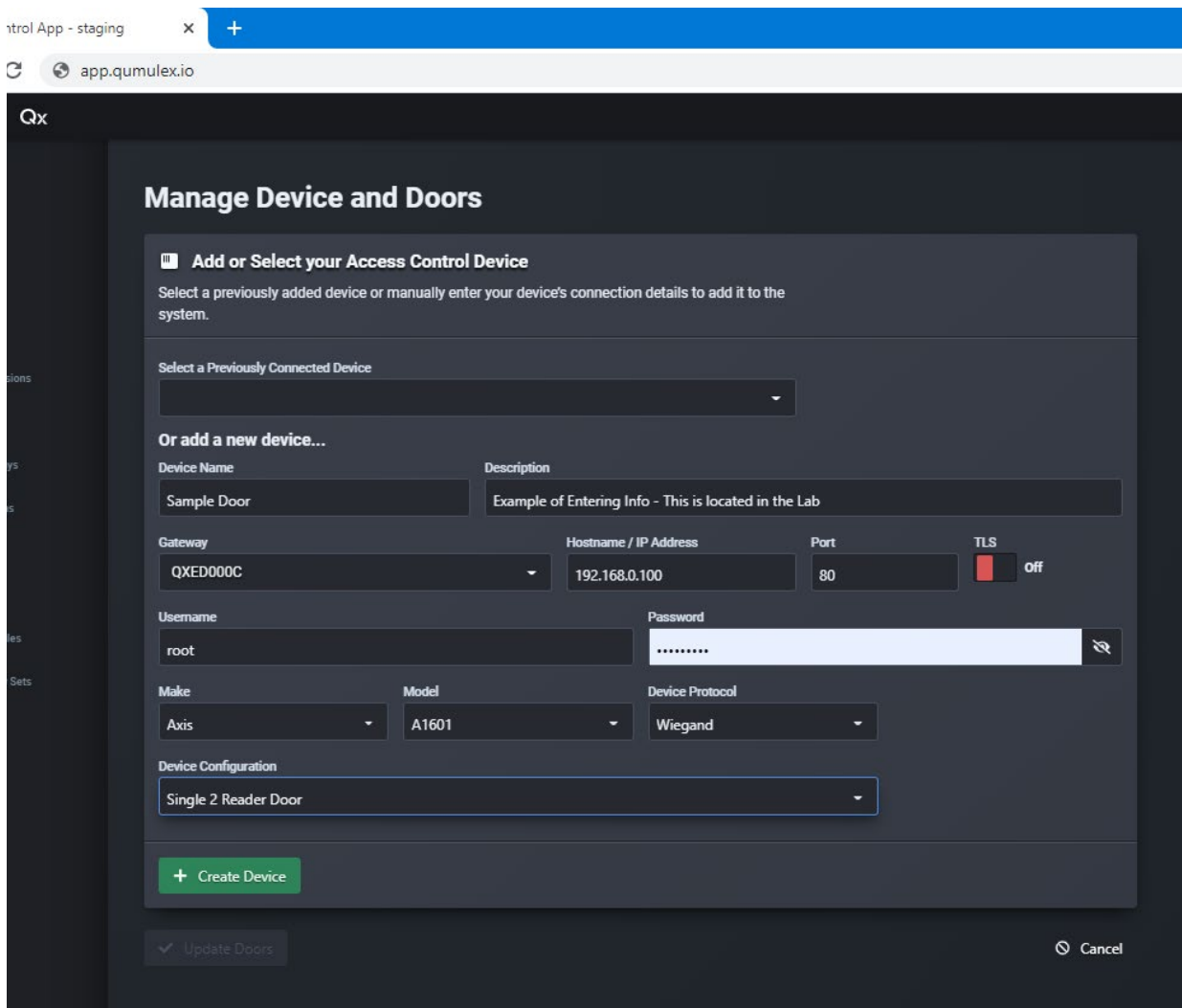
Note: Before adding the Door Controller into QxControl you must first activate it and install it onto the same network as your Gateway. As of this revision Axis A1001 and Axis A16001 are the supported Door Controllers that you can use. For

information on how to initialize the Axis Door Controllers please see the links provided in the appendix at the end of this User Guide.

You will need the following information to complete this Field:

- 1) The IP Address of the Door Controller
- 2) MAC Address (if installing multiple this helps identify them)
- 3) The username and password to log into the Door Controller
- 4) The QxControl Gateway that you will associate with the Door controller
- 5) Make and Model – At this Time it will be either an A1001 or A16001
- 6) Will you use Wiegand or OSDP?
- 7) A name and description (Preferably you will use something that helps identify location)
- 8) Will you configure this controller to operate one 2 reader door? Or two 1 reader doors?

When complete, select the button labeled “Create Device” to move to the next step.



After choosing “Create Device” , you will now have the option to update the Door Controller to be managed by QxControl. To do this select “Update device” which is now available at the bottom left of the Door page.

Manage Device and Doors

▮ Add or Select your Access Control Device

Select a previously added device or manually enter your device's connection details to add it to the system.

Select a Previously Connected Device

Or add a new device...

Device Name

Sample Door

Description

Example of Entering Info - This is located in the Lab

Gateway

QXED000C

Hostname / IP Address

192.168.0.100

Port

80

TLS

Off

Username

root

Password

.....

Make

Axis

Model

A1601

Device Protocol

Wiegand

Device Configuration

Single 2 Reader Door

✓ Update Device

🗑 Delete Device

🚪 Lab Entry

Door Name

Lab Entry

Door Camera

📷

Unlock Schedule

📅

Goes From

📍

To

📍 Tradeshow Rack Power Series

Access Time

🕒 10

seconds

Door Contact

🔘 None

🔘 Open Circuit - Open Door

🔘 Open Circuit - Closed Door

🔌 REX

🔌 Reader

🔌 Reader

After choosing "Create Device" you will also now see the next list of options for installing a Door will have appeared below the "Update Device" button.

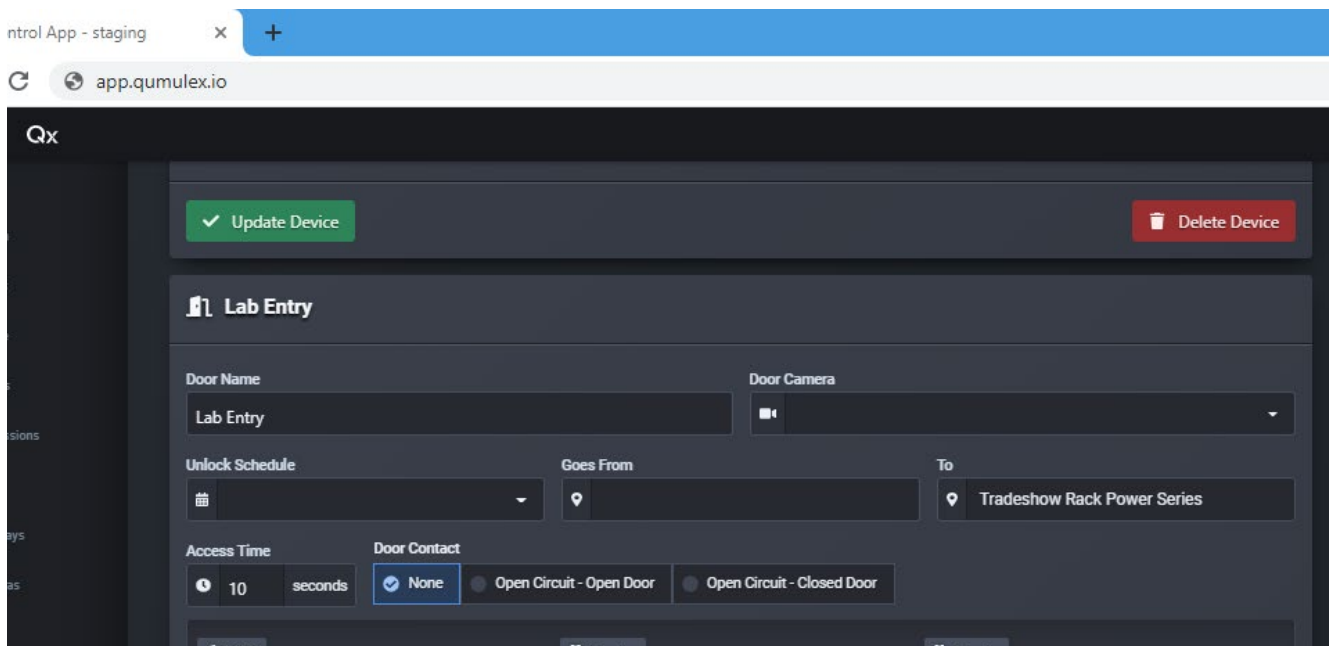
The screenshot shows a web application interface for configuring a door. At the top, there are two buttons: a green 'Update Device' button with a checkmark and a red 'Delete Device' button with a trash icon. Below this is a section titled 'Lab Entry' with a door icon. The configuration fields include: 'Door Name' (text input with 'Lab Entry'), 'Door Camera' (dropdown menu), 'Unlock Schedule' (calendar icon), 'Goes From' (location pin icon), and 'To' (text input with 'Tradeshow Rack Power Series'). Under 'Access Time', there is a clock icon, '10', and 'seconds'. The 'Door Contact' section has three radio buttons: 'None' (selected), 'Open Circuit - Open Door', and 'Open Circuit - Closed Door'. Below are three 'Reader' configuration panels. The first is labeled 'REX' and includes: 'REX/PIR Name' (text input with 'Door 1 Entrance REX'), 'Grants Access To' (radio buttons for 'Non-Secure' and 'Tradeshow Rack Power Series'), 'Default State' (radio buttons for 'Normally Closed' and 'Normally Open'), and 'PIR Bypass' (checkbox for 'Off'). The second and third panels are labeled 'Reader' and include: 'Reader Name' (text input with 'Door 1 Entrance Reader') and 'Grants Access To' (radio buttons for 'Non-Secure' and 'Tradeshow Rack Power Series'). At the bottom left is a green 'Update Doors' button with a checkmark, and at the bottom right is a 'Cancel' button with a close icon.

This will now allow us to enter information that is pertinent to the setup of the Door itself, now that we have configured and installed the Door Controller.

Use the fields below to decide the following:

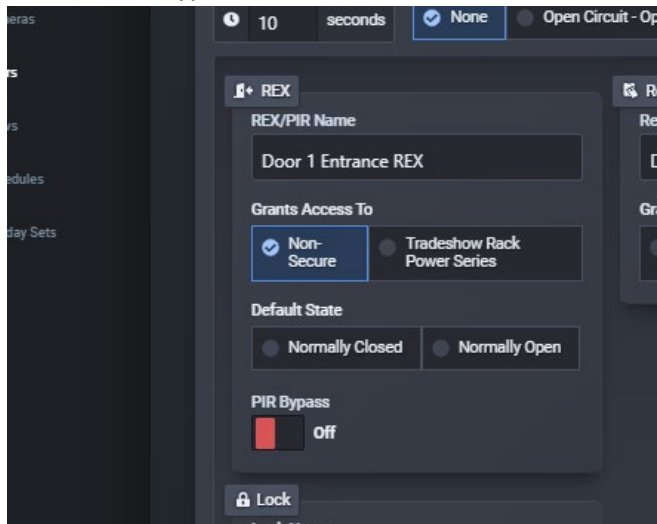
- 1) Choose a name for the Door
- 2) Choose a Camera to associate with Door actions
- 3) Choose a Schedule

- 4) Choose an “Area From” and an “Area To” – Use the Places page to set these up in advance
- 5) Choose “Access Time” – How long will the door remain unlocked when a valid credential is presented?
- 6) Choose your Door Contact. None, Normally Open and Normally Closed contacts are options.



Continuing, use the fields below to decide the following for the Request to Exit (Rex):

- 1) Choose a name for the REX
- 2) Choose the Area this Rex grants access to
- 3) Choose a “Default State” – Normally closed or Normally open
- 4) “PIR Bypass – on or off

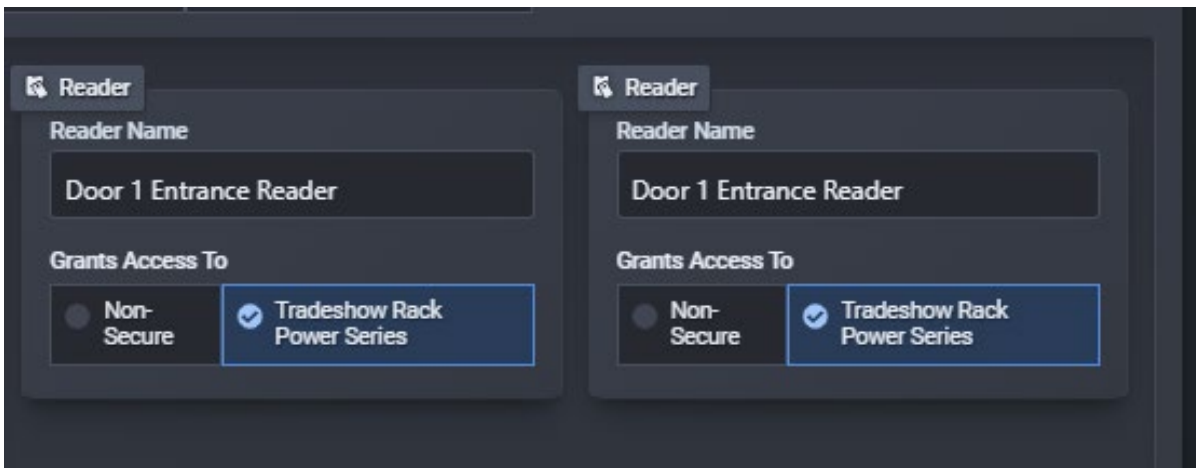


Next, use the fields below to decide the following for the Readers. We selected “1 Door 2 readers” for this example and because of that we are presented with up to 2 readers we can configure for this door.

If we had chosen 2 Doors 1 Reader, we would instead be presented with two sets of doors to configure following the Door Controller data entry fields.

For the Readers, enter the following:

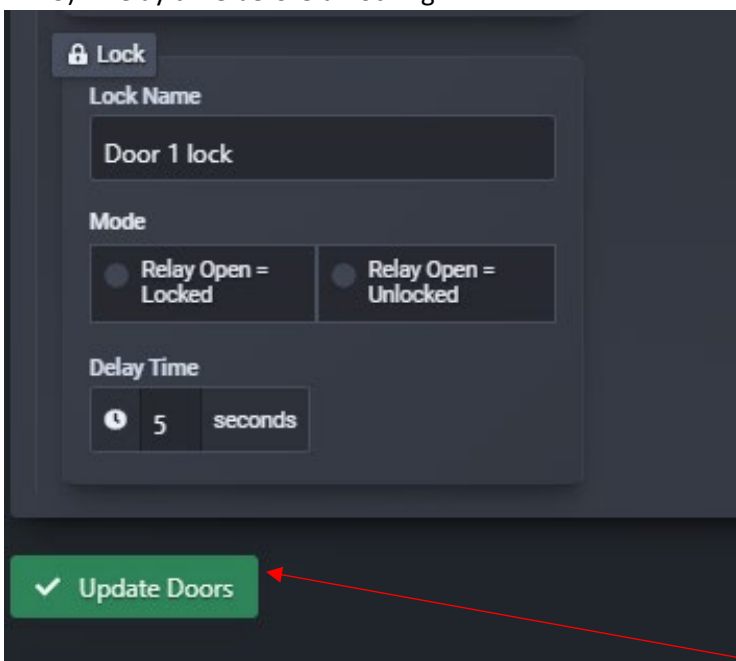
- 1) Reader Name
- 2) Choose the Area this Reader grants access to



The image shows two side-by-side configuration panels for a Reader. Each panel has a 'Reader Name' field with the text 'Door 1 Entrance Reader'. Below that is a 'Grants Access To' section with two radio buttons: 'Non-Secure' (unselected) and 'Tradeshow Rack Power Series' (selected).

Lastly, enter the following for the Lock:

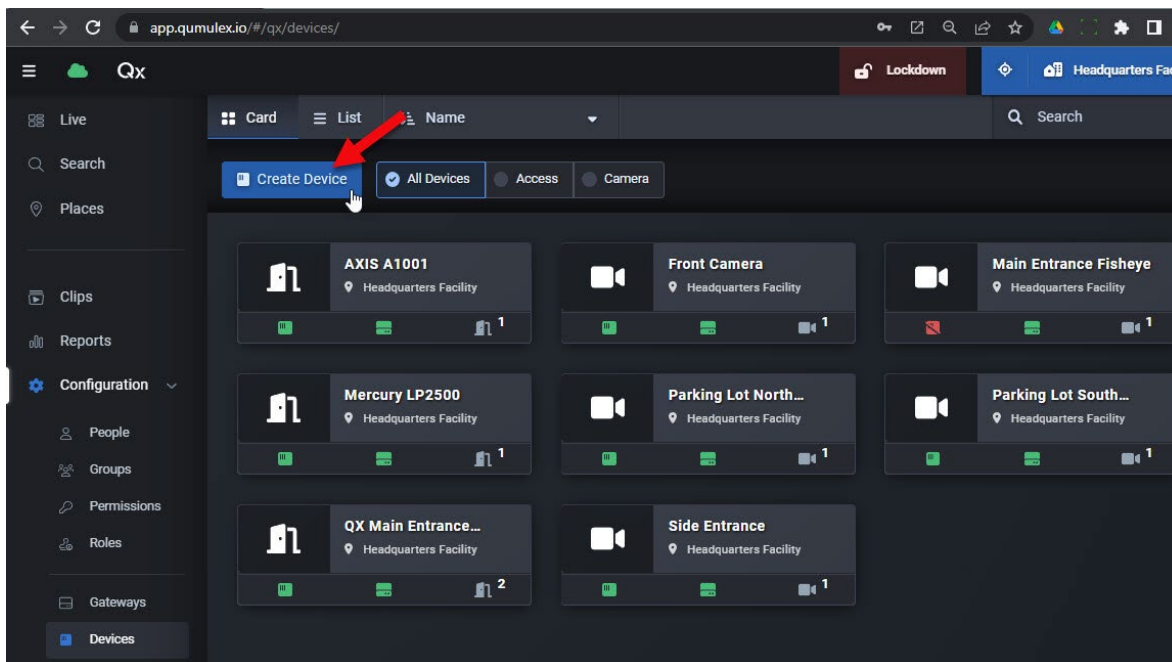
- 1) Lock Name
- 2) Relay Open = Locked or Unlocked?
- 3) Delay time before unlocking



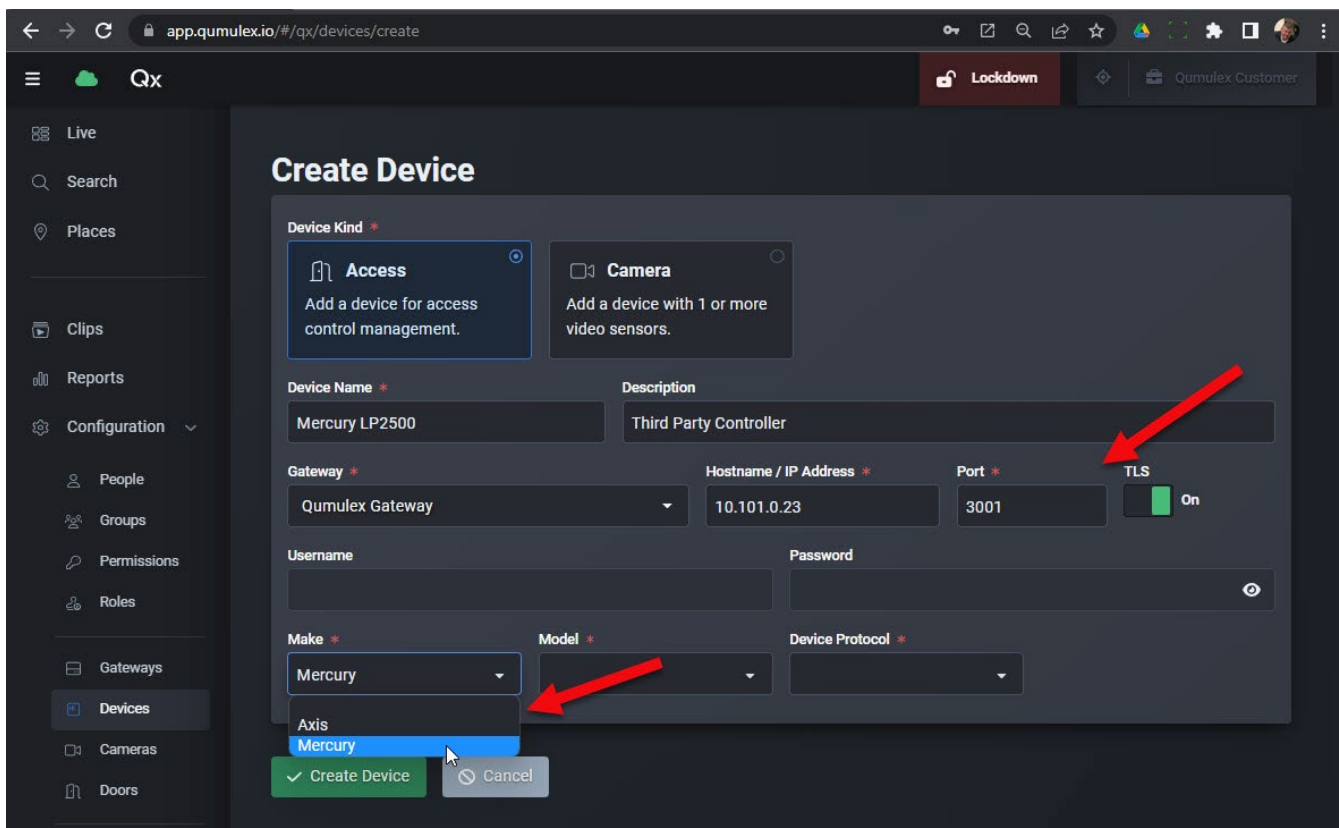
The image shows a configuration panel for a Lock. It has a 'Lock Name' field with 'Door 1 lock'. Below that is a 'Mode' section with two radio buttons: 'Relay Open = Locked' (unselected) and 'Relay Open = Unlocked' (selected). Below that is a 'Delay Time' field with a clock icon, the number '5', and the word 'seconds'. At the bottom is a green button with a checkmark and the text 'Update Doors'. A red arrow points from the text below to this button.

After completing this last field, choose “Update Doors” to complete the installation.

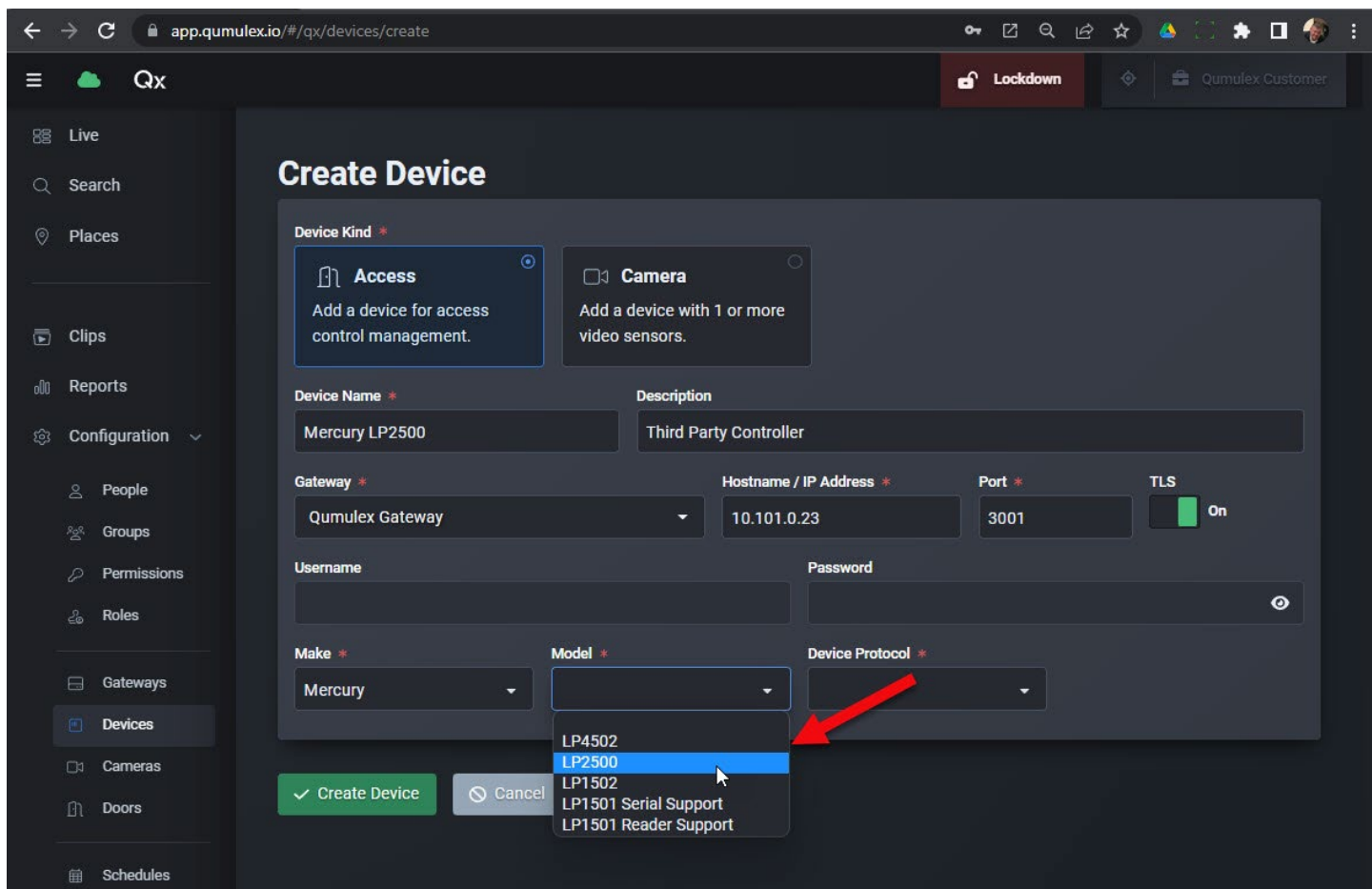
The first step in using Access Control in QxControl is to add a Door Controller. The process to add a Door Controller in QxControl is simple and easy. In this example we will add a Mercury LP-2500 door controller with MR52 and MR50 SIO Modules. To add a new Door Controller, navigate to the “Devices” Page and select “Create Device”



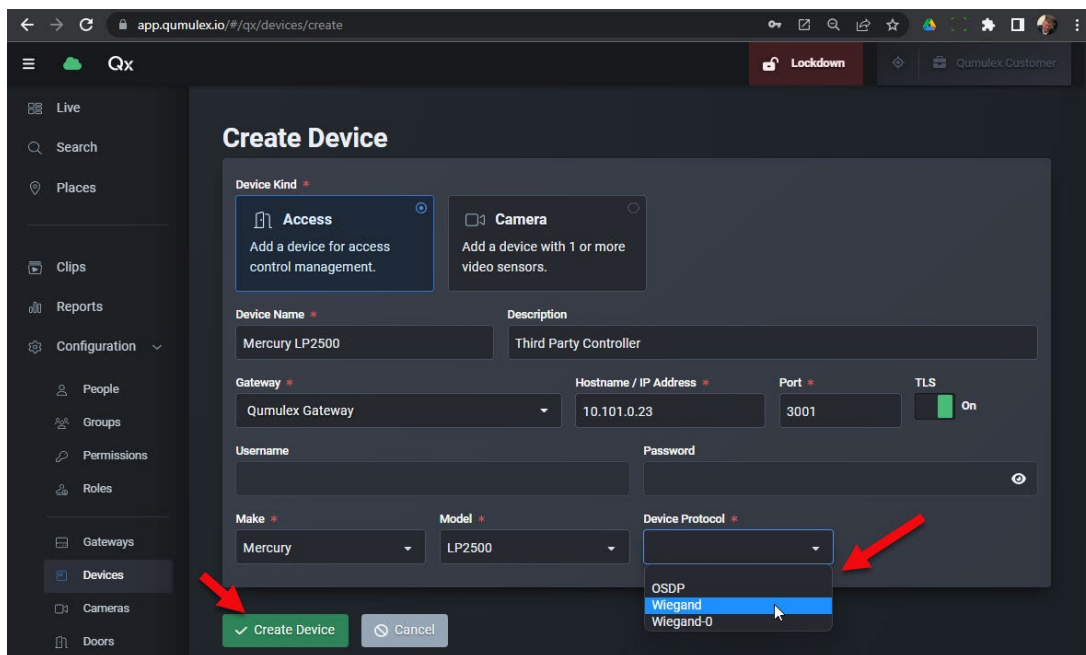
Next, we are presented with the “Create Device” Page. Choose Device Kind “Access” to reveal access control hardware options. You will need the IP Address, login and password, and then choose “Mercury” for the Make.



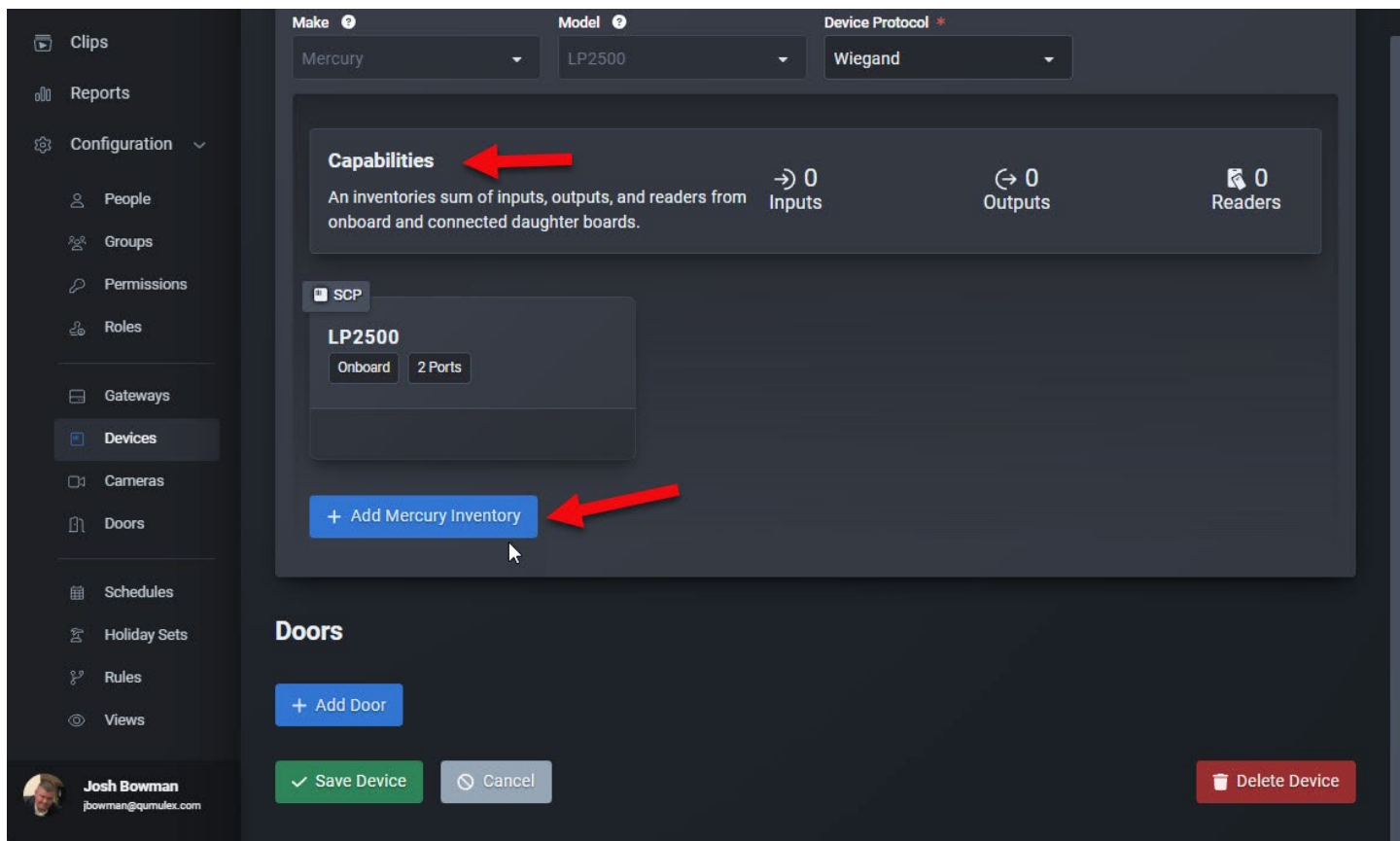
Next, choose the Model of board. In our example we will add an LP2500.



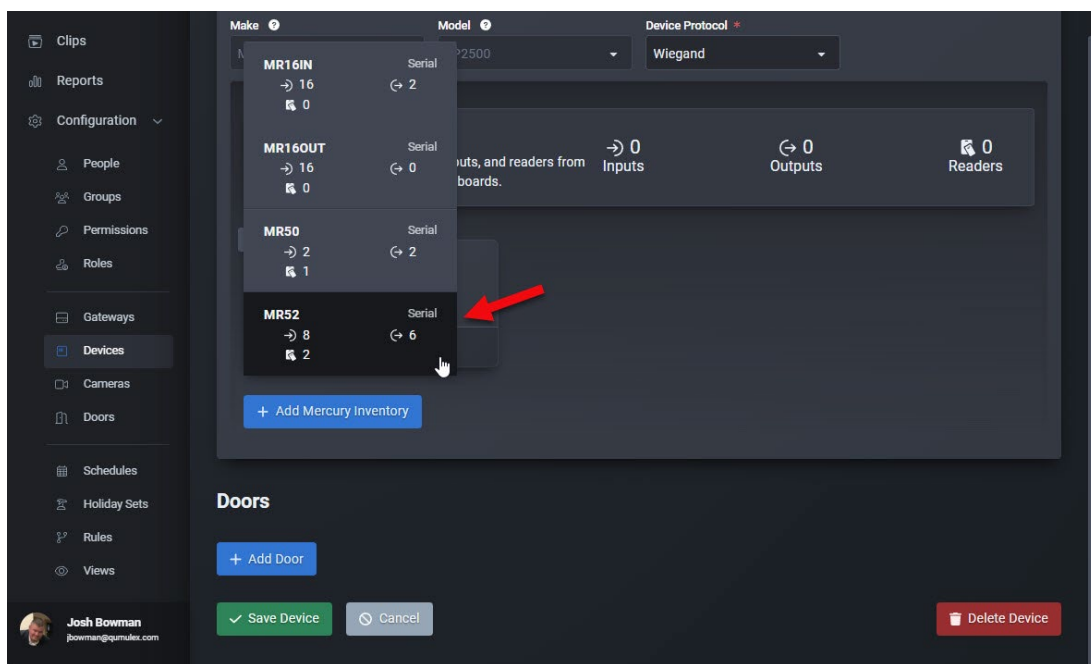
Next, choose the Device Protocol. In our example we will choose Wiegand, then click “Create Device” to save our new controller.



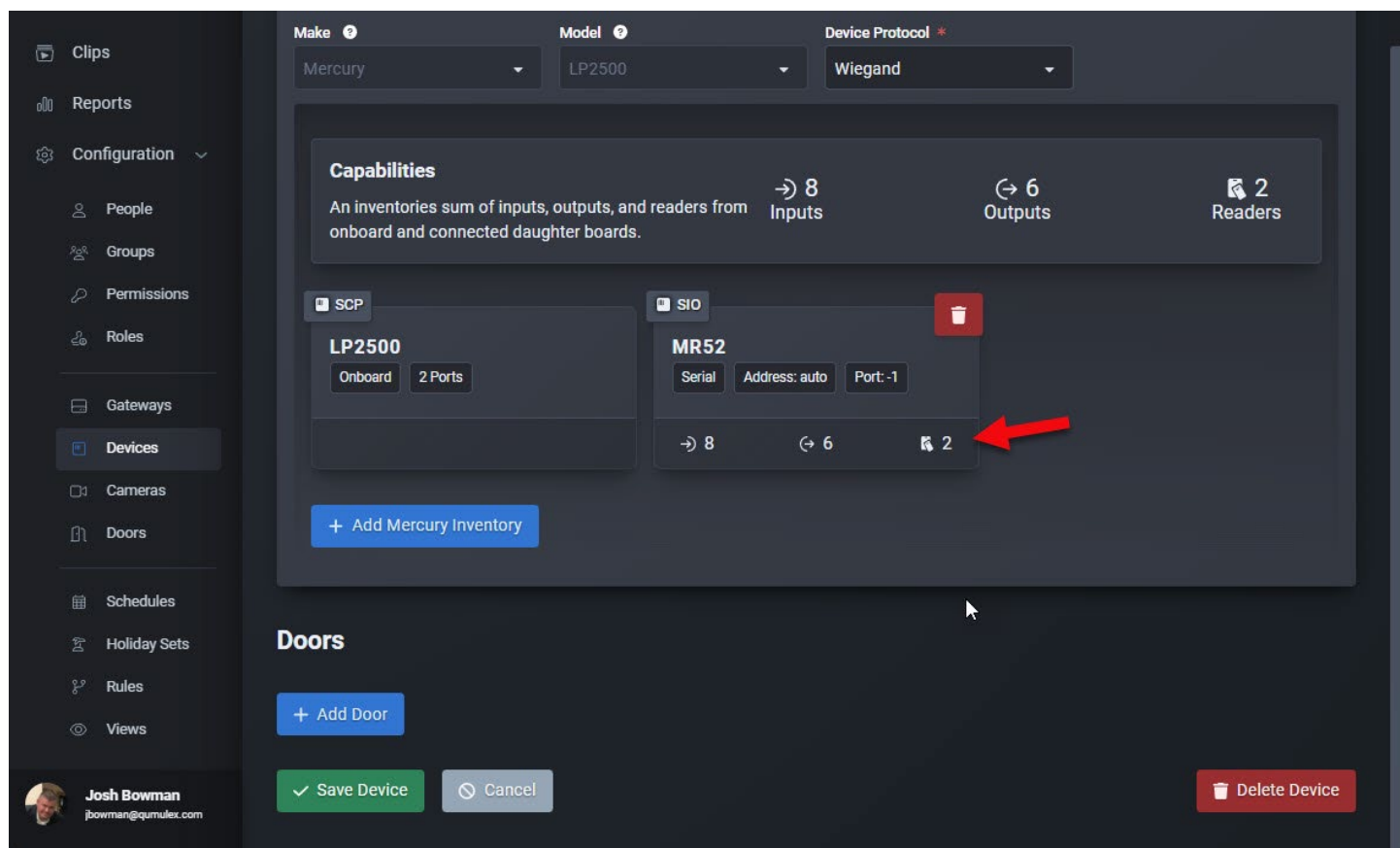
Now that you have created the Device, we can edit and add SIO Modules to it. As you do so, you will see the amount of “Capabilities” increase. To begin, choose “Add Mercury Inventory”



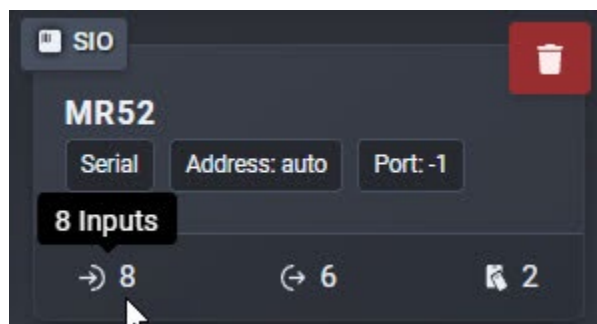
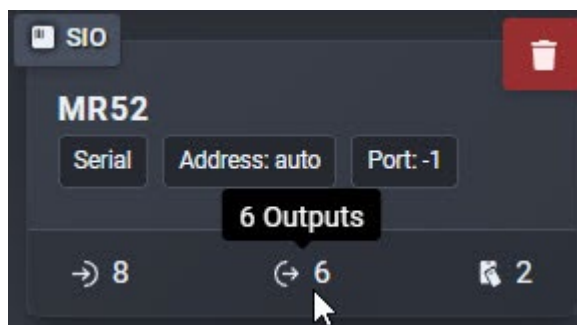
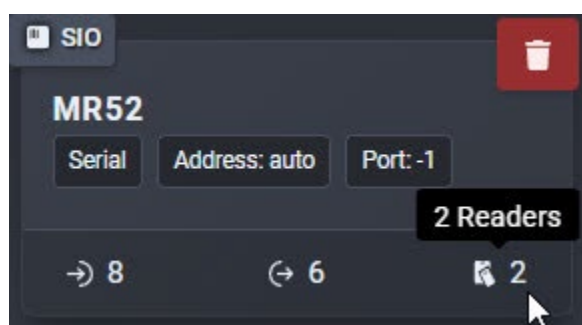
This will show a menu allowing you to choose an SIO module, one at a time. We will start with our MR52.



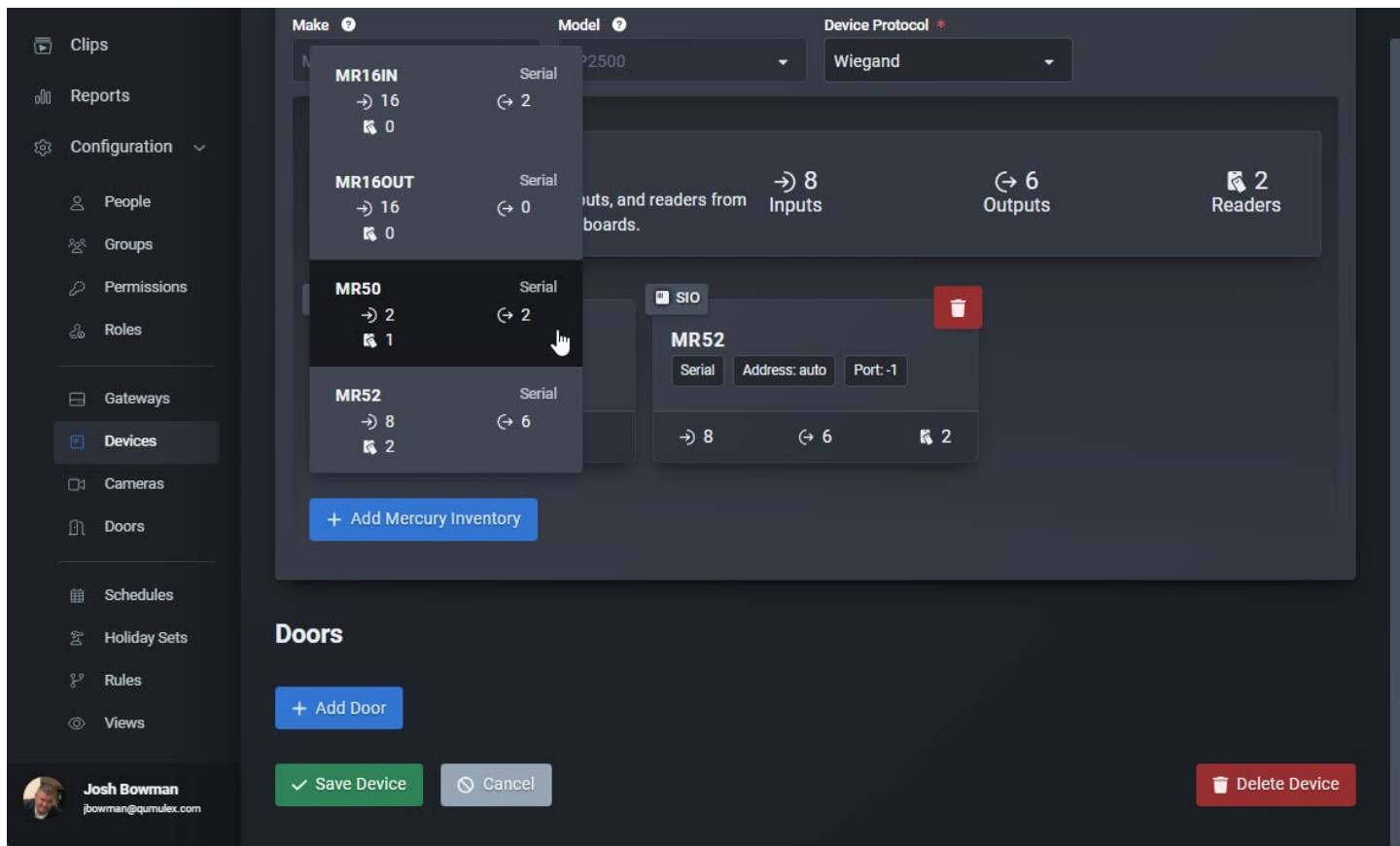
Now we see the MR52 listed, along with the individual capabilities for it. Above, you can see this is also reflected in the total capabilities of the Controller itself.



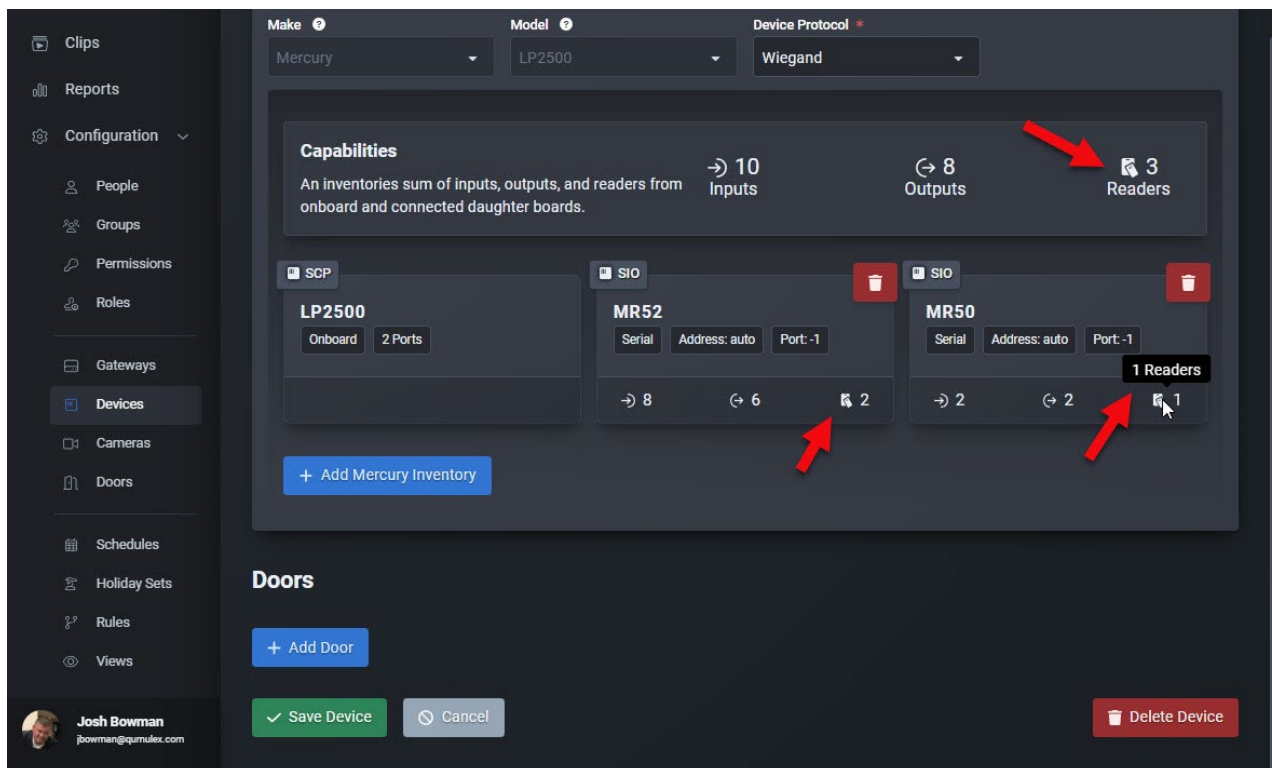
When you hover over each icon, you will also see a tool tip describing what the capability represents.



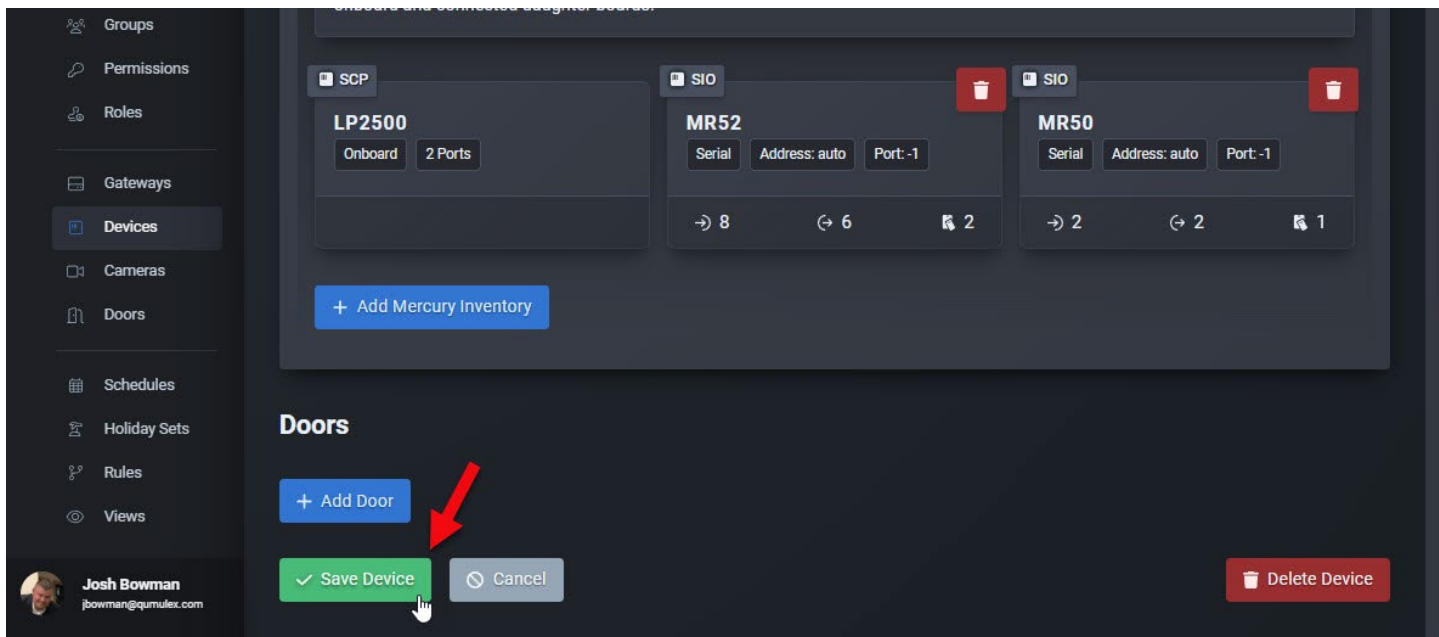
Now in our example, we can return to the “Add Mercury Inventory” field and select our MR50.



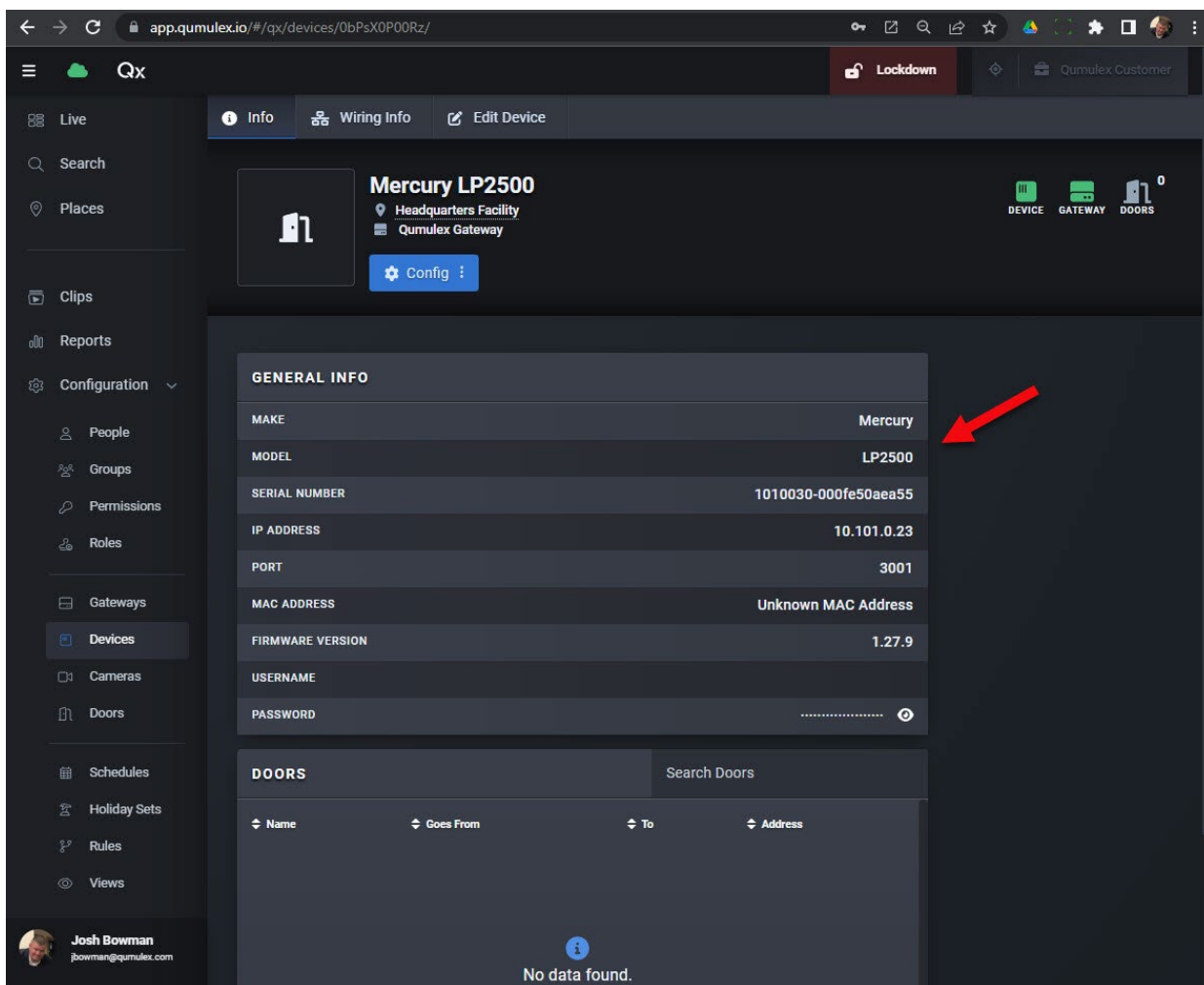
You will now see the Capabilities field reflects the total of all SIO Modules plus the Controller



After adding all your SIO Modules, you must click “Save Device” to complete the operation.

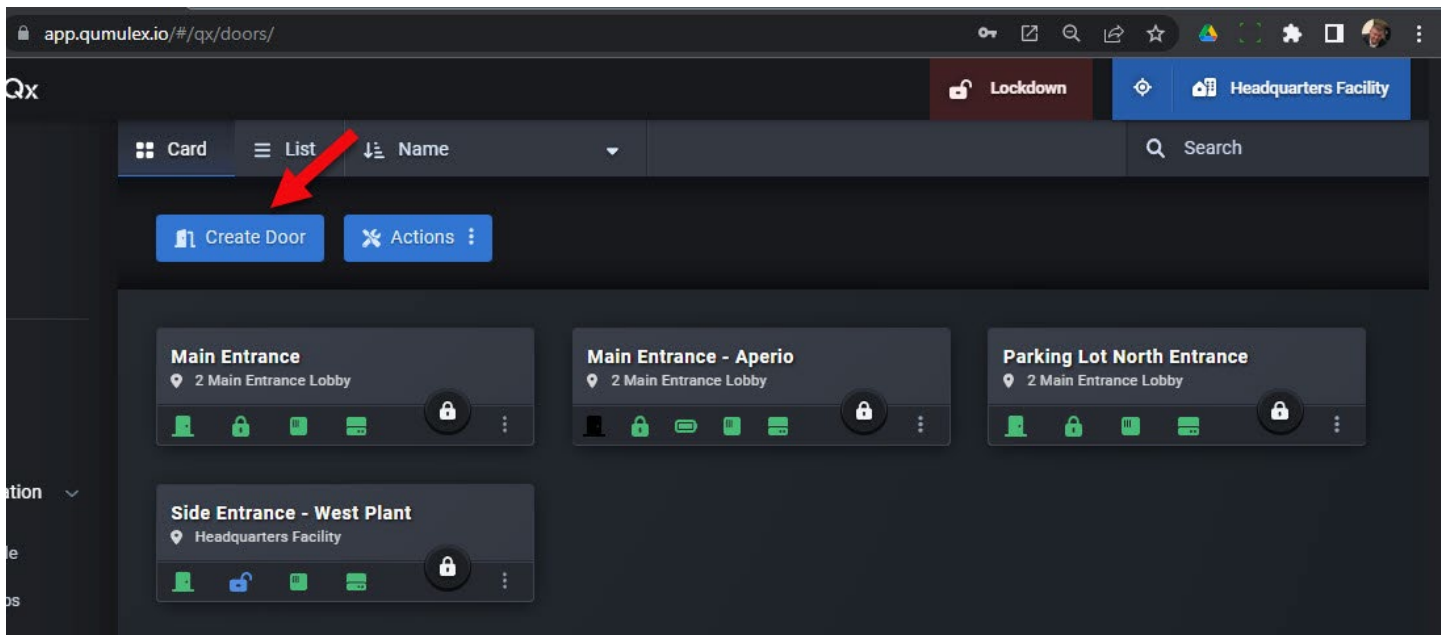


You can now see the Serial number, model, and other info on the Device Info page. You are ready to install doors!

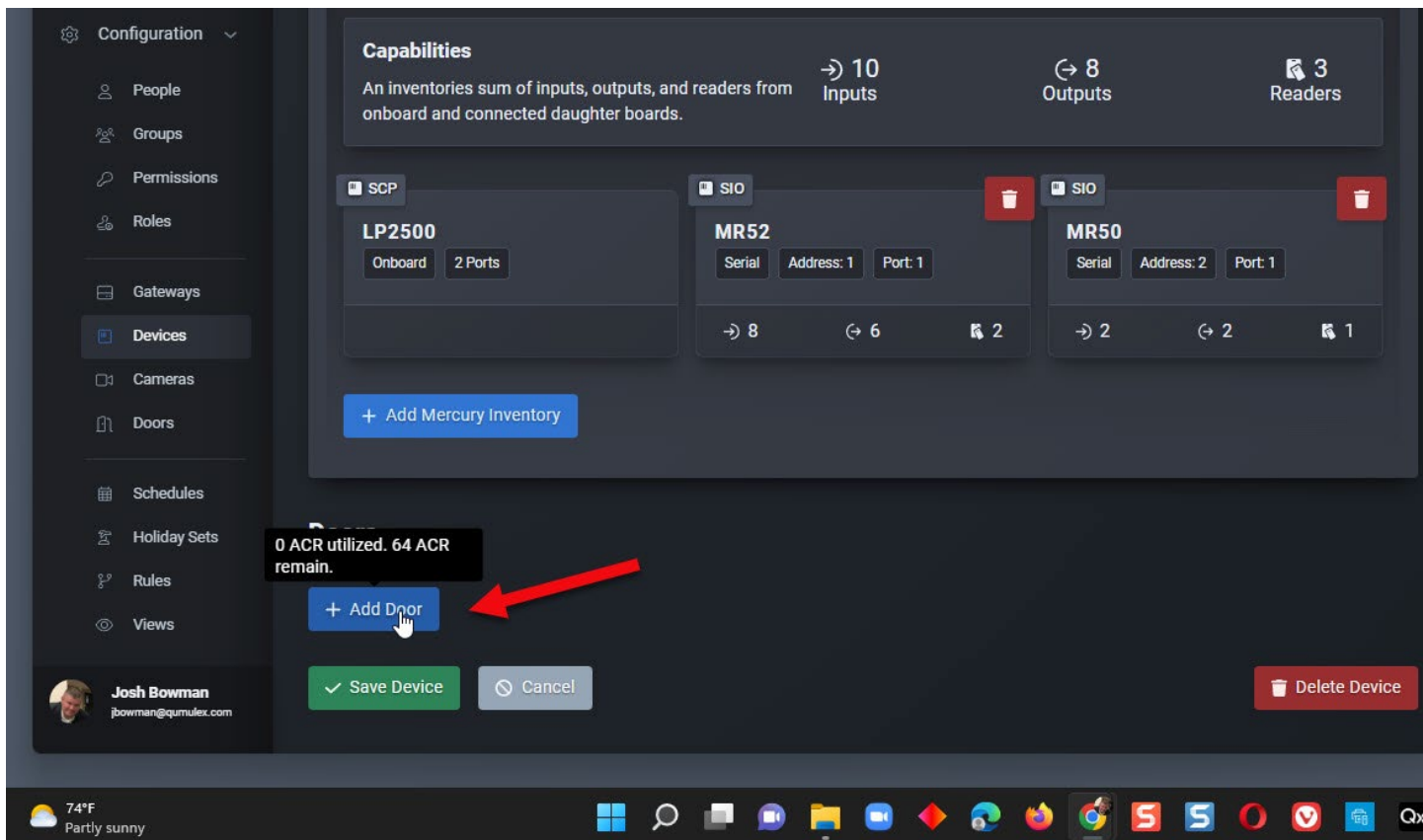


Adding Mercury Doors

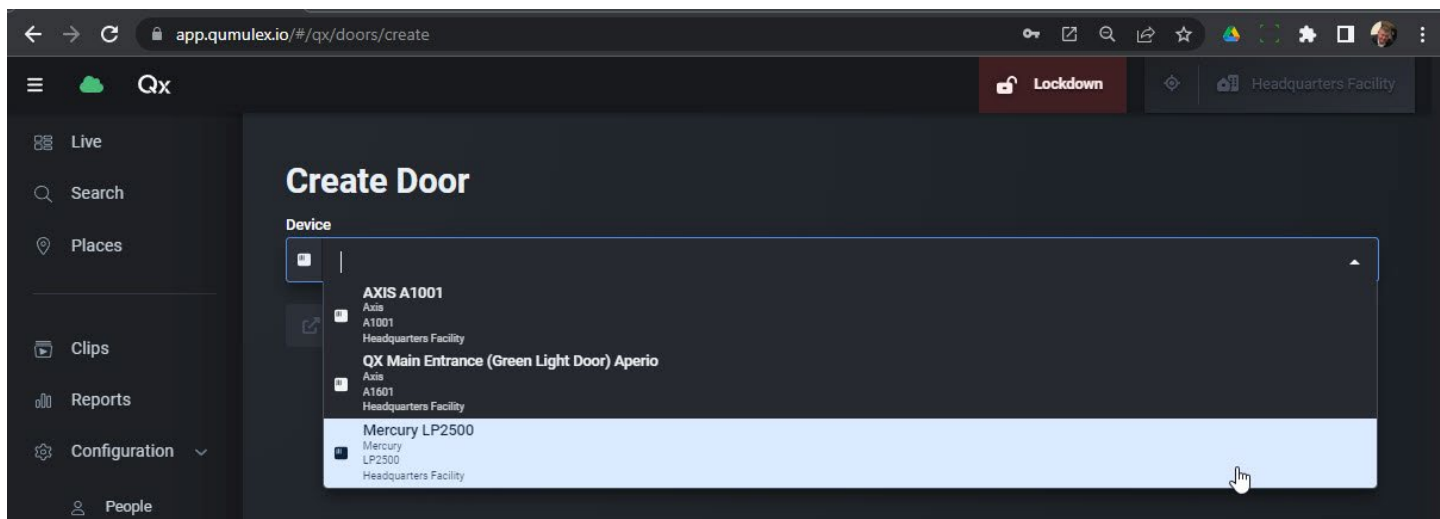
Once you have setup your Mercury Door Controllers and SIO Modules, you can begin creating doors. To get started, select "Create Door" at the top left of the Doors page.



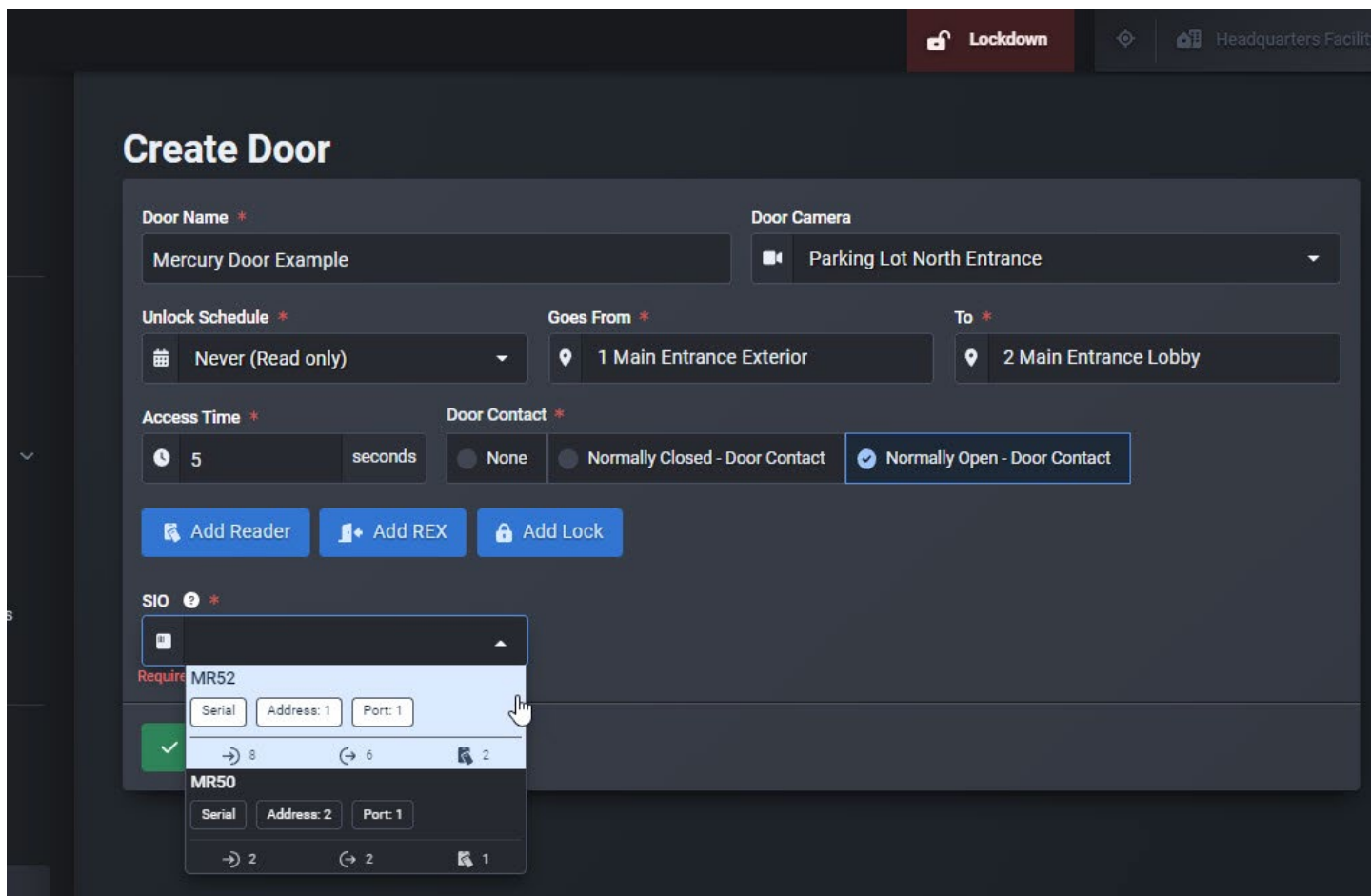
Note: Alternatively, you can also choose from the Edit Devices page:



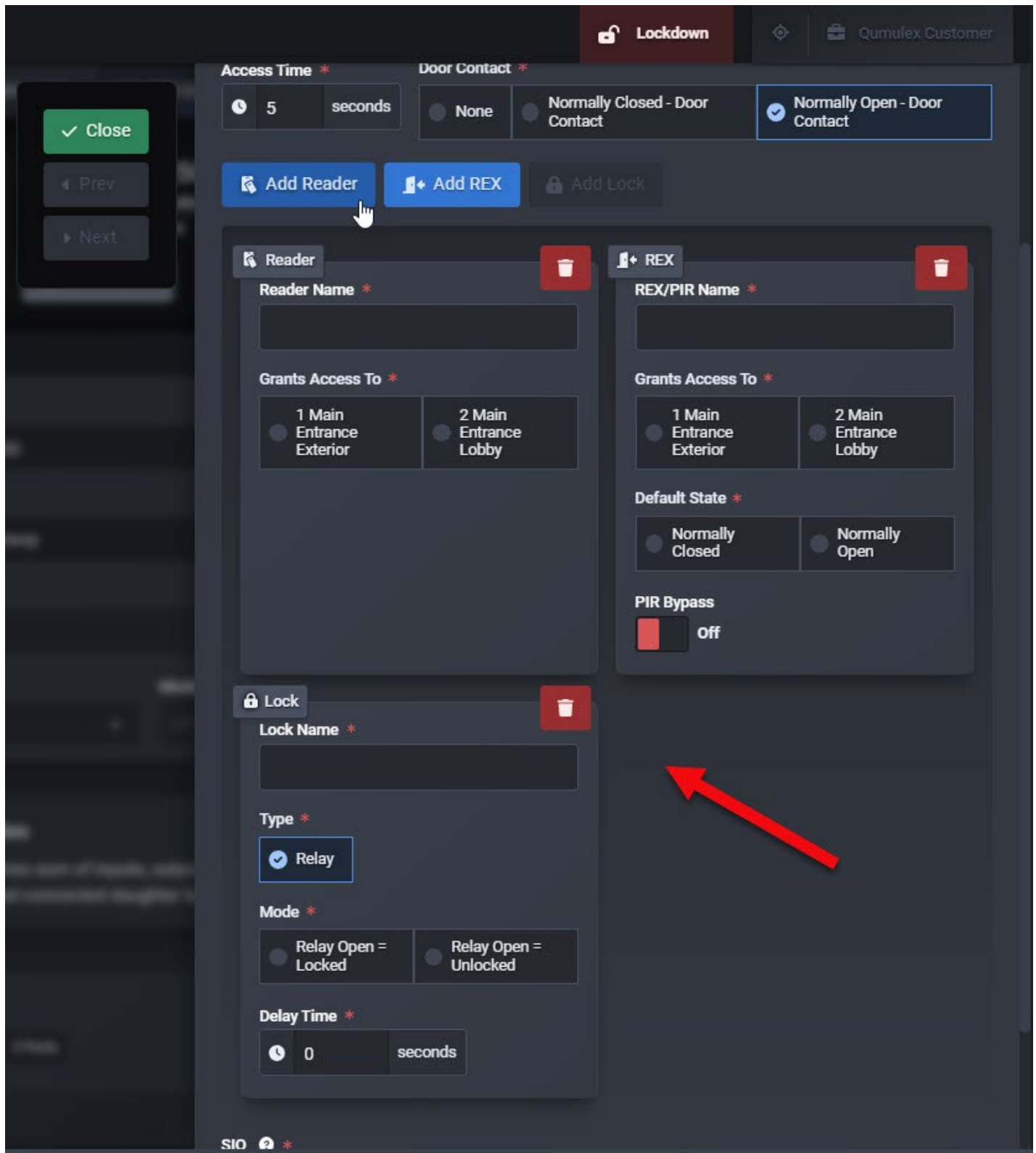
Continuing from the Doors Page, after choosing Create Door you will see available Controllers. We will choose the LP2500 in this example.



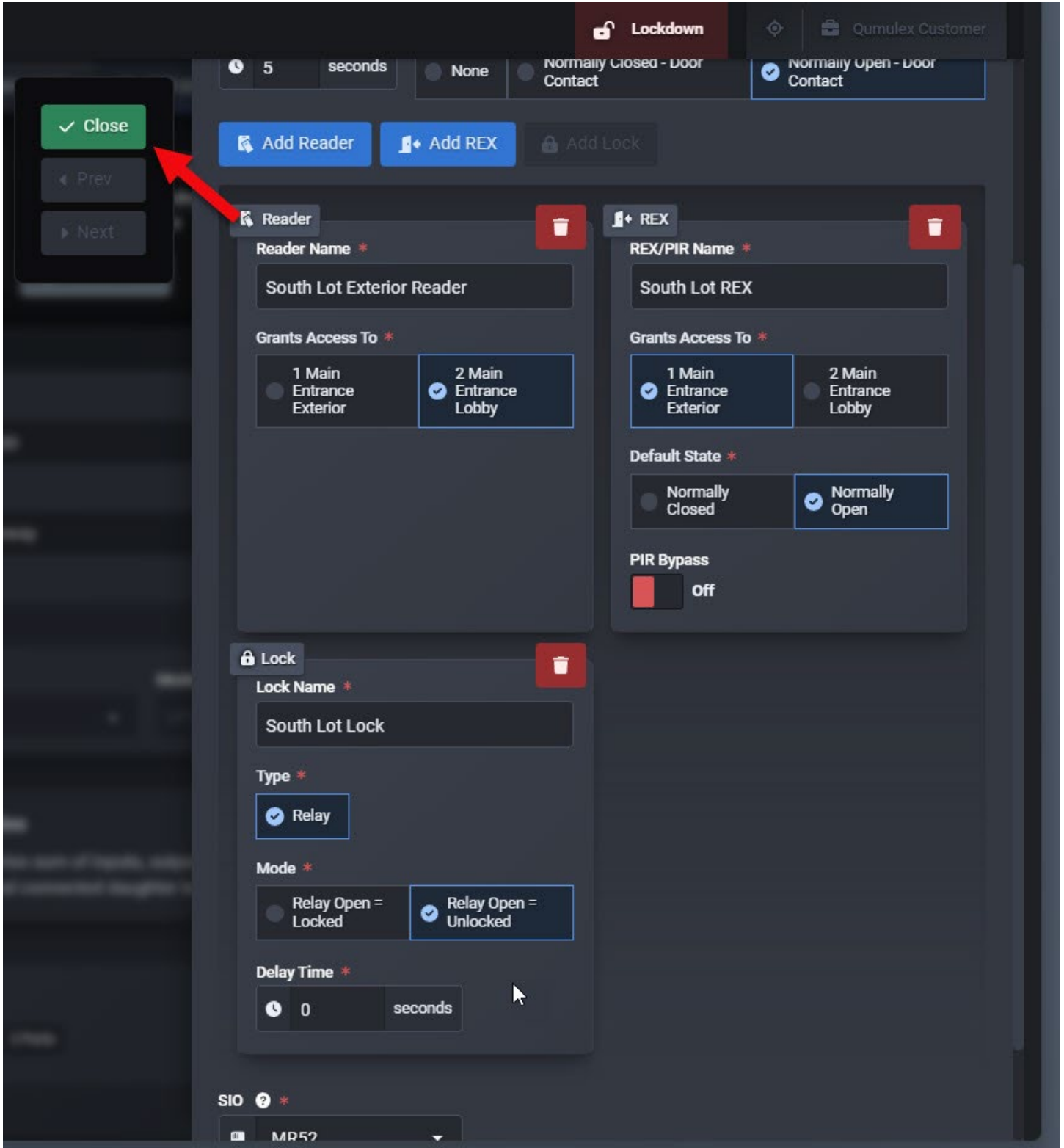
You will then provide a name, choose a camera to associate with, Schedule, From & To Areas, Access Time, Door Contact and then what SIO you would like to assign the door to. Click on “Create Door” to save the new door and continue the process.



Now that the Door has been created, you can use the edit field to add more Door components. Click on the blue buttons to add Readers, Rex and Locks. Has the button turned Gray? That means you have added the maximum number of that component already, such as Locks in this example.



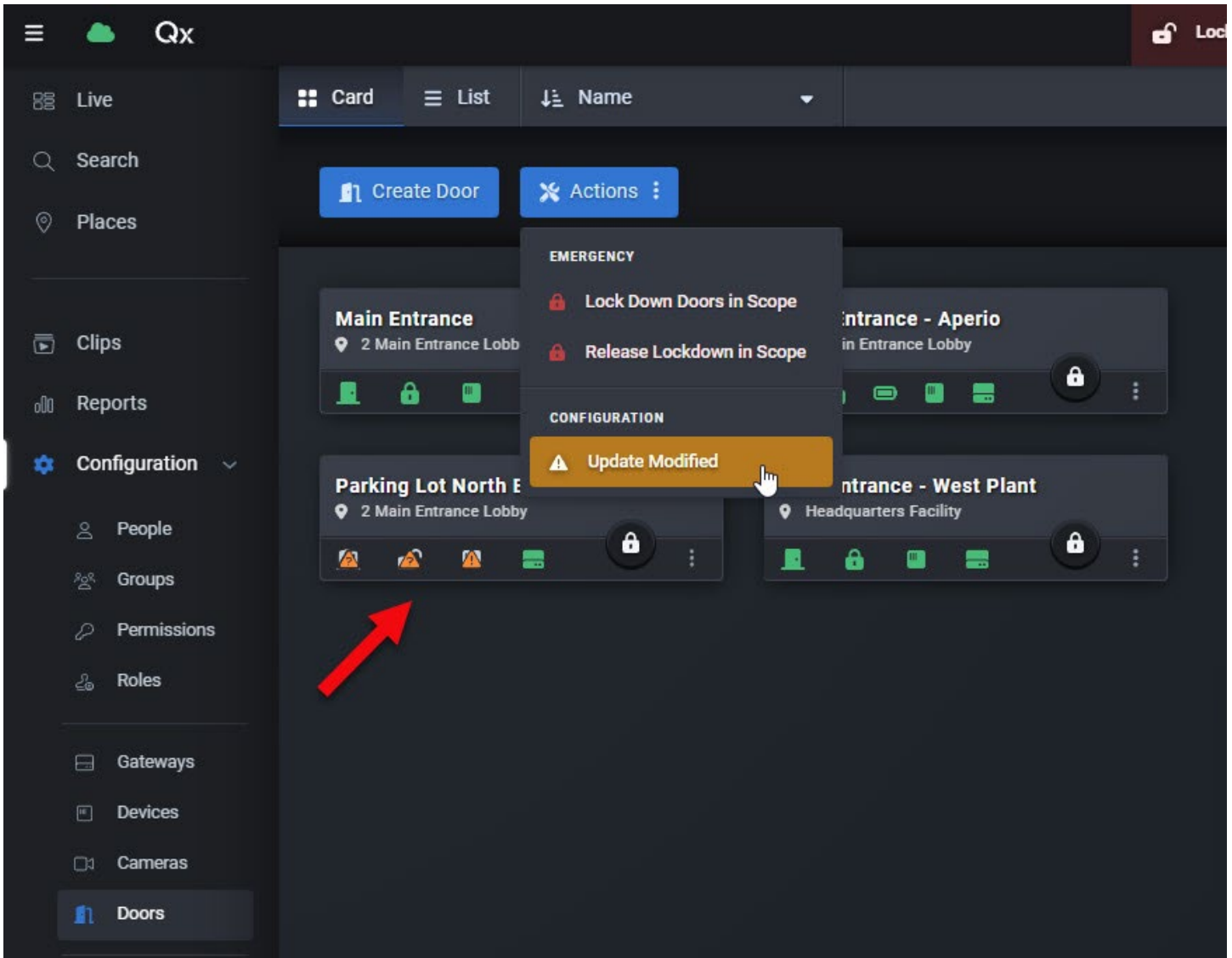
Once you have finished adding your Door components, choose “Close” to return to the Menu



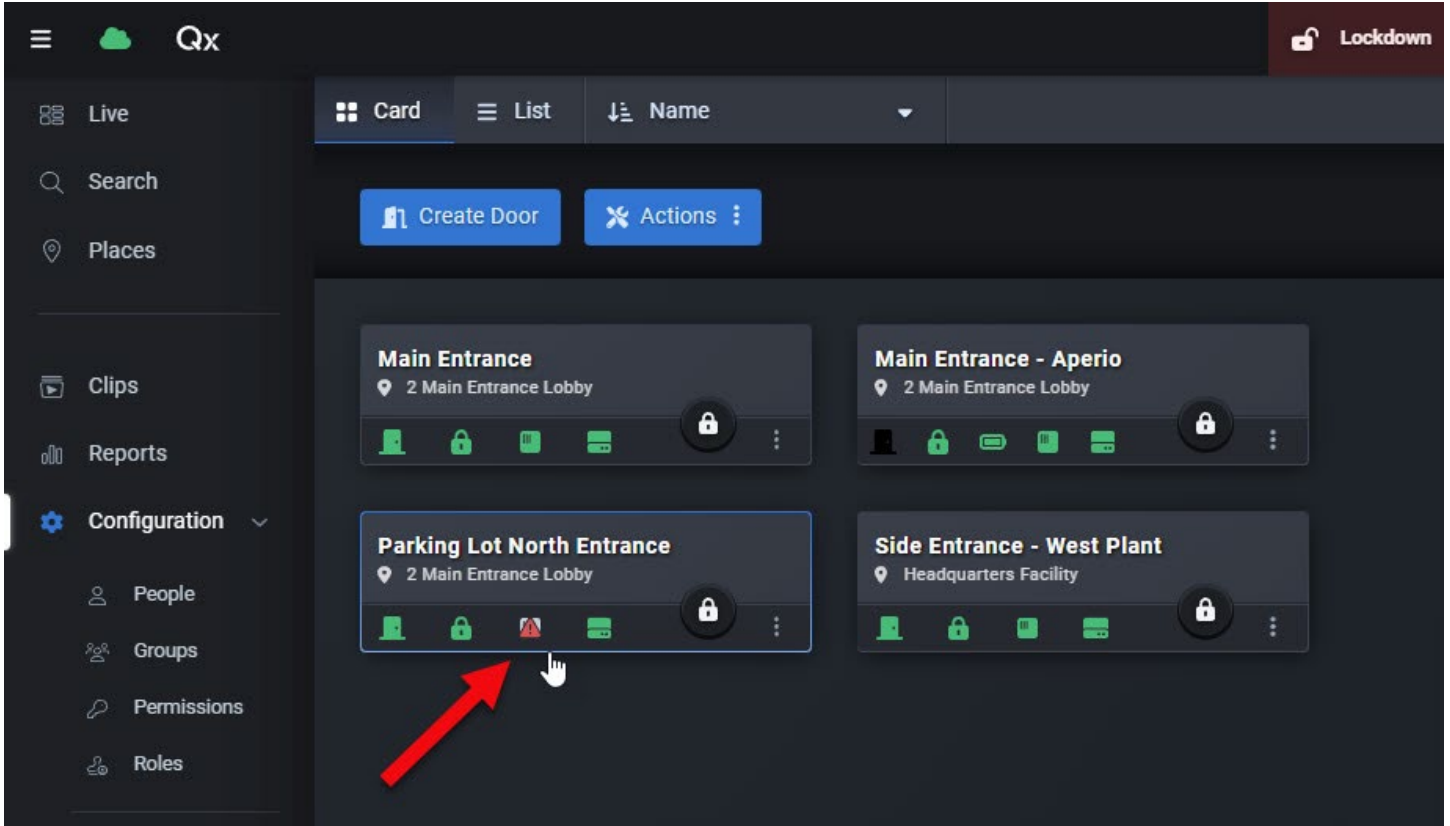
Now choose "Save Device" to save the new door.

The screenshot displays the 'Edit Device' configuration page in a dark-themed application. At the top, there are three tabs: 'Info', 'Wiring Info', and 'Edit Device', with 'Edit Device' being the active tab. Below the tabs, there are three dropdown menus: 'Make' set to 'Mercury', 'Model' set to 'LP2500', and 'Device Protocol' set to 'Wiegand'. A 'Capabilities' section shows '10 Inputs' and a description: 'An inventories sum of inputs, outputs, and readers from onboard and connected daughter boards.' Below this, there are two device inventory cards: 'SCP LP2500' with 'Onboard' and '2 Ports' buttons, and 'SIO MR52' with 'Serial', 'Address: 1', and 'Port: 1' buttons. A '+ Add Mercury Inventory' button is located below the SCP card. At the bottom, there is a 'Doors' section with a card for 'Parking Lot North Entrance' and three door status icons (lock, key, and door with plus) each with a '1' below it. A '+ Add Door' button is below the door icons. At the very bottom, there are two buttons: a green '✓ Save Device' button with a mouse cursor pointing to it, and a grey 'Cancel' button.

After creating and saving the new door, you will likely see icons indicating that you need to push an update to the Controller to share these changes with it. In the Actions Menu, you can push an update to all modified controllers at once:



Another item to make note of is the delay in completing the update. In most cases this will be instantaneous. However, there may be times that the update may take a minute or two. After completing the update our status icons are green, but the panel button is red. This will typically mean that changes were accepted but the Controller is completing the process. If you see this, wait a few minutes and it will most likely return to a green status.



Now before adding any other doors, you can hover over the button and see a tool tip describing how many resources you have already used, and how many more the Controller can provide.

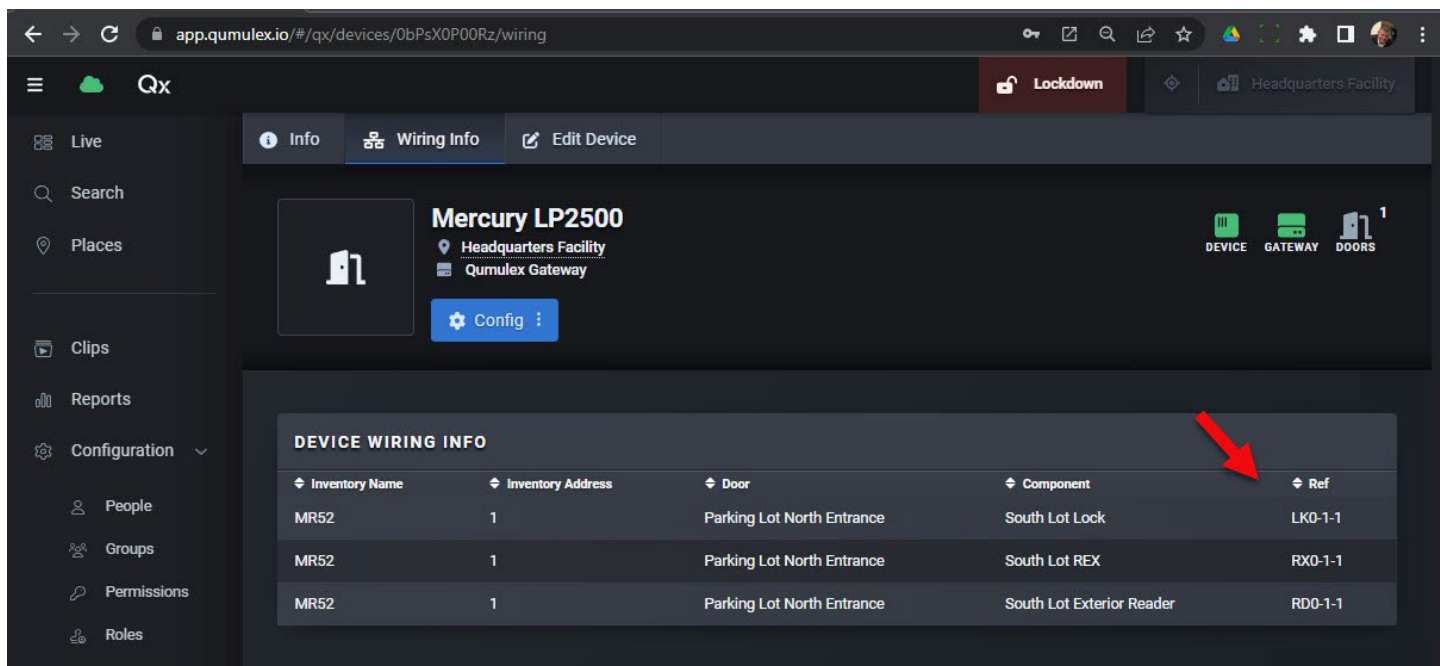
NOTE: This tool tip is based on the total potential of the Controller assuming maximum SIOs have been installed. This does not reflect your current configuration.

The screenshot displays the Qumulex management interface. On the left is a navigation sidebar with categories like Clips, Reports, Configuration, People, Groups, Permissions, Roles, Gateways, Devices, Cameras, Doors, Schedules, Holiday Sets, Rules, and Views. The main content area is divided into two sections:

- Capabilities:** A summary box showing "10 Inputs", "8 Outputs", and "3 Readers". Below this are three device cards:
 - SCP LP2500:** Onboard, 2 Ports.
 - SIO MR52:** Serial, Address: 1, Port: 1. Resources: 8 Inputs, 6 Outputs, 2 Readers.
 - SIO MR50:** Serial, Address: 2, Port: 1. Resources: 2 Inputs, 2 Outputs, 1 Reader.
- Doors:** A modal window for "Parking Lot North Entrance" is open. It features a "+ Add Door" button with a tooltip that reads "2 ACR utilized. 62 ACR remain." Below the button are "Save Device" and "Cancel" options. A red arrow points to the tooltip. In the bottom right corner of the modal, there is a "Delete Device" button.

Lastly, if you visit the Door Controller Info Page, the Wiring Info Tab is subtle but offers some valuable insights.

Each door component is listed individually and shows what SIO Module it is wired to. In this case, you see all three components are for the Parking Lot North Entrance Door and are connected to the MR52 used in our example.



In the Ref column you will also see valuable information. LK0-1-1, RX0-1-1, RD0-1-1

LK = Lock , RX = REX, RD = Reader

The first digit is the index of the reader/input/output for service to indicate which point is used

The second digit is the data port for the connection

The third digit is the driverID for the connection.

NOTE: the index is auto generated for the next available resource. port and driverID is from the sio inventory for the selected device.

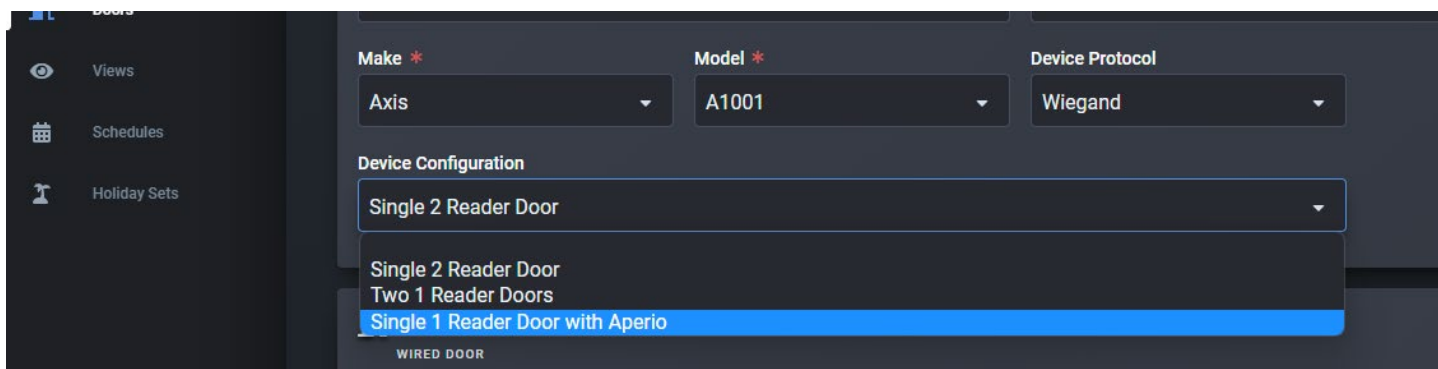
This means that as you add doors and door components, you can choose what Controller/SIO Module to install to, but QxControl will auto-assign the inputs and outputs. The door contact takes the first available input on the SIO, then REX1, then REX2. The lock takes the first available output on the SIO.

This field is used as a guide to help you understand where your door components are wired to on the module.

Adding and Using Aperio Doors – Axis Door Controllers

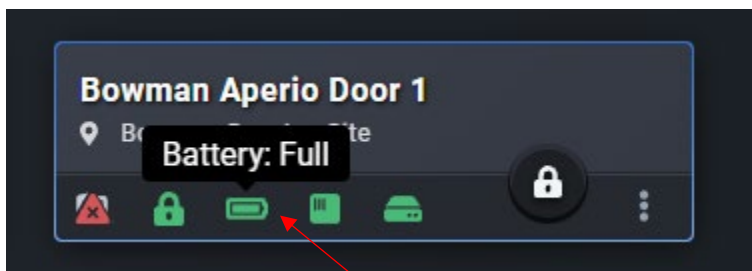
Adding an Aperio door is very simple to do. You will follow the standard procedure for adding a new door from the previous section. It is important to choose the “Aperio” option for Device Configuration when setting up the Door Controller. **NOTE: Currently you can only use Aperio in QxControl via an Axis Controller using the serial hub.**

When you reach the “Device Configuration” field, simply choose “Single 1 Reader Door with Aperio” from the drop-down menu.

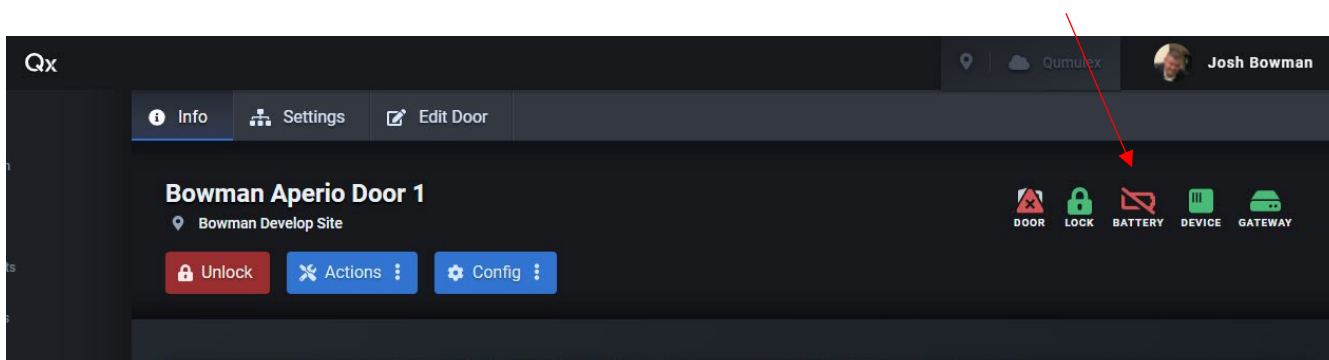


Operating an Aperio door is very similar to operating any other door type in QxControl. The primary difference is that you will also see a battery status for the wireless Aperio hardware.

You can see this status on a Door Card on the Doors Page, or on a Widget on the live Page:

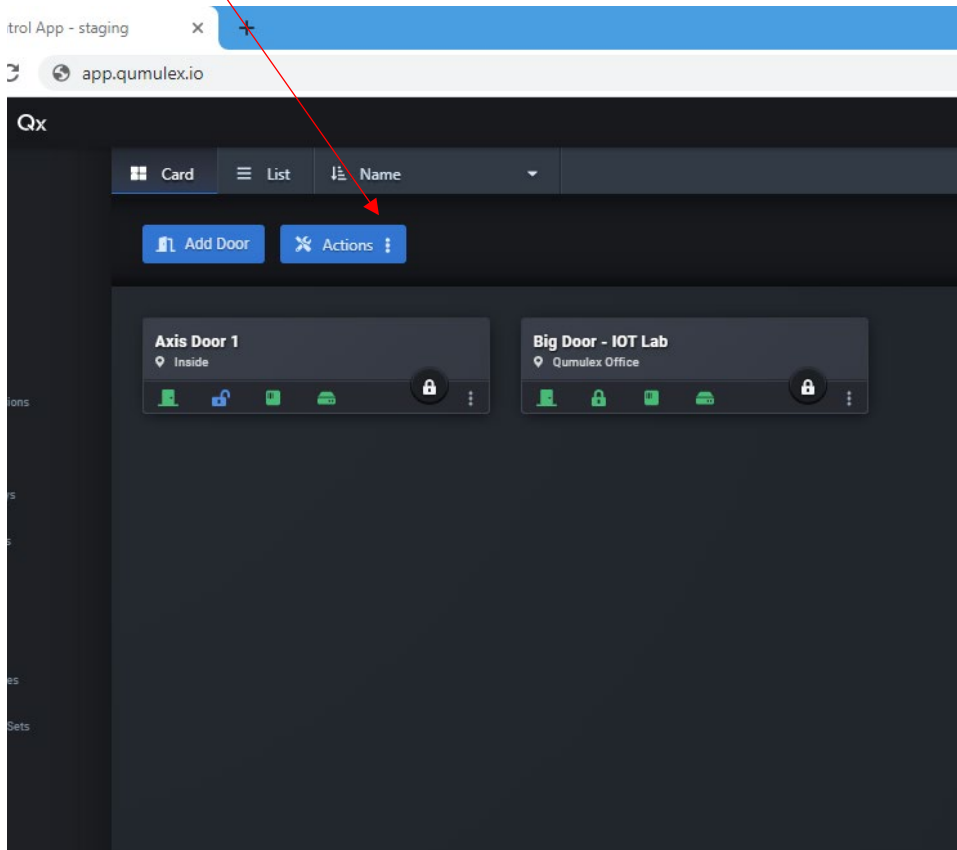


You can also see this on the Door Info Page. In the example above, the battery icon is green to indicate the battery is full or in good health. The example below shows a battery that is exhausted, and needs replaced.

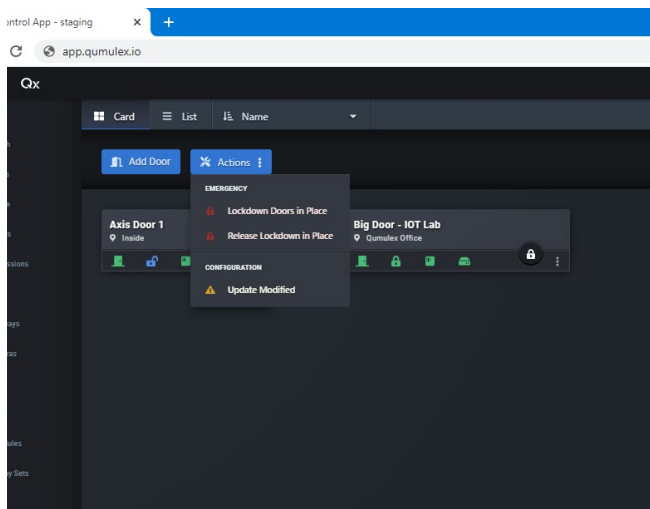


Operating Doors from Doors Main Page

Once Doors have been added to QxControl, you can now manage and operate them. The first area available to you is the Doors Page. There are two options on this page. The first is “Add Door” described in the previous section. The Next is the “Actions” button.

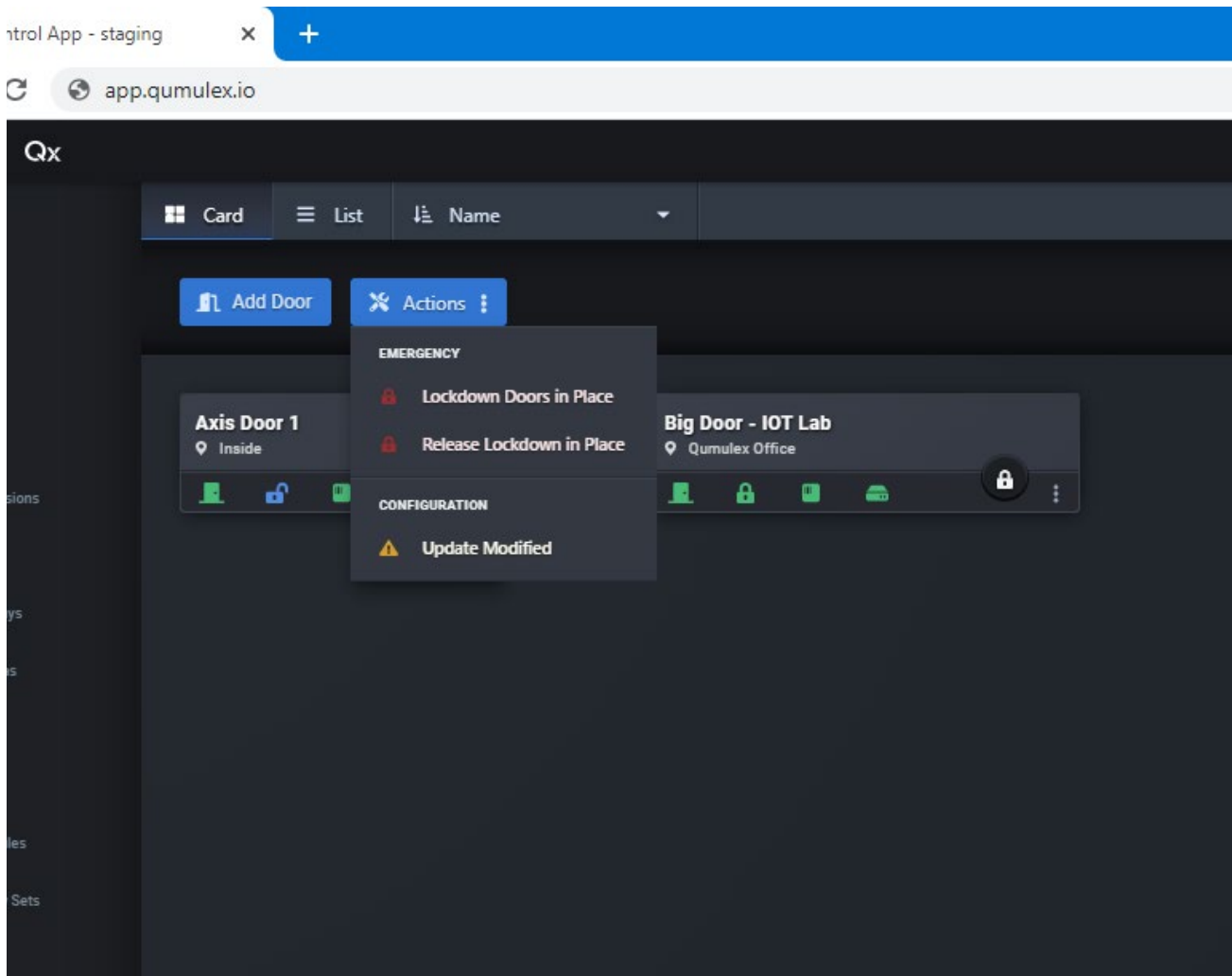


The actions available here are different than operating a Door in Live View or from within a Door itself because **actions used in this menu will apply to all Doors.**



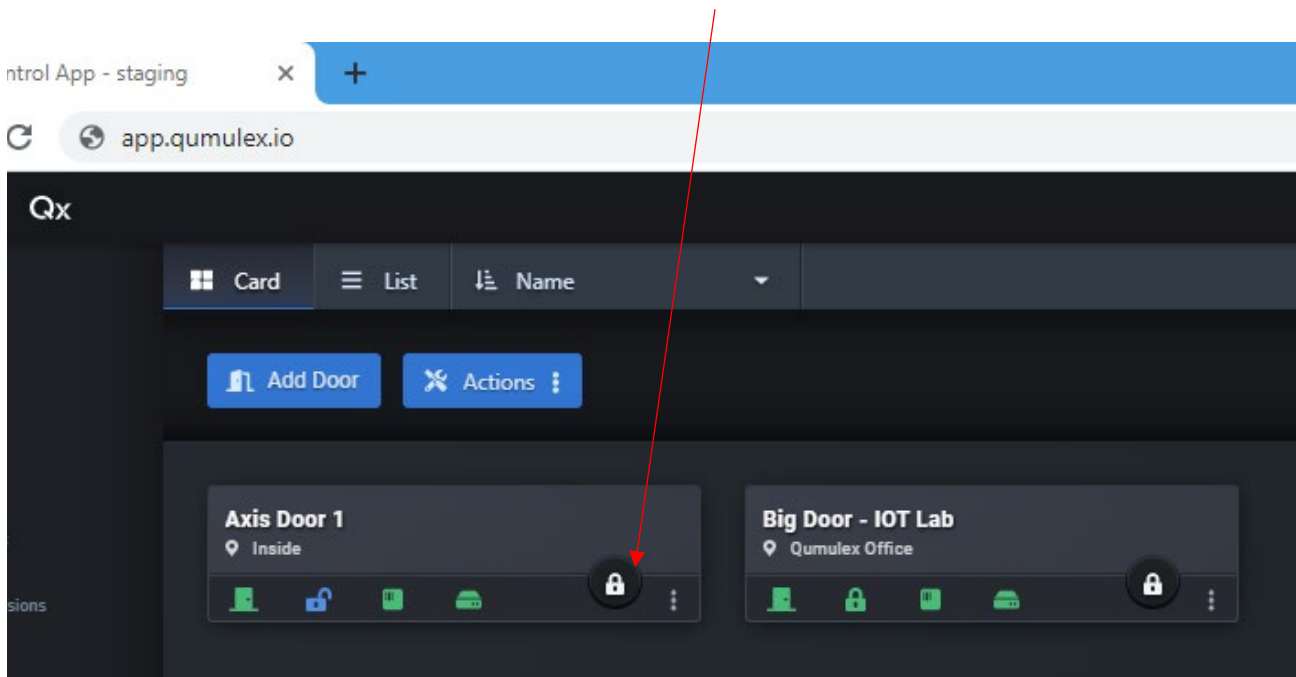
Using the Actions Button from the main Doors page, will allow you to:

- Lockdown all Doors at the current Scope
- Release all Doors from a Lockdown
- Update all Door Controllers at once

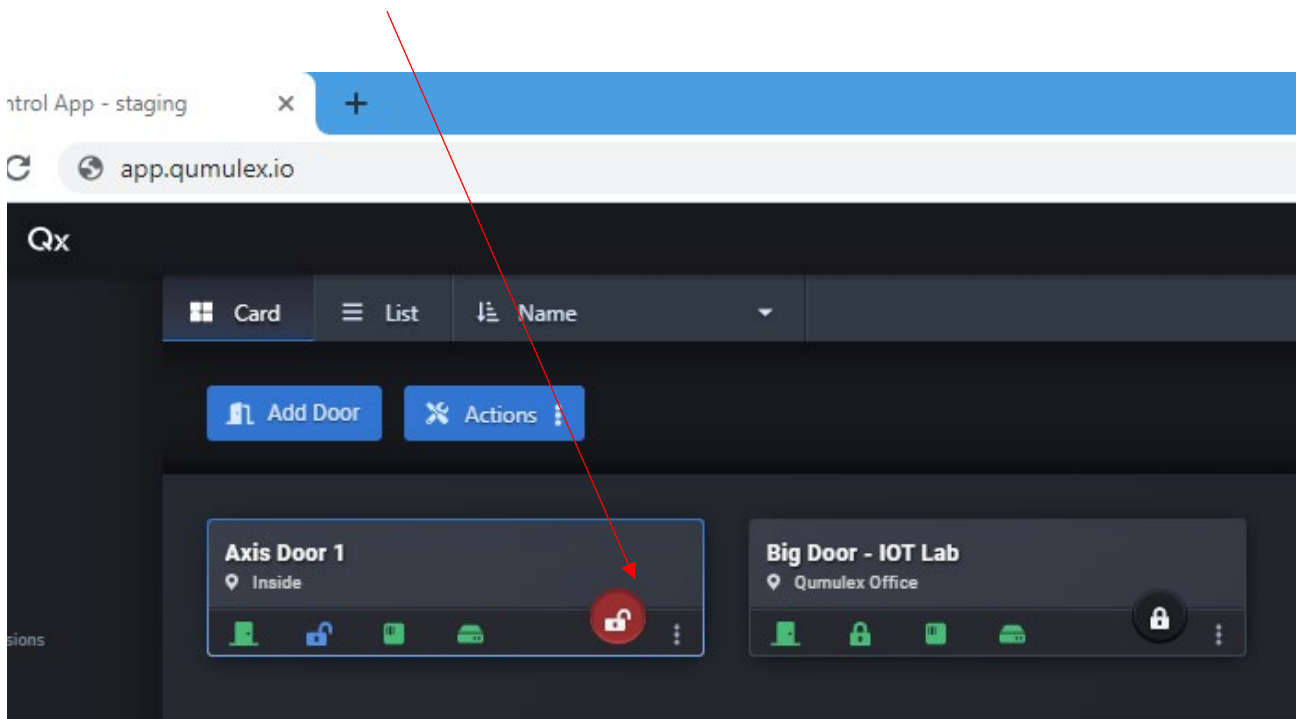


Next, from the main Doors page we can also operate the Doors individually.

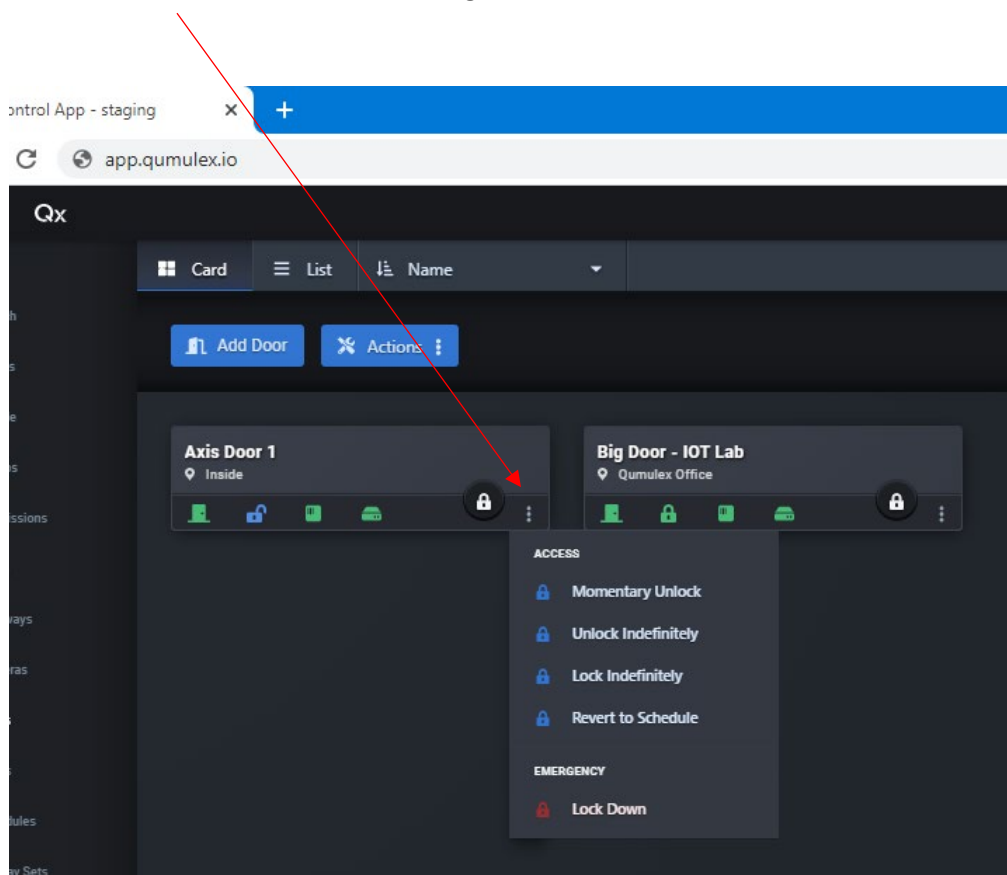
To pulse unlock, click on the padlock button of the Door you want to unlock.



You will see the status change to unlocked, and then will revert after the unlock time has been fulfilled.

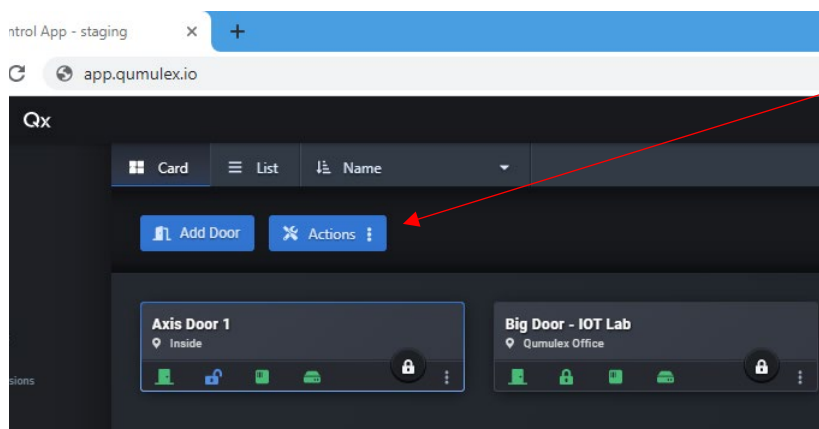


Choose the 3-dot menu in the lower right hand of the Door Card to show additional operations.



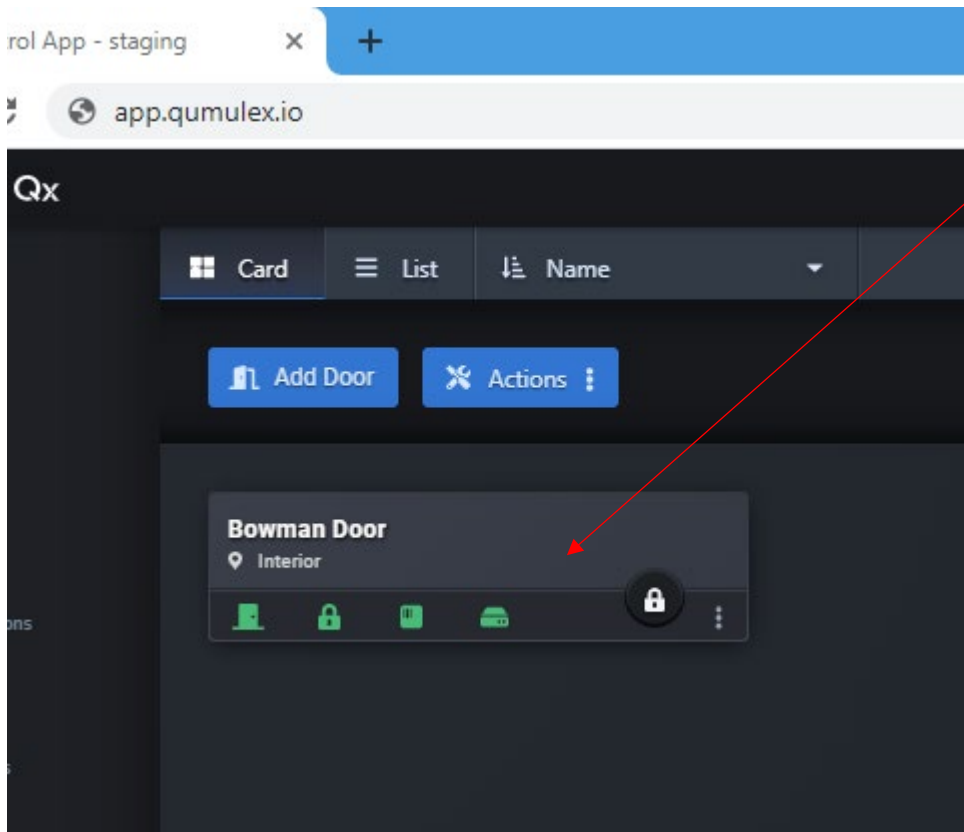
- Momentary Unlock – Pulse unlock the Door
- Unlock Indefinitely – Unlock the Door continuously and ignore the assigned Schedule
- Lock Indefinitely – Lock the Door continuously and ignore the assigned Schedule
- Revert to Schedule – Reverse the action of Lock/Unlock Indefinitely, and Lockdown actions and return to the assigned Schedule.
- Emergency: Lockdown – Lockdown of this Door only, will not allow credential holder access below Admin level.

Reminder: Lockdown and other actions taken from a Door Card only apply to that specific Door and will not create this action for any other Doors. Emergency Lockdown for an entire site MUST be taken from the top level "Actions" button.

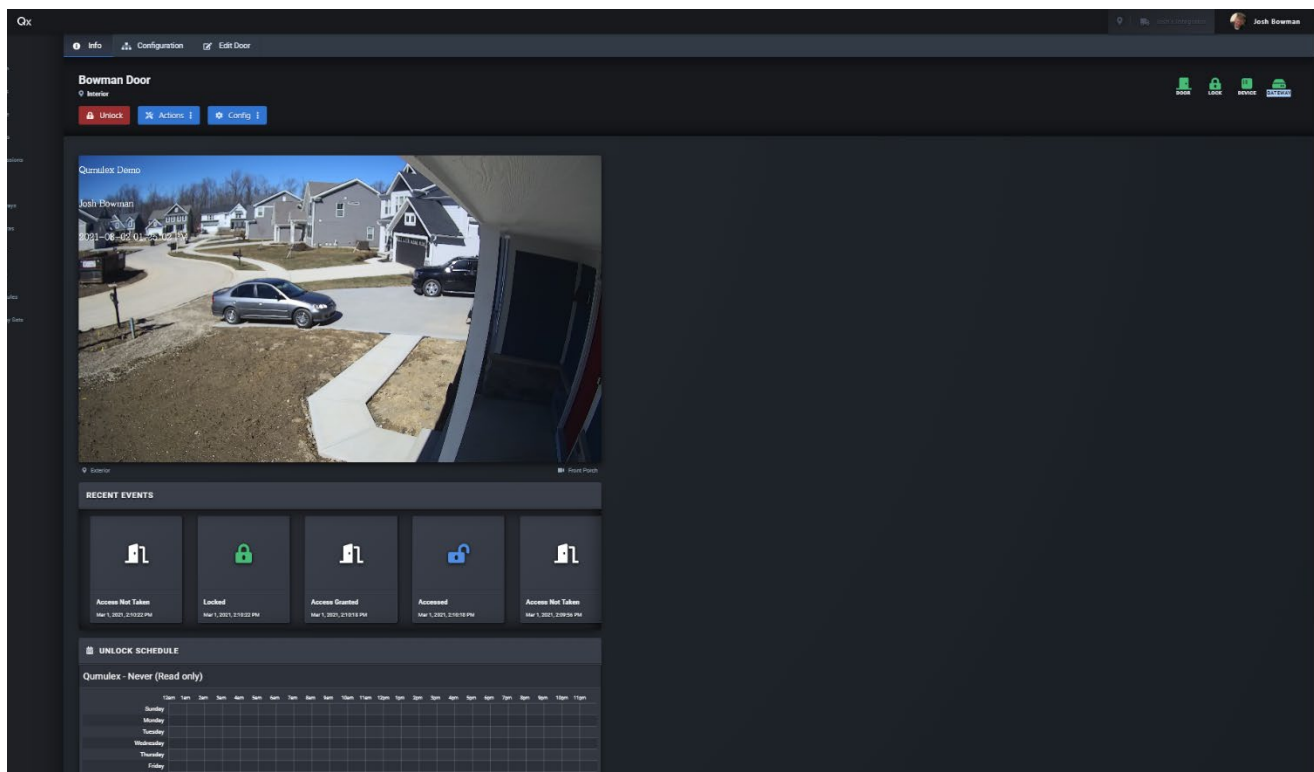


Operating Doors from an Individual Door Page

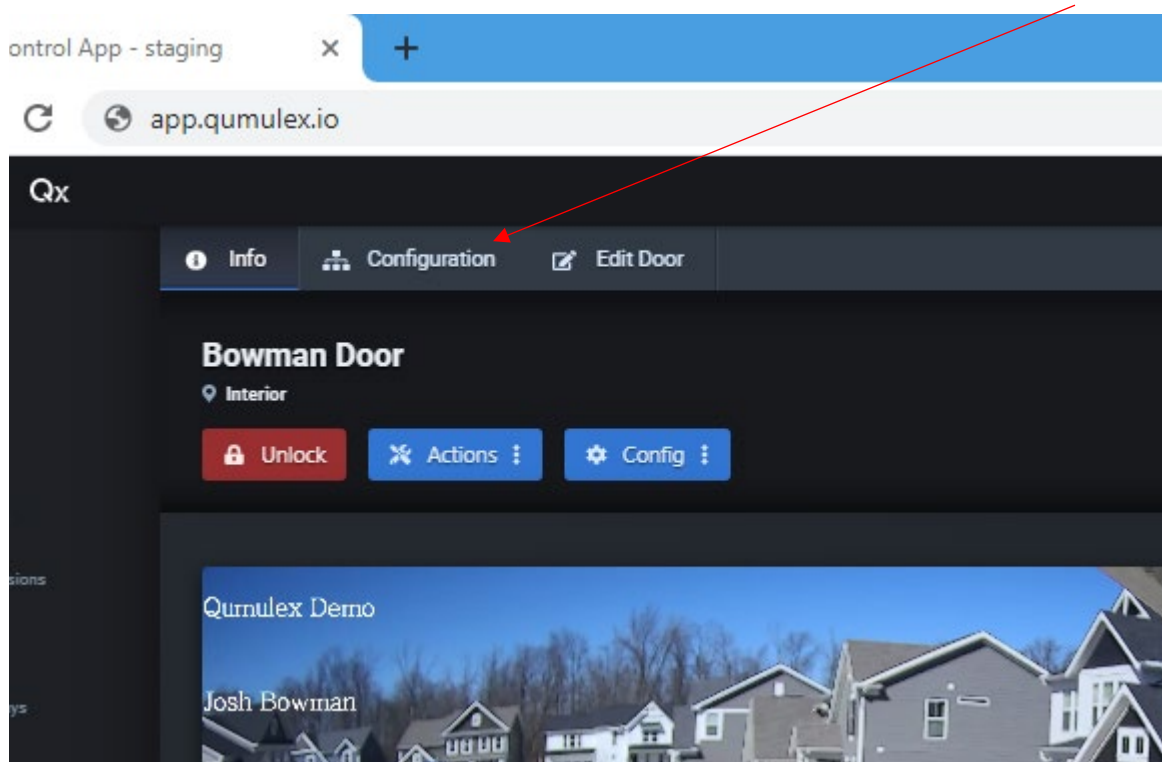
To operate a door from its own Door page, click on the Door Card for the Door you want to Operate.



This will reveal the individual Door page.

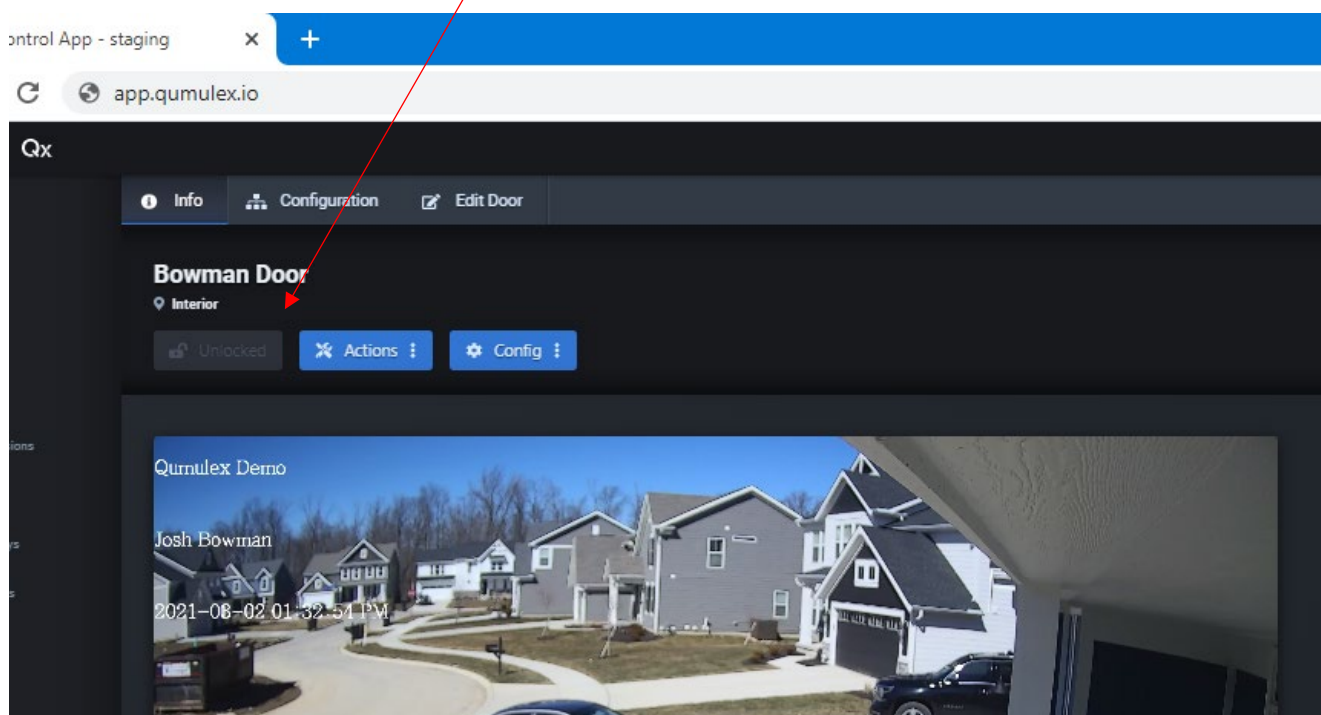


Starting at the top menu, you have three pages to choose from: Info, Configuration and Edit Door.

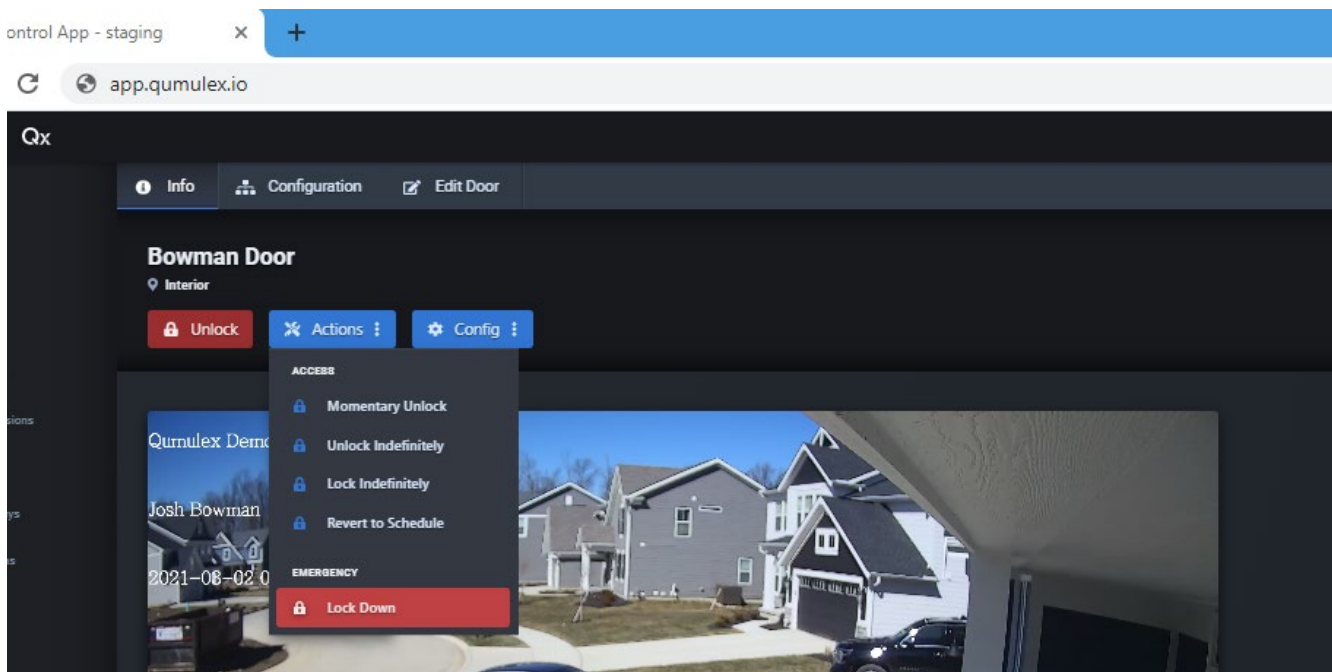


The Info page provides detailed information on Events, Schedules, allows Door actions to be taken and allows you to view the associated Camera while operating the Door.

Press the “Unlock” button to pulse unlock the Door. You will see the status change to “Unlocked” then revert back.



Choose “Actions” to reveal the other available Door actions.

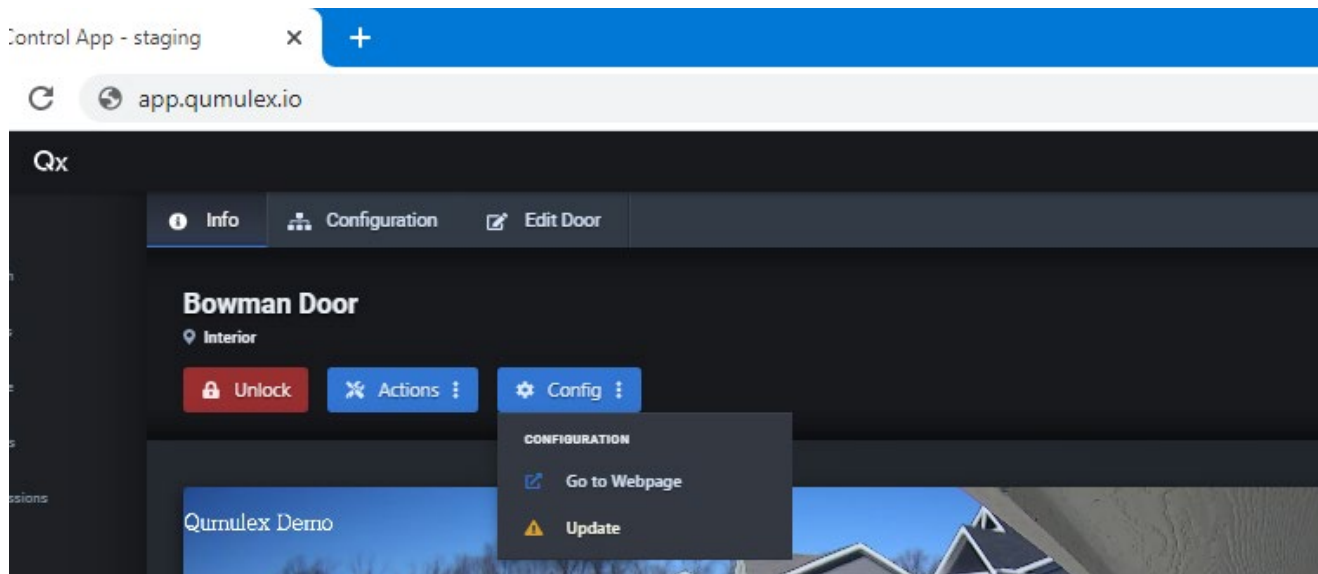


The available actions are the same as when operating an individual Door on the main Doors page.

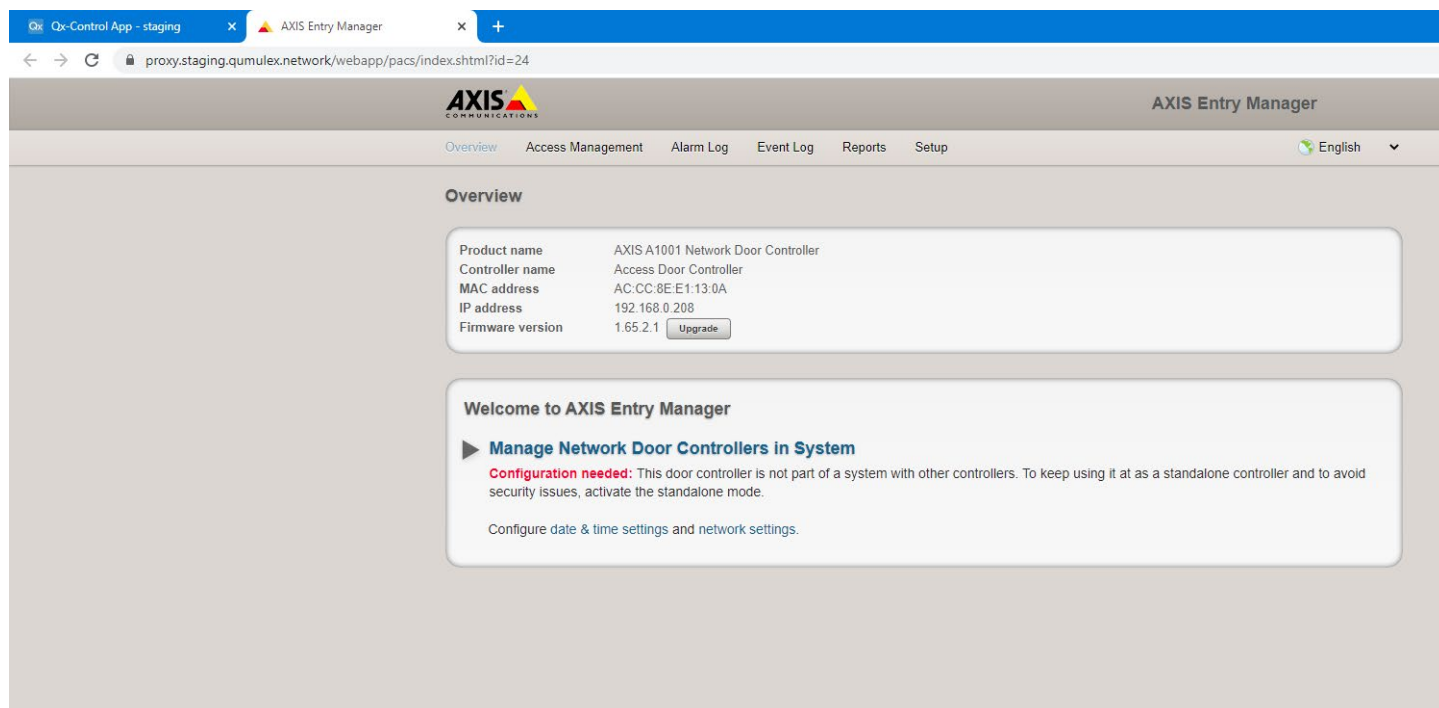
- Momentary Unlock – Pulse unlock the Door
- Unlock Indefinitely – Unlock the Door continuously and ignore the assigned Schedule
- Lock Indefinitely – Lock the Door continuously and ignore the assigned Schedule
- Revert to Schedule – Reverse the action of Lock/Unlock Indefinitely, and Lockdown actions and return to the assigned Schedule.
- Emergency: Lockdown – Lockdown of this Door only, will not allow the door to be accessed from the locked side.

Reminder: Lockdown and other actions taken from a Door page only apply to that specific Door and will not create this action for any other Doors.

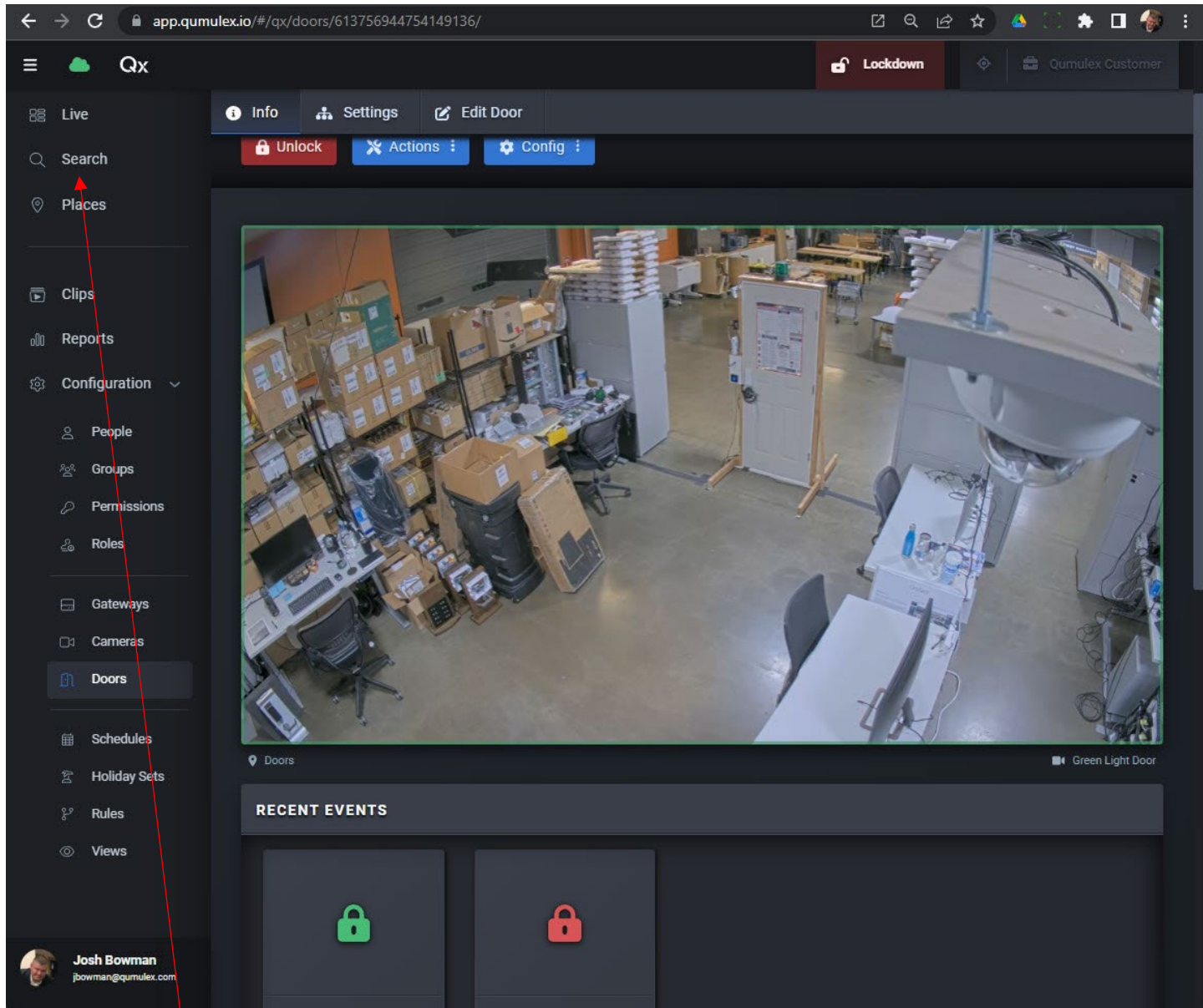
Choosing “Config” offers two options:



- 1) Go To Webpage – Similar to the FAB action for Cameras and Gateways, this will take you to the device webpage of the Door Controller (image below)
- 2) Update – Push an update to the Door Controller after modifying settings

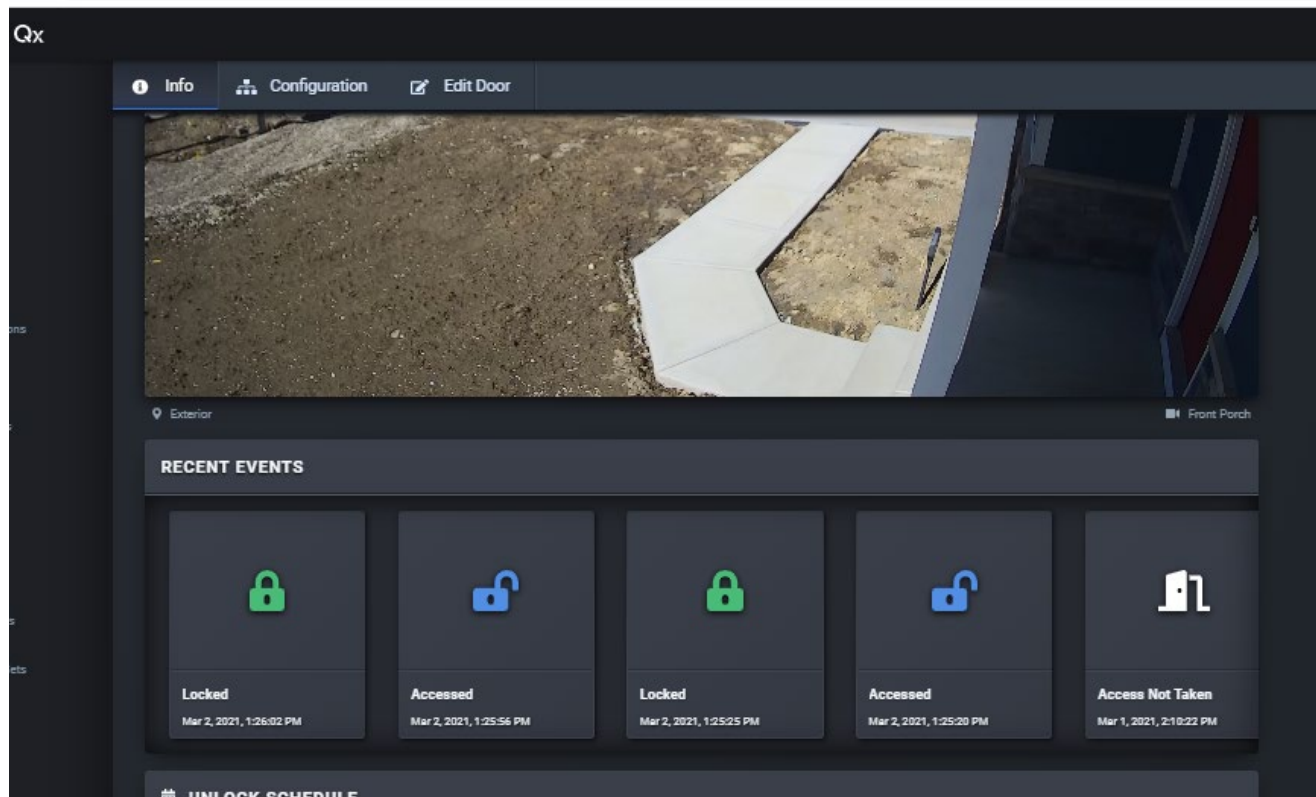


Below the Action Buttons is a live view of the associated camera, and the Recent Events feed.



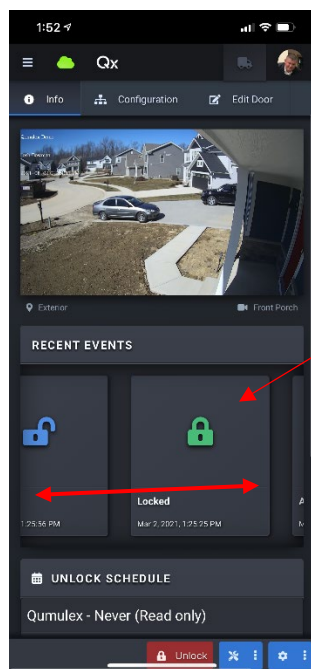
Note: This presents a live view only of the associated Camera to allow a view of the Door prior to unlocking or taking actions. To see recorded video of Door Events, use the Search page.

Recent Events will display Door Events such as Access Granted, Access Denied, Door Status and shows what credential holder is associated with the Event.

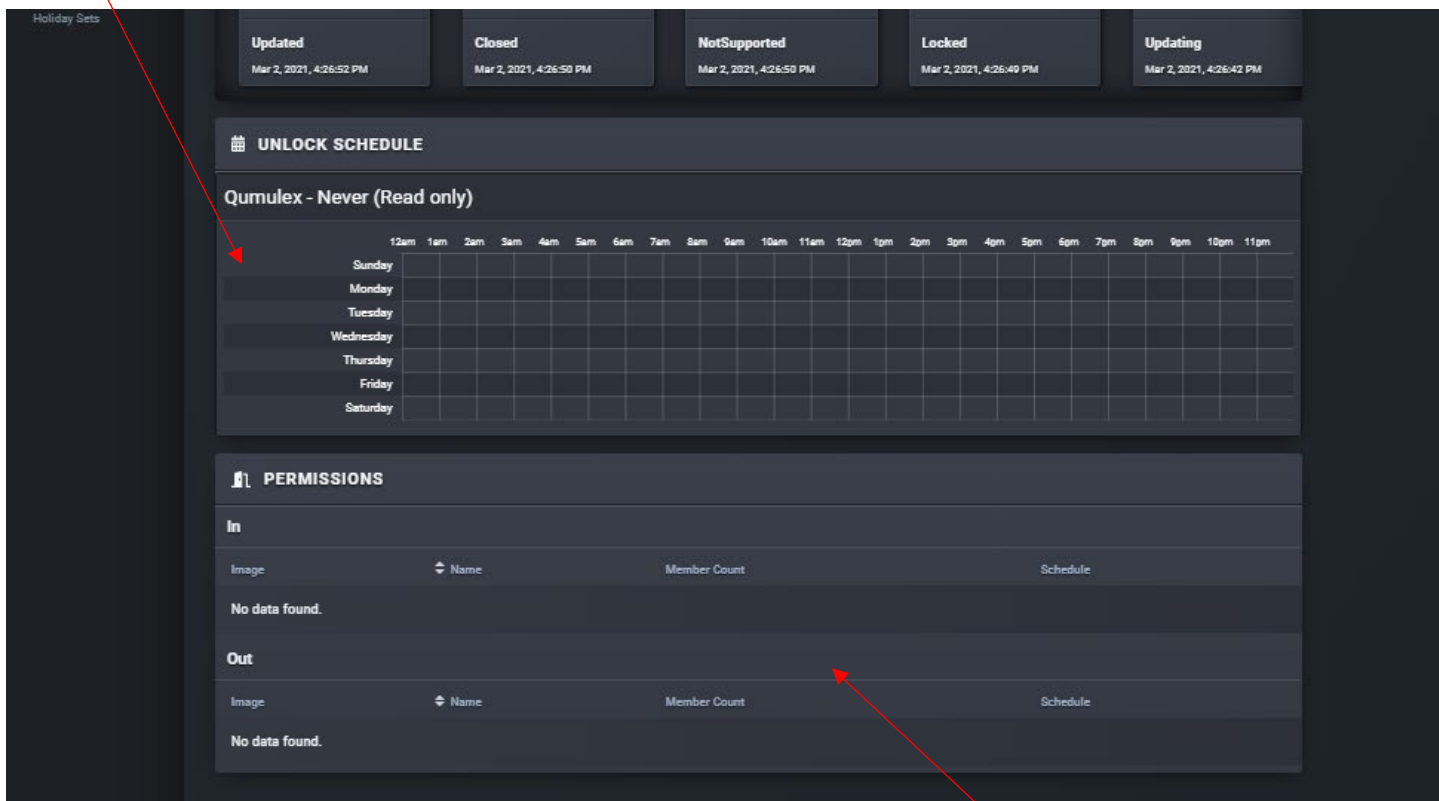


Newer Events ← → Older Events

To view these Events, grab with your mouse cursor and scroll left or right to move forward and backward through the timeline. This also makes viewing Events from a Mobile Device extremely easy:

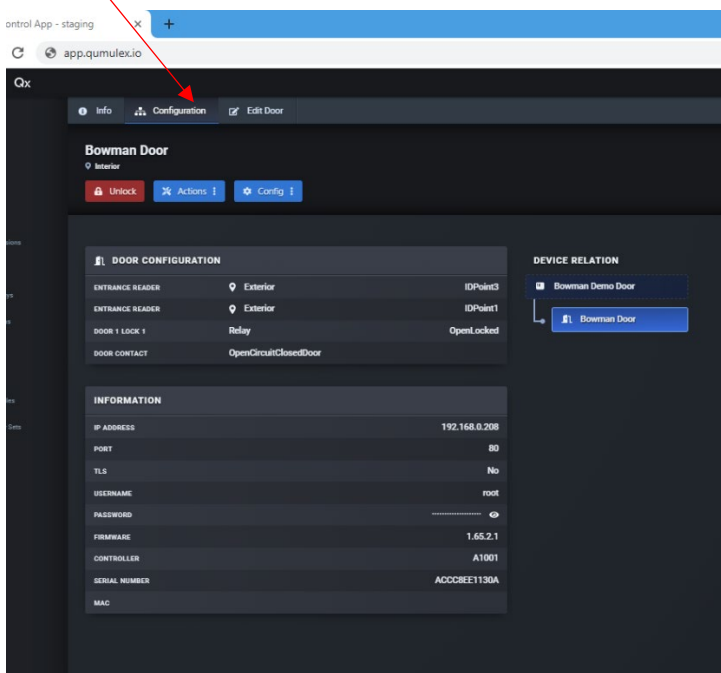


Below the Recent Events, the assigned Door Schedule is displayed.



Also displayed will be any Permissions that are assigned to the same Scope as this Door.

The next tab over from the Info page, is the Configuration page.



The Configuration page shows information related to the Door(s) and the Door Controller.

The screenshot shows the 'Bowman Door' configuration page in the Qumulex control app. The page is divided into several sections:

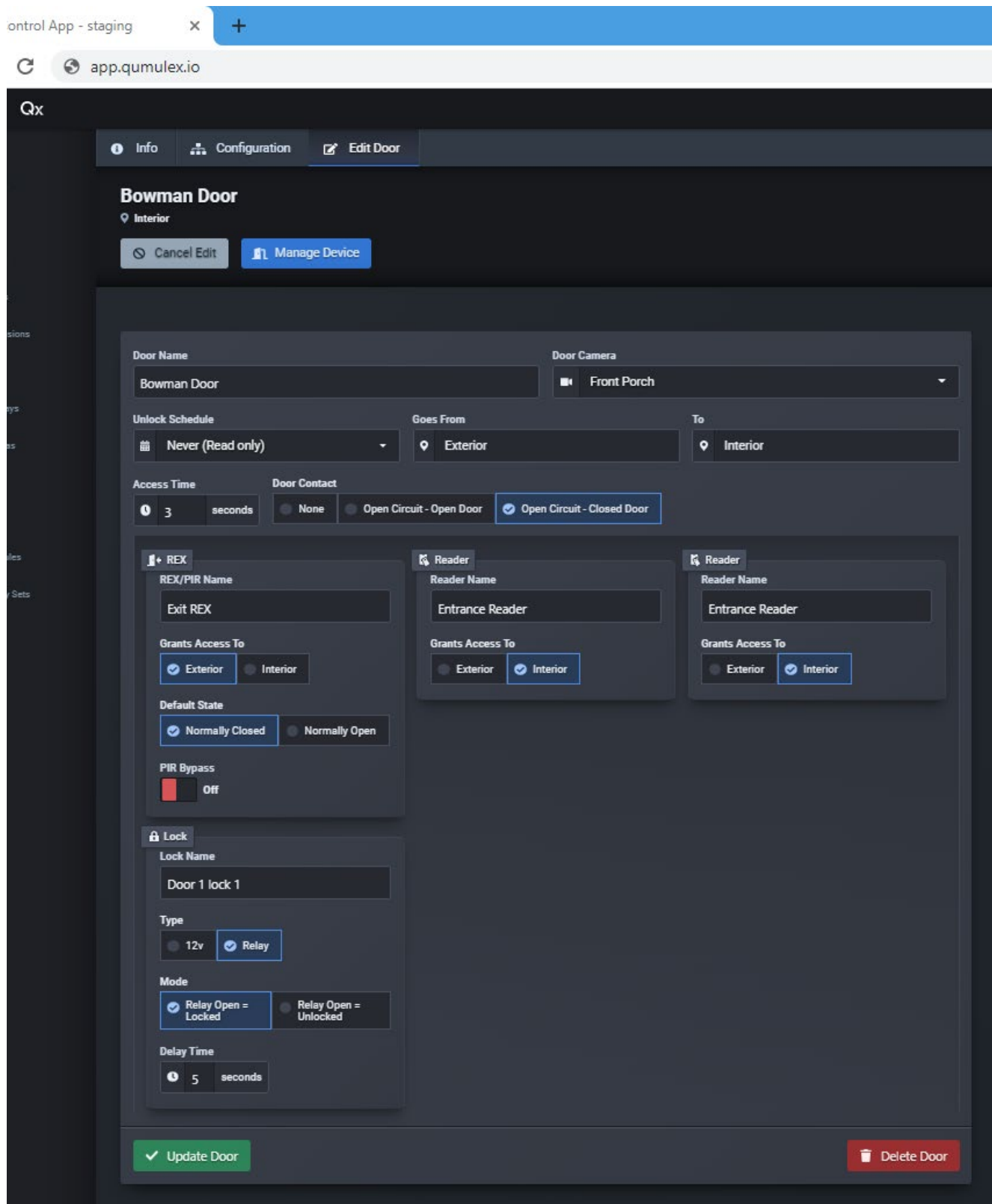
- Navigation:** 'Info', 'Configuration', and 'Edit Door' tabs.
- Door Name:** 'Bowman Door' with a location indicator 'Interior'.
- Actions:** 'Unlock', 'Actions', and 'Config' buttons.
- DOOR CONFIGURATION:** A table listing door components and their settings.
- DEVICE RELATION:** A diagram showing the door's connection to a 'Bowman Demo Door'.
- INFORMATION:** A table listing technical details like IP address, port, and serial number.

| DOOR CONFIGURATION | | |
|--------------------|-----------------------|------------|
| ENTRANCE READER | Exterior | IDPoint3 |
| ENTRANCE READER | Exterior | IDPoint1 |
| DOOR 1 LOCK 1 | Relay | OpenLocked |
| DOOR CONTACT | OpenCircuitClosedDoor | |

| INFORMATION | |
|---------------|---------------|
| IP ADDRESS | 192.168.0.208 |
| PORT | 80 |
| TLS | No |
| USERNAME | root |
| PASSWORD | |
| FIRMWARE | 1.65.2.1 |
| CONTROLLER | A1001 |
| SERIAL NUMBER | ACCC8EE1130A |
| MAC | |

This page is an excellent reference to find information such as the Door Controller IP Address, Model Number and Serial Number. You can also view how many Readers are assigned to the Door, Locks and other related info.

The last tab is the “Edit Door” Page. This allows you to change any of the initial settings you configured when first adding the Door to QxControl.

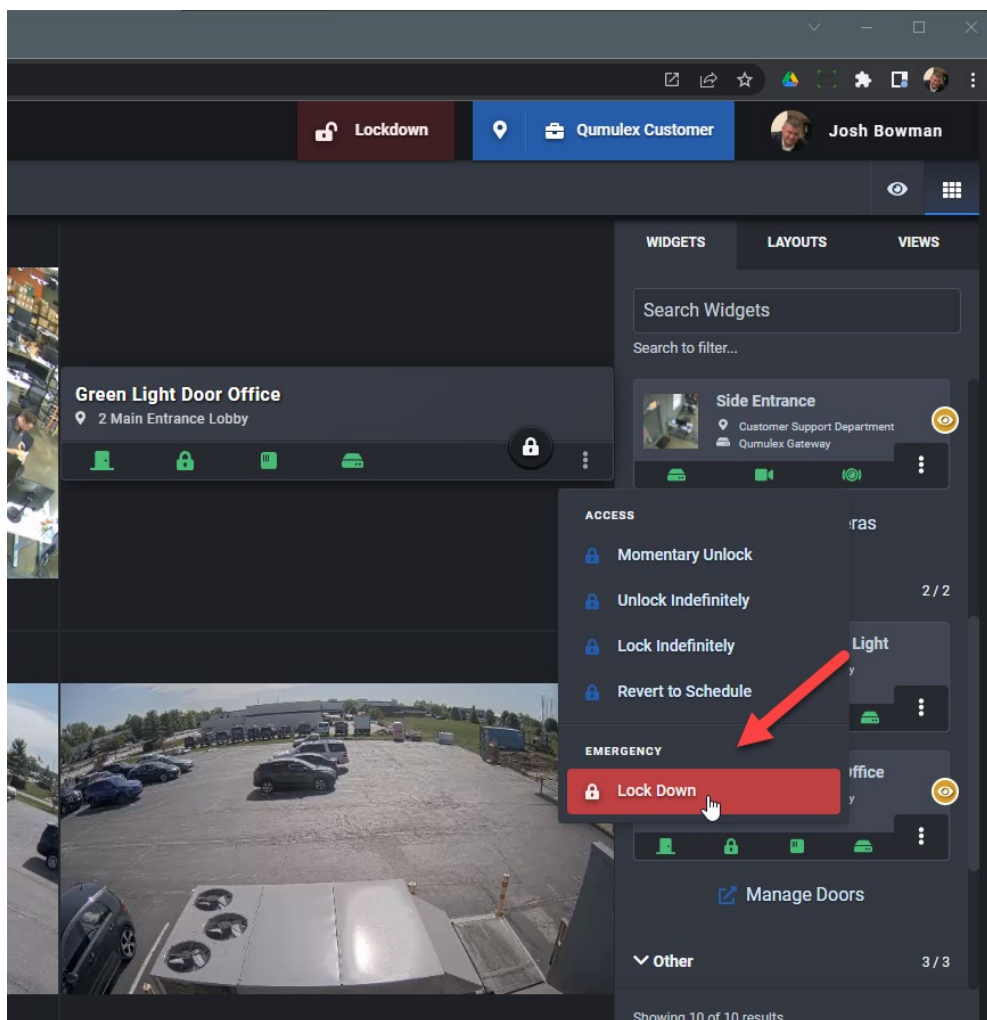


Using Lockdown in QxControl

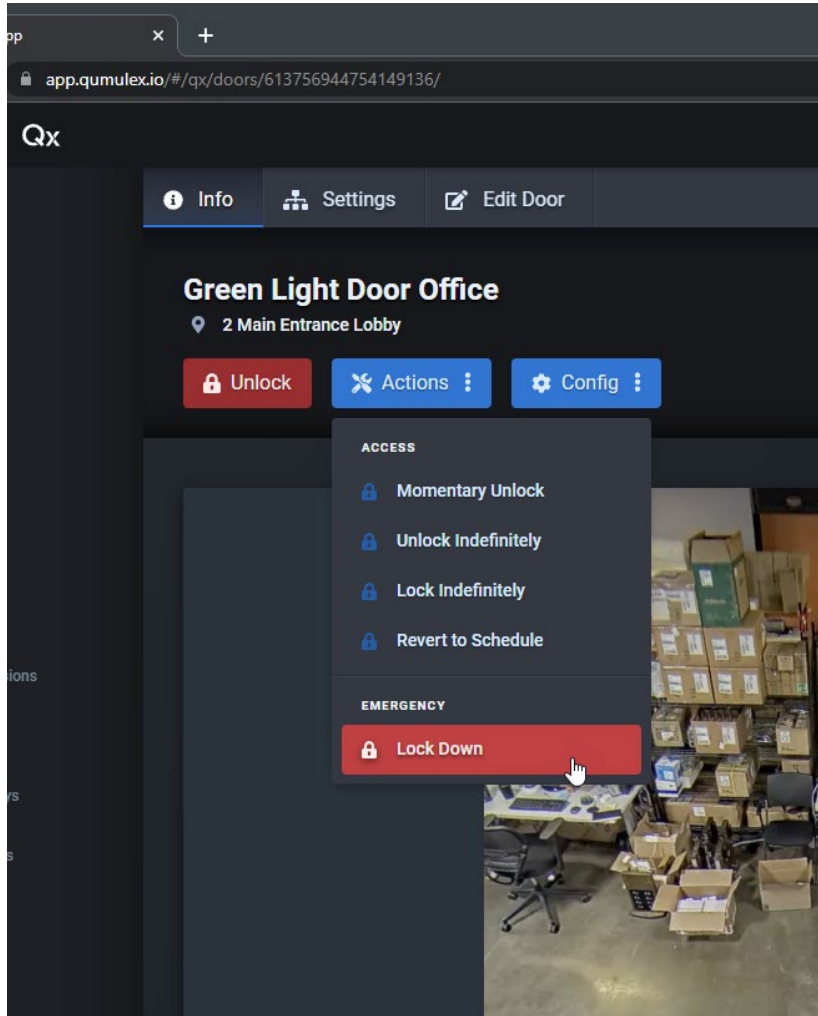
QxControl offers four locations in the app that allow you to initiate a Lockdown condition. A Lockdown condition is where all doors are inaccessible from the locked side, even with an access credential.

Single-Door Lockdowns

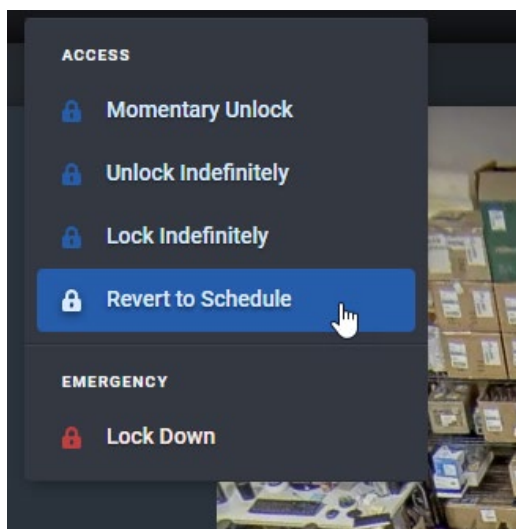
The first place you can initiate a Lockdown, is in the 3Dot Menu of a Door Widget in Live. Initiating a Lockdown from this menu **ONLY** initiates a Lockdown of this individual door.



You can also initiate a single-door Lockdown from the Actions Menu of a Door Info Page:



For both single-door Lockdown conditions, you will choose the option “Revert to Schedule” to remove the Lockdown condition from the same menu used to initiate it:

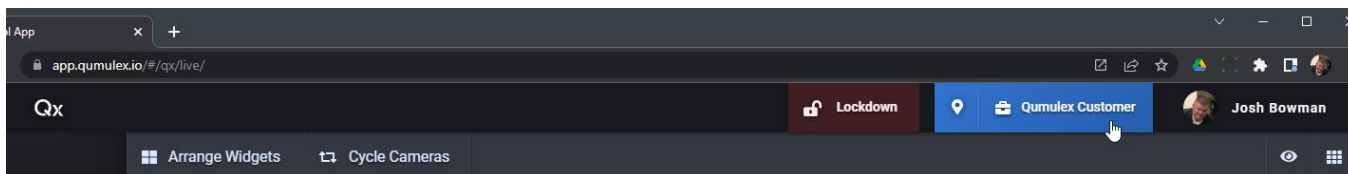


Scope-Level Lockdowns

The next form of Lockdown is a “Scope-Level” Lockdown, meaning you will Lockdown all doors within your current scope.

The fastest way to initiate a Lockdown of all doors in a Scope (such as an entire building, or campus) is to:

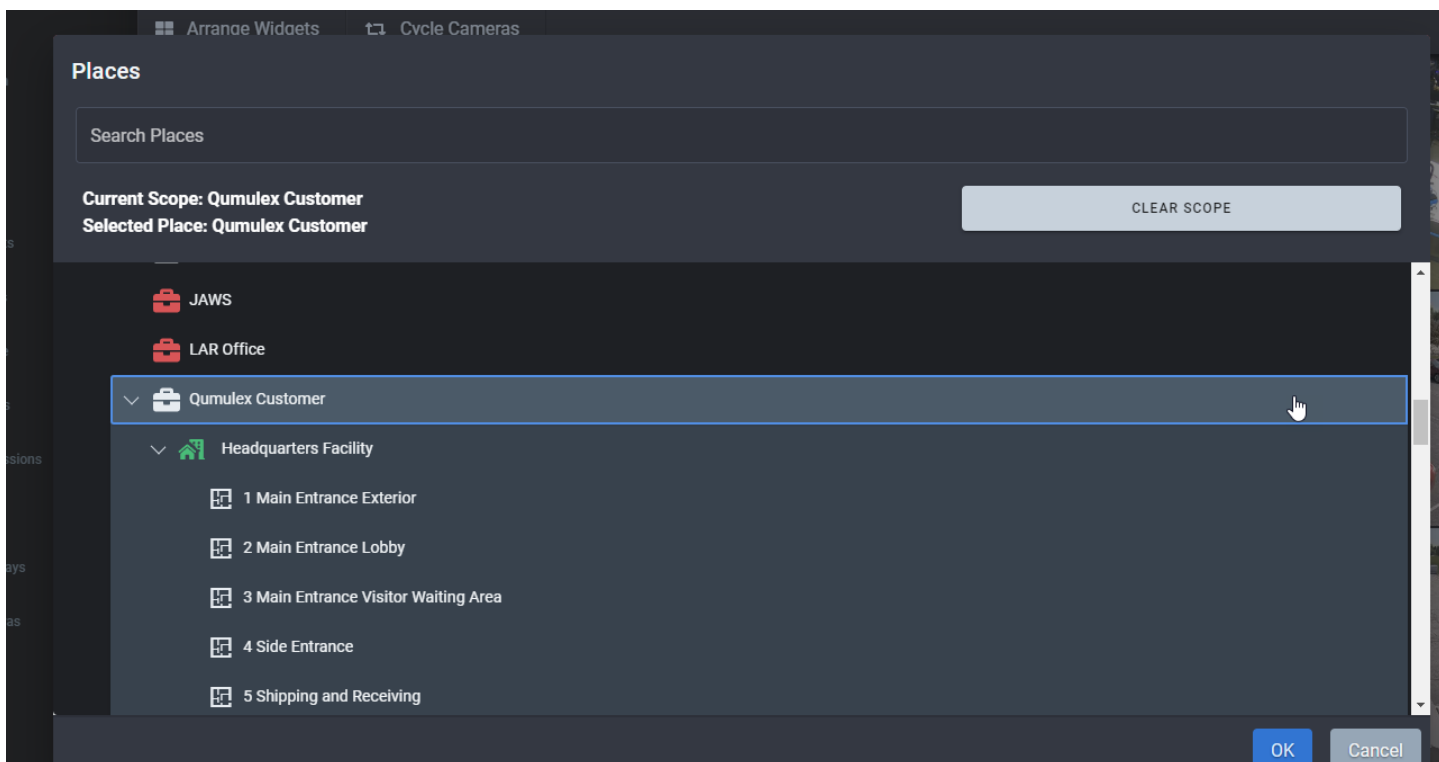
- (1) Use the Scope Selector, found at the top of every page in QxControl, and ensure your entire Scope is selected:



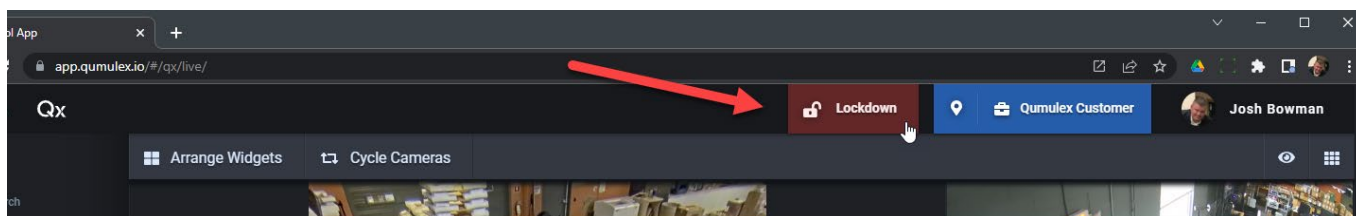
- (2) You can see in this example, the site that we want to Lockdown is Qumulex Customer, and this site is already the current scope.

If you are viewing multiple sites, you would want to set the scope to the correct individual site and ensure that you do not Lockdown more sites than necessary.

For example, if you have a site in Columbus that is experiencing an emergency, you do not necessarily need to Lockdown your sites in Cincinnati and Cleveland.

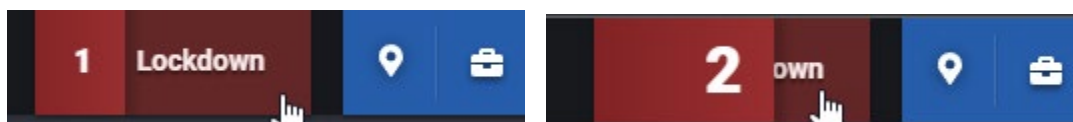


(3) After verifying and selecting the desired Scope, you can choose the “Lockdown” button just to the left of the Scope button. Just like the Scope button, the Lockdown button is available on all pages of the app.

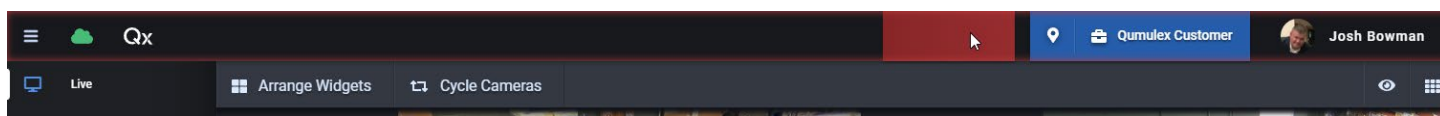


Note: If you are set to an **Integrator Level Scope**, the Lockdown button will be unavailable. This prevents an accidental Lockdown of all customers assigned to an Integrator.

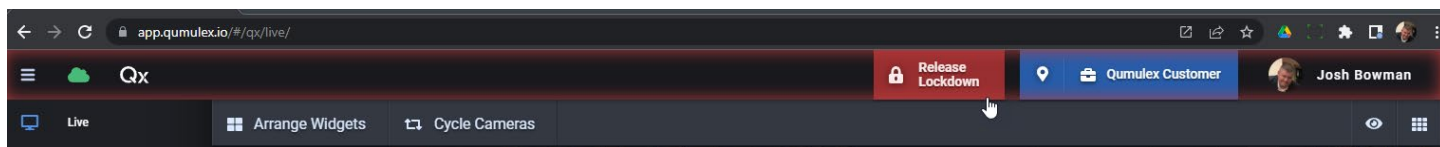
(4) The Lockdown button must be pressed THREE times to initiate the Lockdown condition. There is a counter in the button itself that will appear:



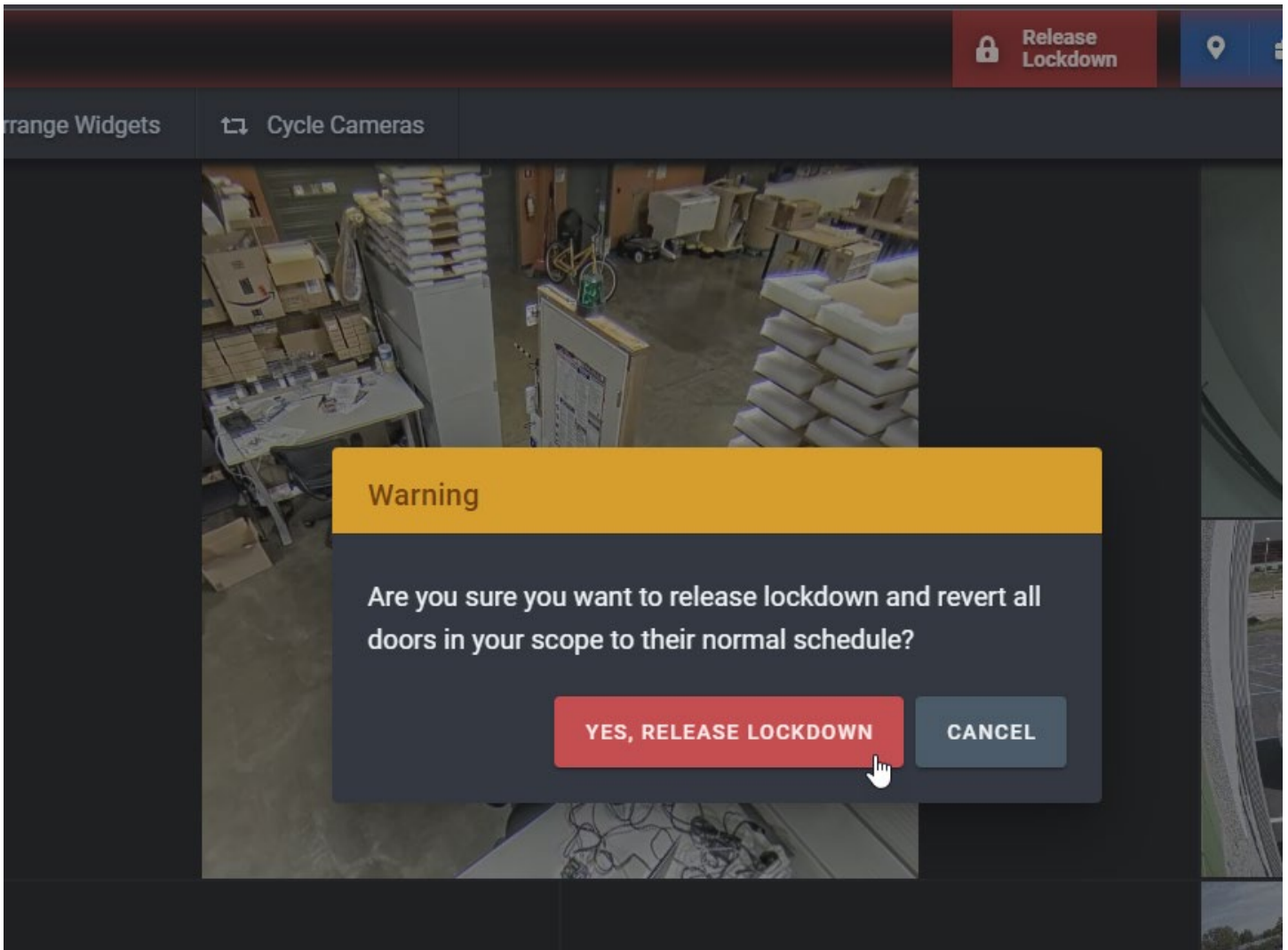
(5) After the third click the Lockdown will initiate and you will see the button disabled temporarily to avoid accidentally removing the Lockdown. You will also see a red glowing indicator at the top of every page in the App to show that you are in a Lockdown condition:



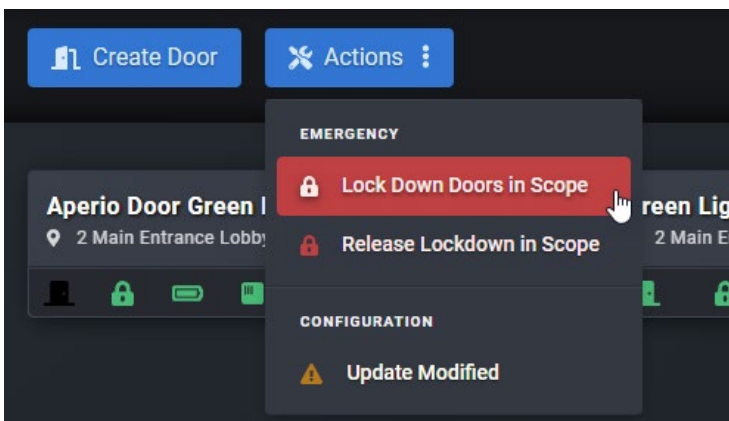
(6) To remove the Lockdown condition, simply click the Lockdown button three times:



(7) This will present you with a warning message to ensure that you intend to remove the Lockdown. Choose “Yes, Release Lockdown” to return to your previously scheduled condition:



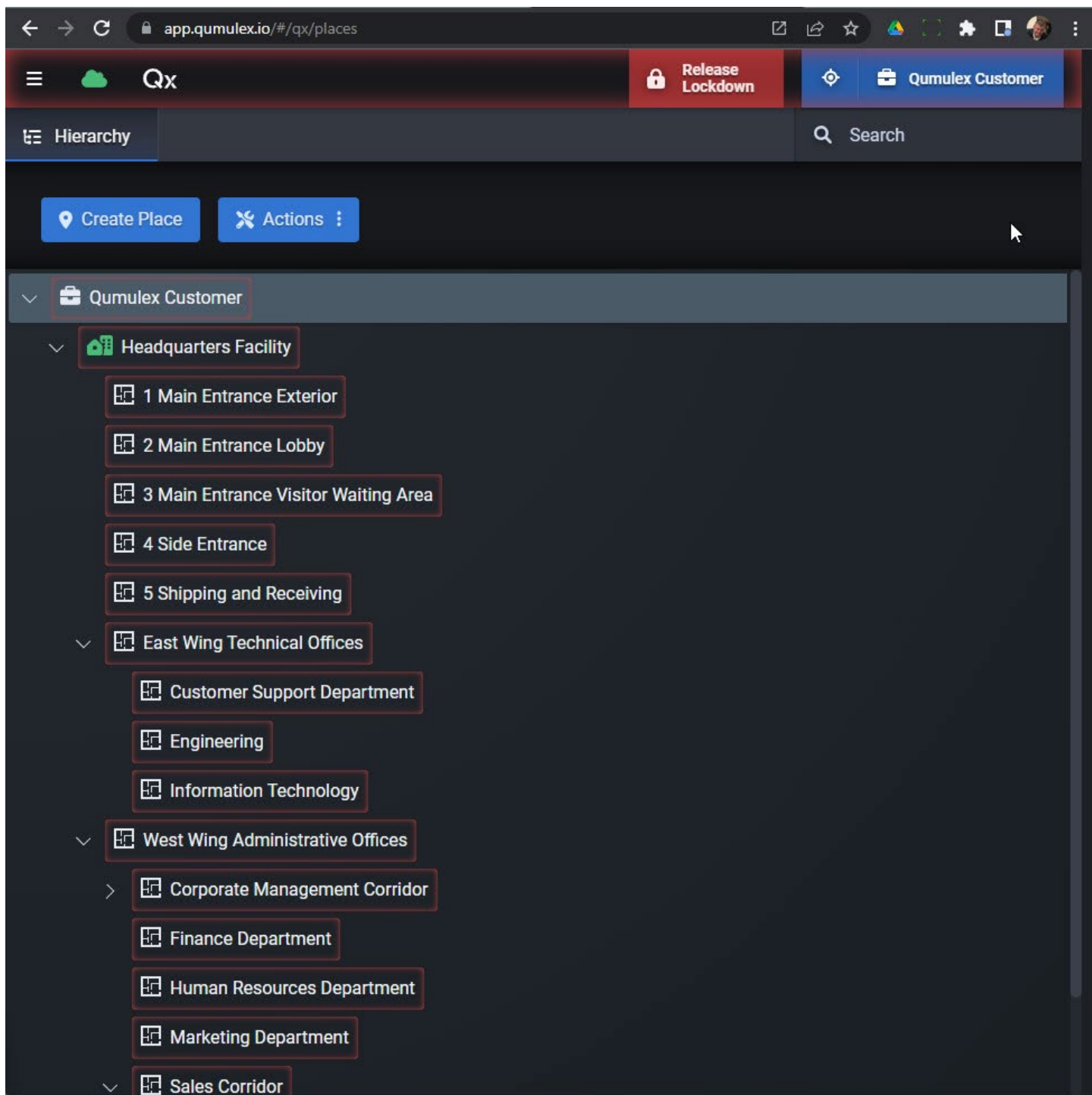
The fourth and final place in QxControl where you can initiate a Lockdown is on the Doors Page. From the Actions Menu, choose “Lockdown all Doors in Scope” to initiate and “Release Lockdown in Scope” to remove it:



Lockdowns: Places Page

You will see an indicator in the Places Tree when a lockdown has been enabled when using both single door and scope level lockdowns. Affected Areas will be shaded in red.

This is to provide context on what areas are locked down and is another way to draw attention to the lockdown condition. In the case of a QxControl account where a School District or Municipality is the customer, they can more easily see what sites are affected, as an example:



Retention of Access Control Activity

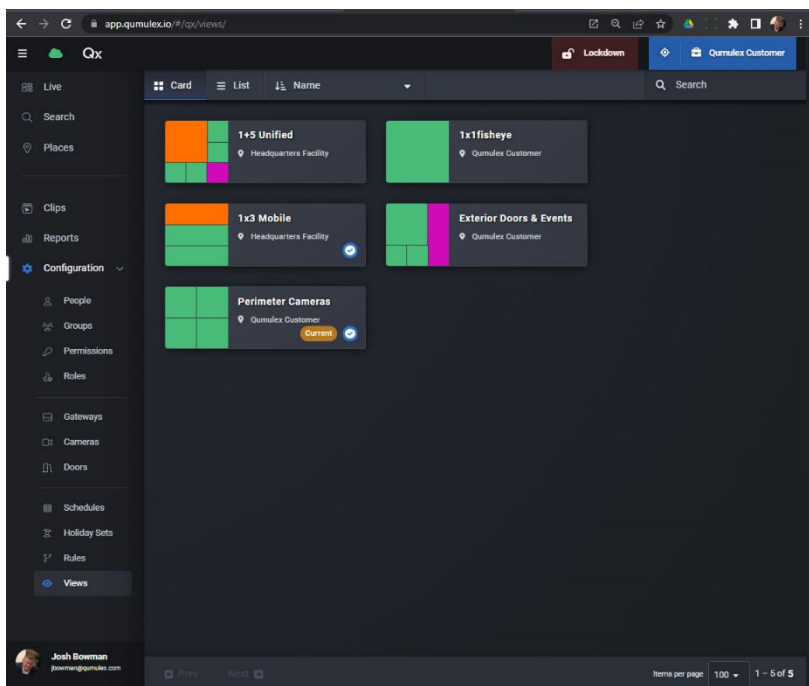
All door activity, such as cardholder events or when a door has been accessed, will be retained in QxControl for a period of 6 months. This means that you can run a report on activity that has occurred up to 6 months from the date that you search or run a report.

It should be noted that the availability of any associated video will be limited to the standard retention for that video. For example, if I have a 30-day subscription for my cameras and I search a door event from 3 months ago, the door event will still be present but will be displayed with “no video”.

If you wish to retain video for a longer period of time, simply refer to the Clips page on how to export to the clips page and set your retention option to the desired length of time or set to not expire.

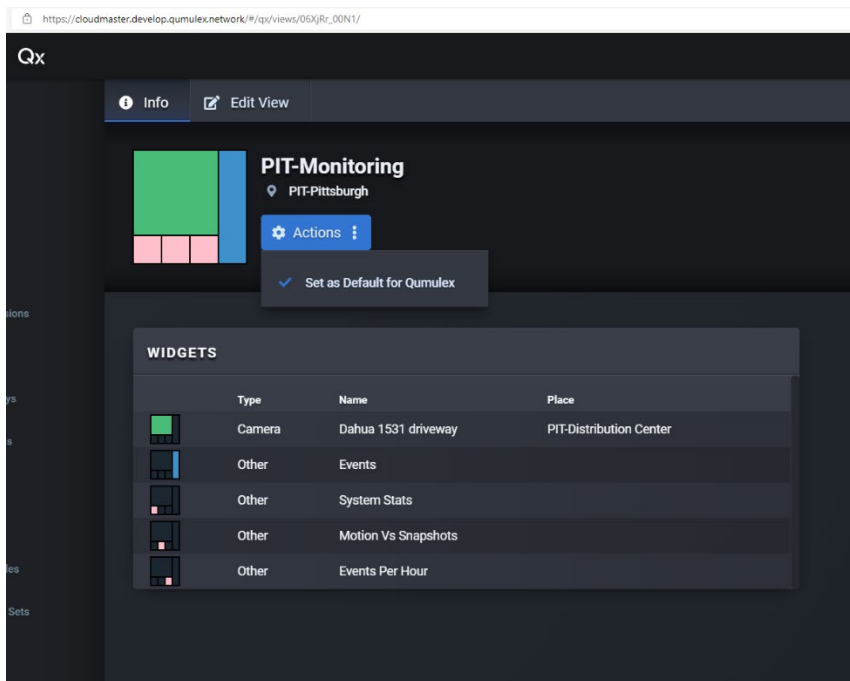
Views

The Views page allows you to manage and edit Views that are created in the Live page.



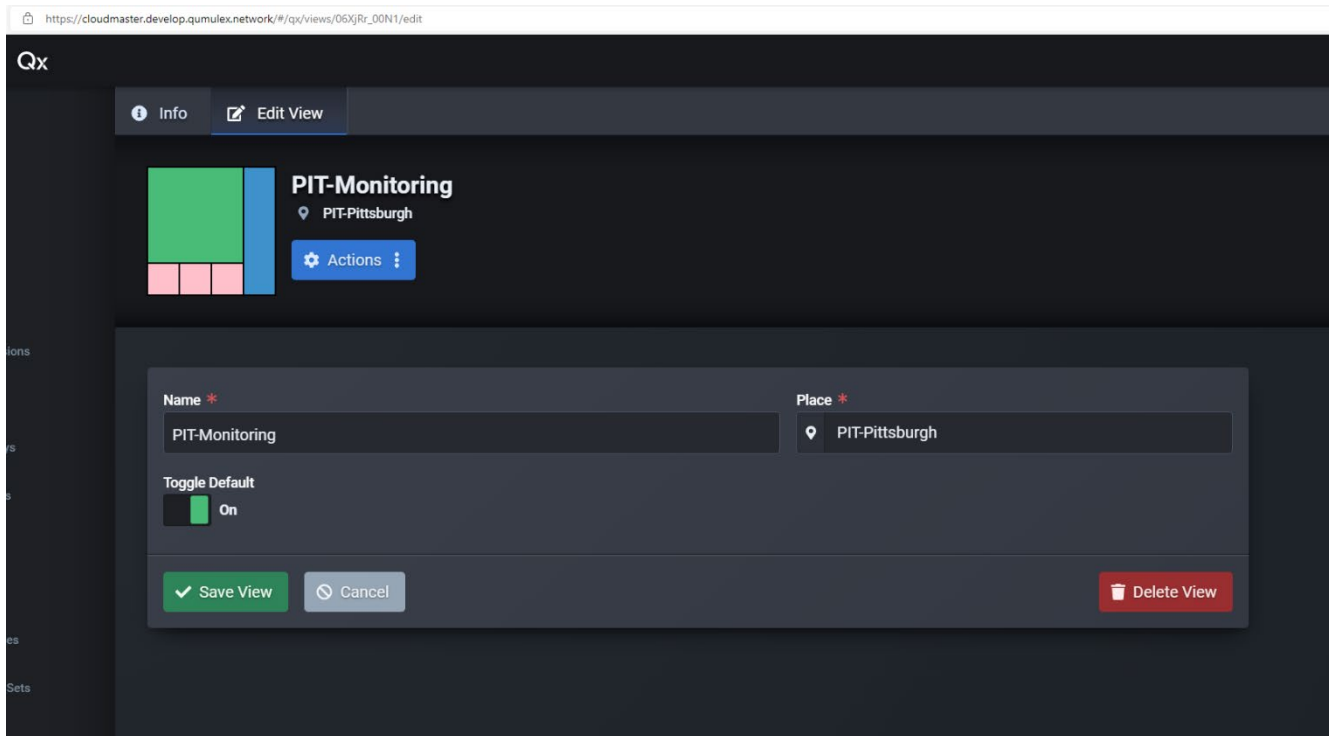
Views page

Click on any of the Views to see the Views Info Page. Here you can set the View as Default and you can also see what Widgets are included in the View.



From the “Edit View” page you can:

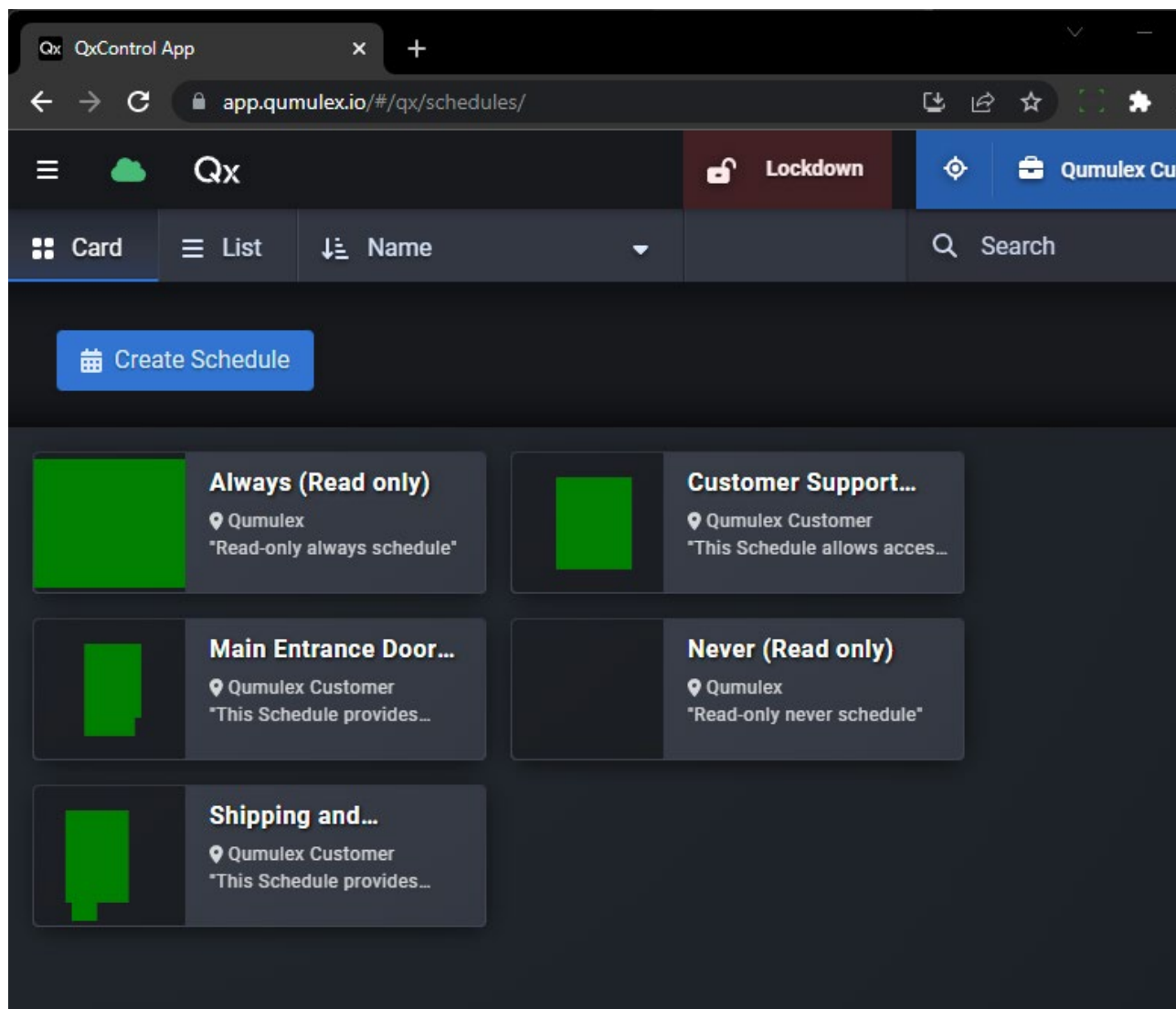
- Edit the name of the View
- Assign the Place (Scope) of the View
- Toggle On/Off allowing the View to be set as Default
- Delete View



To confirm all changes, choose “Save View”.

Schedules

Schedules can be used in several areas such as the unlock schedule for a door, the access schedule for a group of people in a permission, camera recording schedules and the rules engine.



Schedules page

There are two default schedules that are read-only. Always and Never. As their names imply, always means active 24x7 and never means never active.

A common simple access control setup is to give the door a never schedule and cardholders a permission with the always schedule. This would mean that the doors are always locked (Never Unlocked), but the cardholders always have access to unlock the doors with their credentials.

In addition to these two schedules any number of custom schedules can be created.

To create a new schedule, choose “Create Schedule”, give the schedule a name, description (Optional) and place , then one or more segments for each day of the week as needed.

To create a segment, first choose your desired start time and click inside the cell. You will also notice that the cursor will change and show that you can drag the cell to a new time with your cursor. The time displayed in Start & Stop will change as you move it around. You can also manually enter a start time in the “Start” box.

After choosing your Start time, you now choose an End time to complete the segment. The easiest way to enter a time manually is to first highlight what you wish to change with your cursor. Then, you can type in a numeric value or select AM/PM. You also should highlight the value to use the up and down arrows to change the value.

Create Schedule

Name * Description Place *

| | 12am | 4am | 8am | 12pm | 4pm | 8pm |
|------------|------|-----|-----|------|-----|-----|
| Sunday | | | ● | | ● | |
| Monday | | | ● | | ● | |
| Tuesday | | | | | | |
| Wednesd... | | | | | | |
| Thursday | | | | | | |
| Friday | | | | | | |
| Saturday | | | | | | |

START

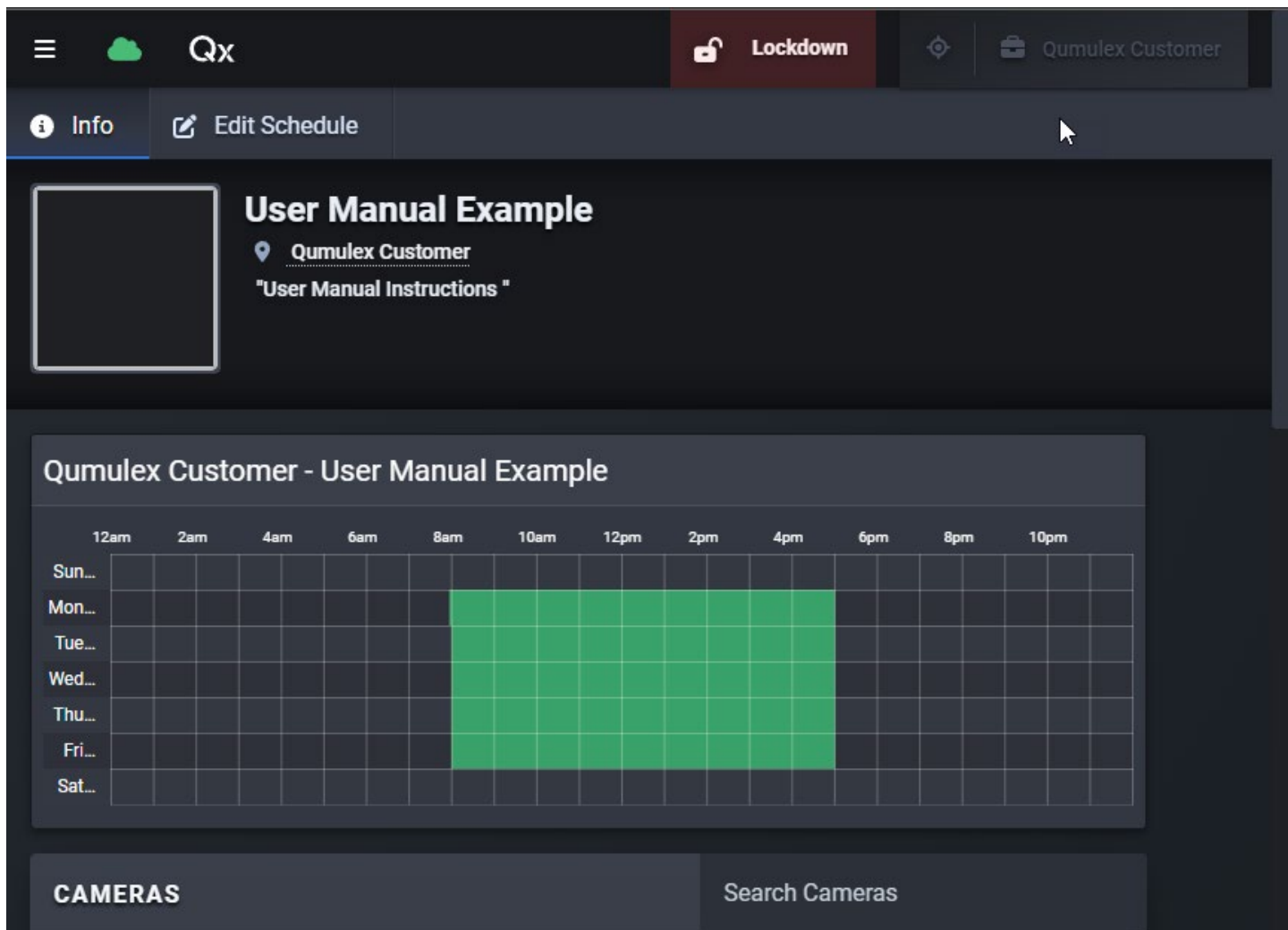
STOP

You will see the segment appear as a green shaded area that will display the time for that day based upon the Start & End times entered.

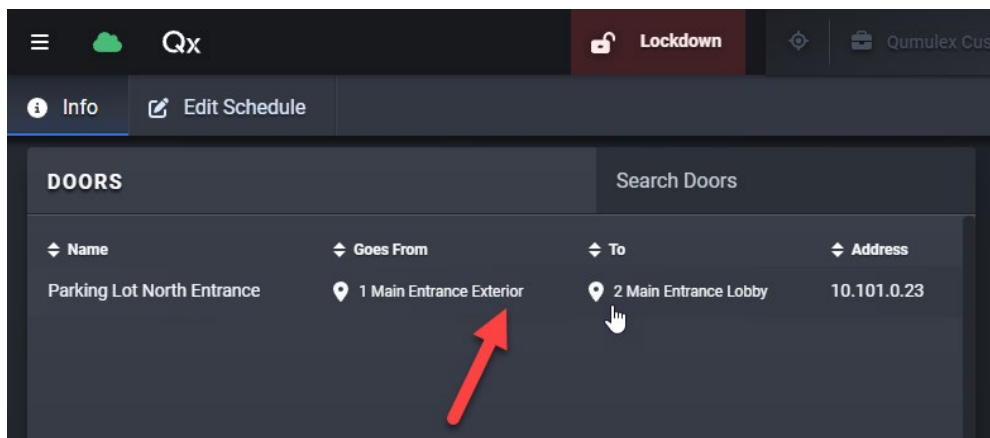
While still highlighted, you will also see the option to “Remove Blocks” if you wish to delete the segment you have created.

Continue this process to create more segments for your schedule as desired, then choose “Create Schedule” to save your new schedule.

Once created, you will then see the newly created schedule's Info Page, which will display the schedule segments you have created.

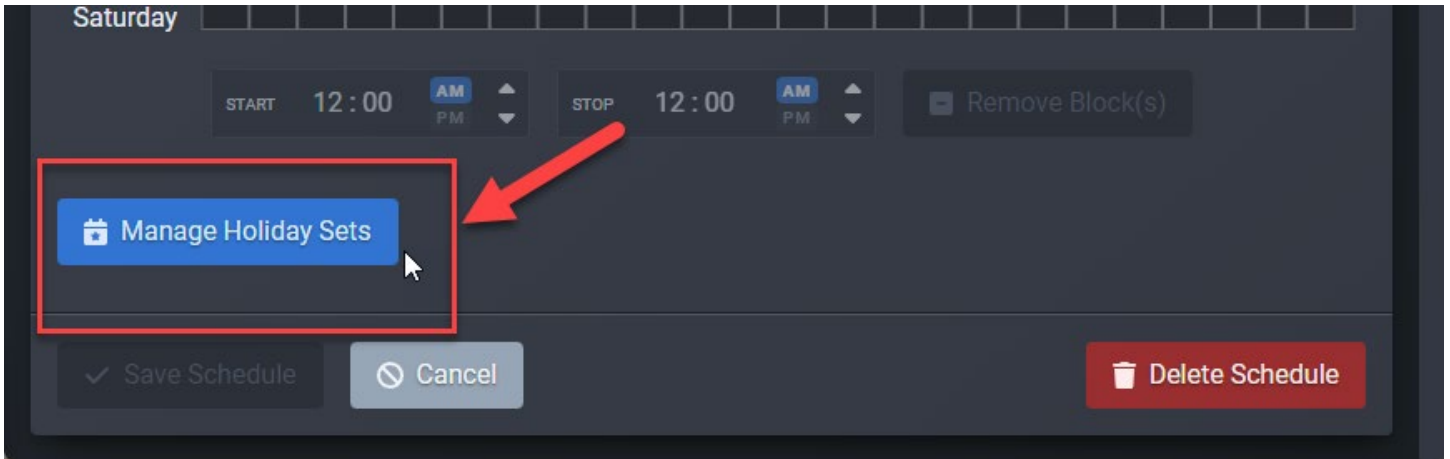


You will also scroll down and be able to see any resources that are using the schedule. The available resources are Cameras, Doors, Permissions and Rules. You can click on the resource to view it.

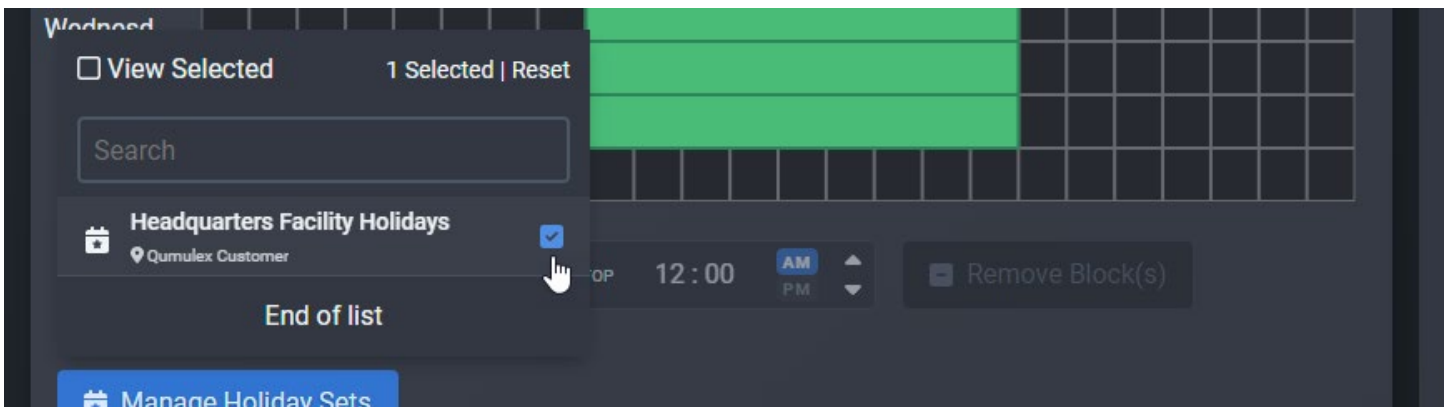


The last component to a Schedule is to apply and manage a Holiday Set, if desired. Holiday Sets are exceptions to a schedule for Holidays or other scheduled occurrences. Use the Holiday Sets page to create your Holiday Sets, which is covered in the next chapter. In this chapter we will cover how to apply and manage a Holiday Set within a Schedule.

The first step is to click on “Manage Holiday Sets”.

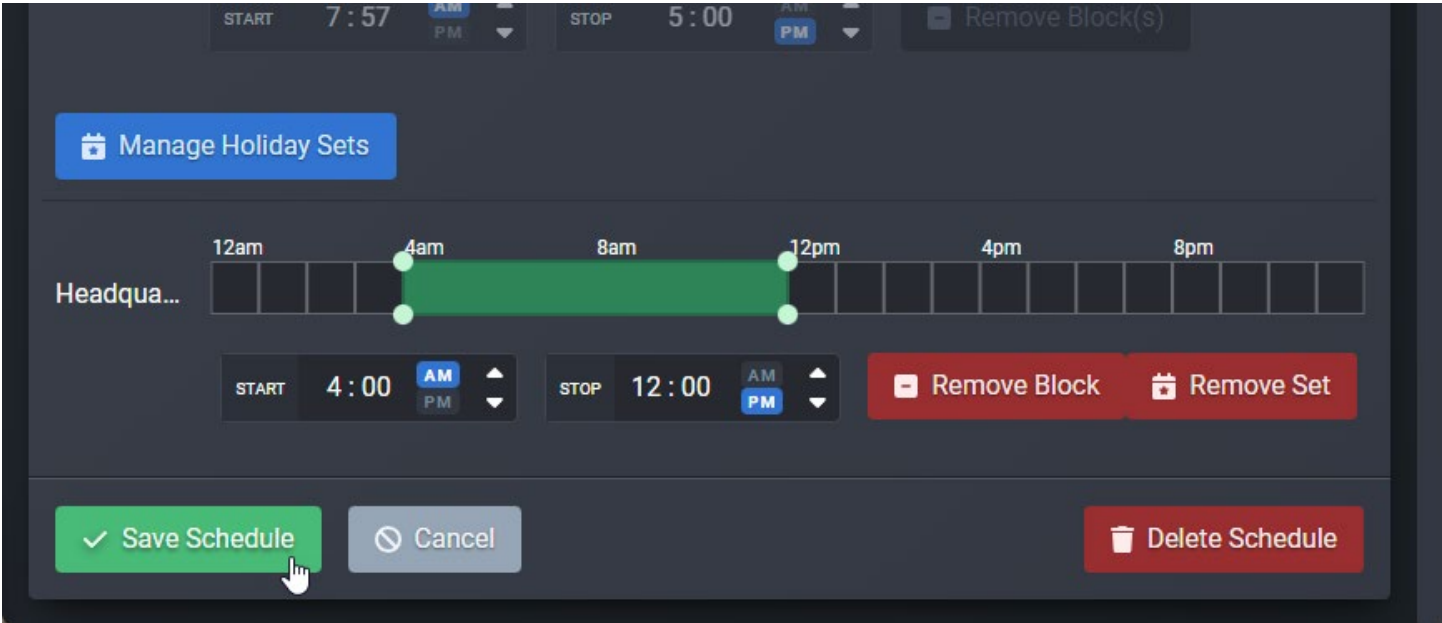


Then, choose from the available Holiday Sets

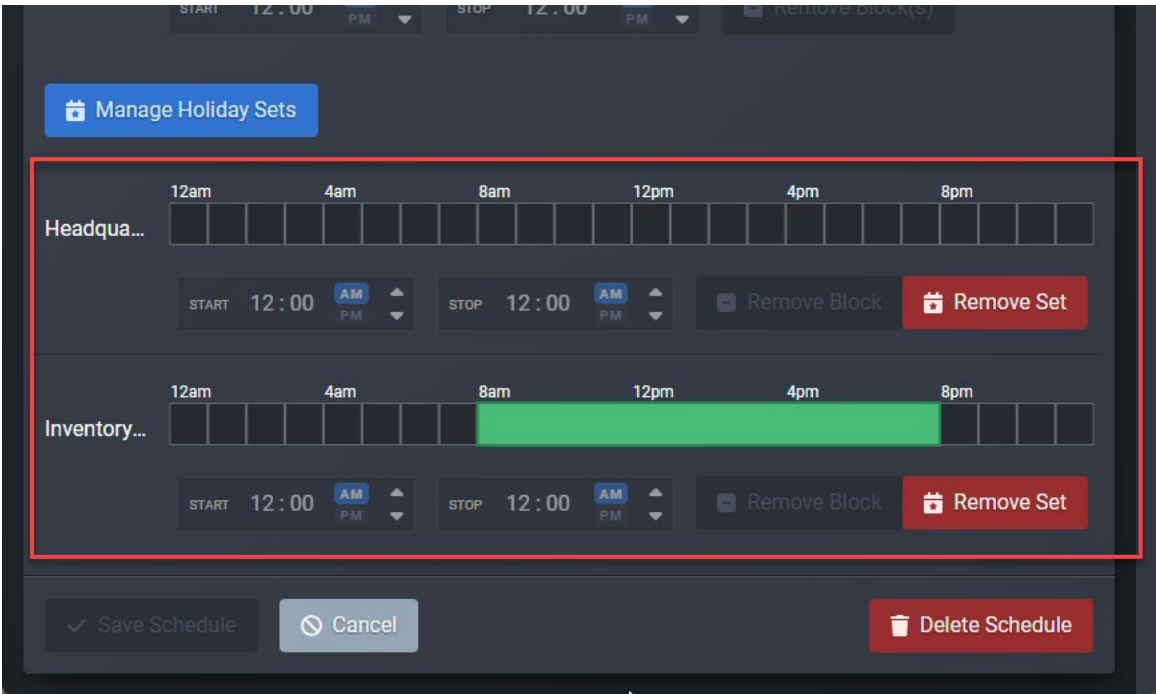


After selecting the Holiday Set, you will now see a new set of blocks to create a segment. This is used to determine the hours that apply to the Holiday Set.

Use the same procedure that was utilized to create the Schedule segments



You can add multiple Holiday Sets to a schedule, and this is very helpful to manage the schedule variations you may need for your operation. For example, here we have applied two schedules: Headquarters Facility Holidays and Inventory Count.



In this example, for any Holiday the facility is closed, and the doors are scheduled to be locked for the entire day.

For Inventory Count, the facility is open from 8:00AM to 8:00PM to facilitate the monthly inventory count.

You can see in the Holiday set itself, these counts are done on one Sunday per month:

The screenshot shows a software interface for managing holiday sets. At the top, there are tabs for 'Info' and 'Edit Holiday Set'. Below the tabs, the title 'Inventory Count' is displayed, along with a location pin icon and the text 'Qumulex Customer' and 'Holiday Set for Inventory Counting'. A calendar icon is also visible. The main area is divided into two sections: a calendar view and a list view. The calendar view shows four months: February 2023, March 2023, April 2023, and May 2023. The list view shows a vertical list of dates: February 12, March 12, April 16, May 21, June 18, July 16, and October 22. The dates in the list view are highlighted in blue circles, indicating they are the selected dates for the holiday set.

By creating multiple Holiday Sets, you can manage and prepare in advance for many variations to your everyday door schedule.

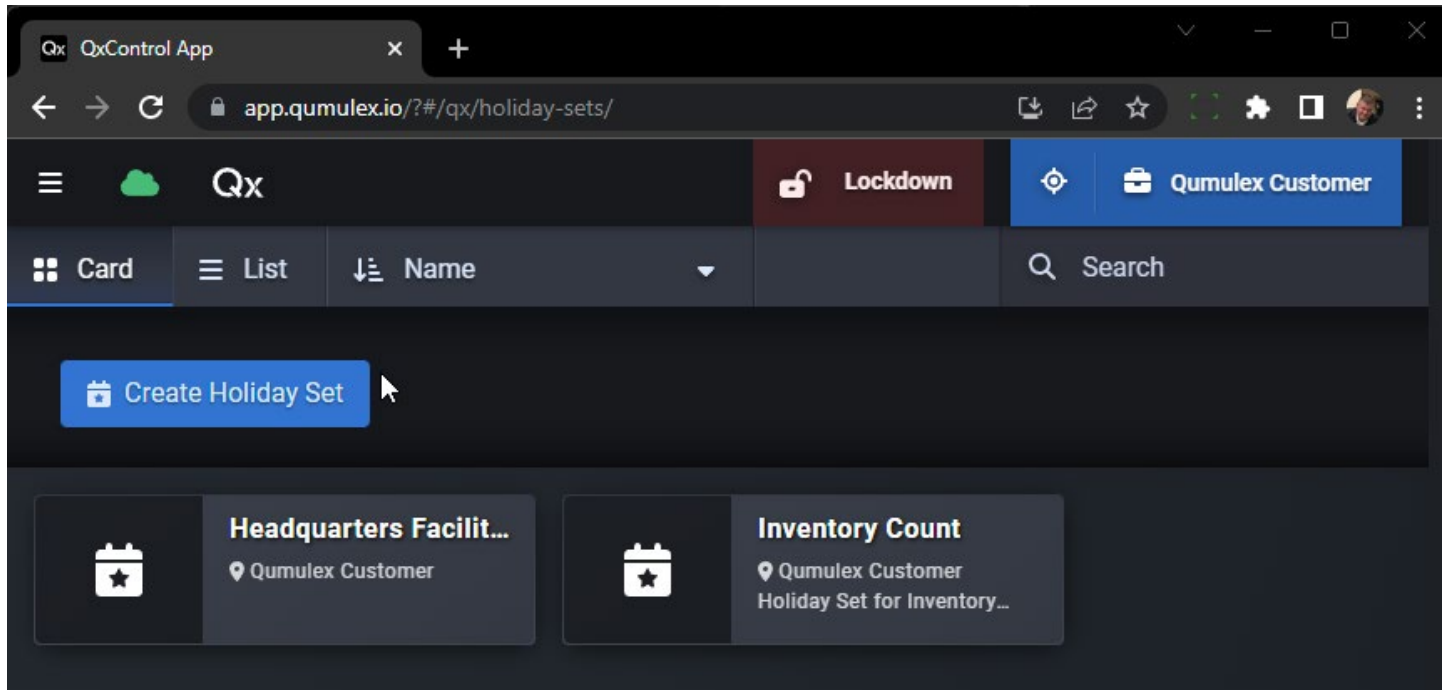
Lastly, you can view the Schedule's Info Page to see what Holiday Sets are applied to a Schedule

The screenshot displays the 'Info' page for a schedule in the Qumulex system. At the top, there are tabs for 'Info' and 'Edit Schedule'. The main content area is titled 'Qumulex Customer - User Manual Example' and features a grid showing the schedule for each day of the week. The grid columns represent time slots from 12am to 10pm in 2-hour increments. A green shaded area covers the time slots from 8am to 6pm on Monday through Friday. Below this grid is a section titled 'Holiday Sets', which is highlighted with a red border. This section contains another grid with columns for the same time slots. Two rows are visible: 'Headquar...' and 'Inventor...'. The 'Inventor...' row has a green bar from 8am to 8pm on Monday through Friday. At the bottom of the interface, there is a 'CAMERAS' section with a 'Search Cameras' button.

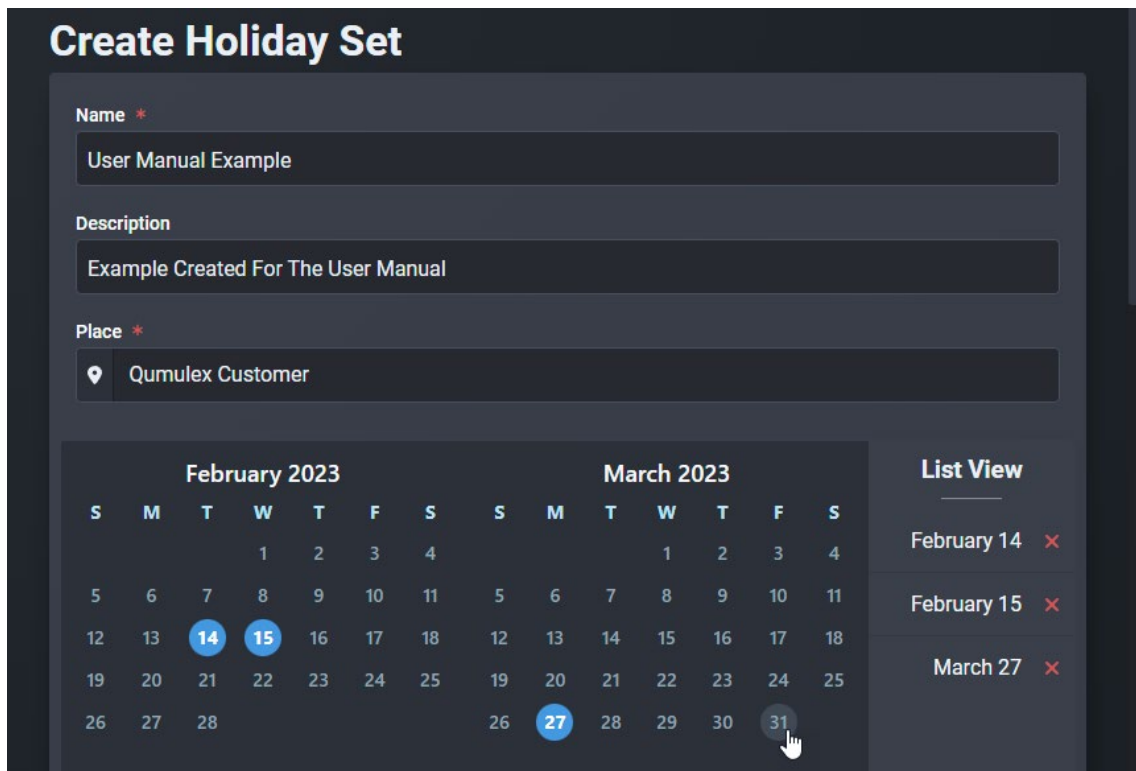
Just like all other resources, you can click on each Holiday Set displayed to view or edit.

Holiday Sets

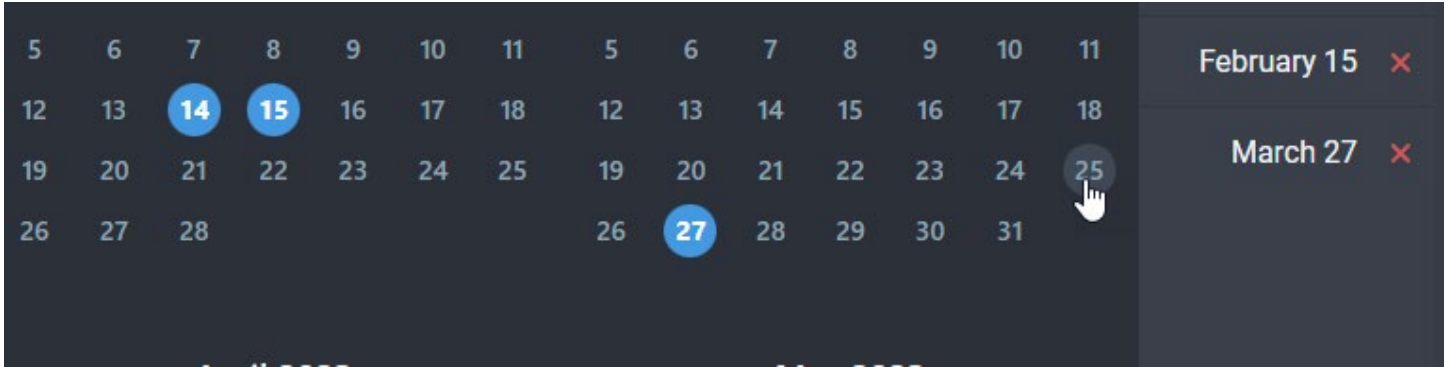
A holiday set is a collection of dates. Holiday sets are used to tell a Door Controller, rule or anything else that uses a schedule when to override the schedule, and what to do instead. When a holiday set is attached to a schedule, you can edit what hours to apply to the Holiday Set.



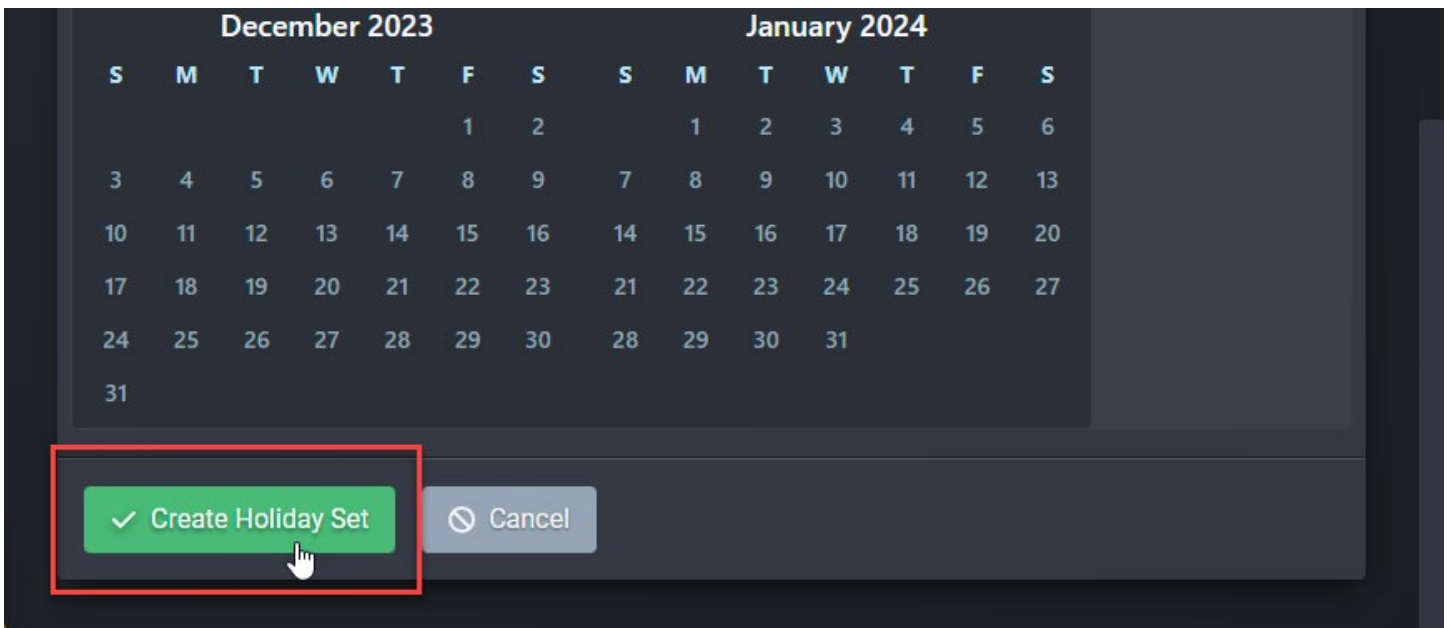
To create a holiday set, choose "Create Holiday Set".



You will then provide a Name, Description (Optional) and Place for the Holiday Set. Then click on each day you want to include in the Holiday Set. The selected dates will be displayed in the far right column.



Then choose "Create Holiday Set" once you are satisfied that all dates have been selected.



After your new Holiday Set has been created, it will be displayed on the Holiday Set's Info page and you can scroll up and down to view the selected dates using the scroll bar.

The screenshot displays the 'User Manual Example' holiday set information. At the top, there are navigation options: 'Info' (selected) and 'Edit Holiday Set'. The main header includes a calendar icon, the title 'User Manual Example', the customer name 'Qumulex Customer', and the subtitle 'Example Created For The User Manual'. Below this, two calendar views are shown: February 2023 and March 2023. In the February calendar, the 14th and 15th are highlighted with blue circles. In the March calendar, the 27th is highlighted with a blue circle. To the right, a 'List View' sidebar lists the selected dates: February 14, February 15, and March 27.

You can also scroll down and view what Schedules are using the Holiday Set. As always, you can click on the Schedule to view or edit it.

The screenshot shows a table titled 'SCHEDULES' with a search bar 'Search Schedules'. The table has three columns: 'Name', 'Place', and 'Description'. There is one row of data: 'User Manual Example', 'Qumulex Customer', and 'User Manual Instructions'. At the bottom left, it says '1 Results' and 'Page 1 of 1'. At the bottom right, there are 'Prev' and 'Next' navigation buttons.

| Name | Place | Description |
|---------------------|------------------|--------------------------|
| User Manual Example | Qumulex Customer | User Manual Instructions |

Appendix

Links to more information about the Axis Door Controllers

A1001

<https://www.axis.com/en-us/products/axis-a1001>

<https://www.youtube.com/watch?v=AlIB3lFdeLc>

A1601

<https://www.axis.com/en-us/products/axis-a1601>

Links to more information about Qumulex

<https://www.qumulex.com/>

<https://www.youtube.com/channel/UC0wnbvAnAJNRoySH15FnPpg>