

NUCLIAS CLOUD

DBS Series User Manual

V 1.00



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1. Introduction

The manual is organized according the menu layout of the Nuclias Portal interface.

1.1 Audience

This reference manual is intended for network administrators and other IT professionals responsible for managing network devices using the Nuclias Portal. This manual is written in a way that assumes that you already have a basic knowledge of modern networking principles.

1.2 Other Documentation

The documents below are a further source of information with regards to configuring and troubleshooting Nuclias Portal. All the documents are available on either the D-Link or Nuclias website. Other documents related to Nuclias Portal are:

- Nuclias Switch User Manual

1.3 Conventions

| Convention | Description |
|-----------------------------------|---|
| Boldface Font | Indicates a button, a toolbar icon, menu, or menu item. For example: Open the File menu and choose Cancel . Used for emphasis. May also indicate system messages or prompts appearing on screen. For example: You have mail . Bold font is also used to represent file names, program names, and commands. For example: Use the Copy command. |
| Initial capital letter | Indicates a window name. Names of keys on the keyboard have initial capitals. For example: Click Enter. |
| Menu Name > Menu Option | Indicates the menu structure. Device > Port > Port Properties means the Port Properties menu option under the Port menu option that is located under Device . |

Table 1-1

1.4 Notes, Notices, and Cautions

Below are examples of the three types of indicators used in this manual. When making changes to Nuclias Portal using the information in this document, you should pay special attention to these indicators. Each example below provides an explanatory remark regarding each type of indicator.



NOTE: A note indicates important information that helps you make better use of your device.



NOTICE: A notice indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.



CAUTION: A caution indicates a potential for property damage, personal injury, or death.

2 Product Introduction

D-Link Nuclias is a cloud-hosted platform that removes the cost and complexity involved with owning and maintaining your own wireless infrastructure.

D-Link Nuclias Portal platform is accessed via web browser, but can also be managed through the iPad app. The Nuclias Portal is divided into organizations, allowing devices to be grouped in Site Tags and Sites based on their physical location. Profiles are used to configure devices as a group. Users may also be given access to the Nuclias Portal based on their roles and privileges, allowing access only to parts of the platform that are required.

The Nuclias Portal simplifies the management of your wireless and wired network, reducing the need for dedicated support staff, and allowing large numbers of devices to be managed from a single interface. Devices can be pre-registered, allowing them to be installed on site without requiring dedicated IT personnel. This reduces installation costs and simplifies network management, making the Nuclias Cloud an ideal solution for both wired and wireless network.

2.1 Terms and Concepts

The following section provides a brief introduction and description of the terms and concepts used in this product.

Service Provider (SP): A Service Provider is an instance that sells the D-Link Nuclias service to customers and is responsible for providing user accounts (through invitation), and provision devices and licenses to subscribed organizations. A Service Provider can also assist in configuring an organization on request. Structurally, an SP operates at the highest level, one level higher than an MSP.

Managed Service Provider (MSP): A Managed Service Provider (MSP) or Systems Integrator (SI) is an instance that sells the Nuclias service to client organizations. A Managed Service Provider can provision multiple organizations and can manage all organizations under it. A MSP cannot manage another MSP or its affiliated organizations. Structurally, an MSP operates one level higher than an organization.

Organization (Org.): An organization is a business entity that subscribes to the D-Link Nuclias Cloud through a SP or MSP to provide wireless access to its branches. An organization may manage itself or can request the Service Provider or MSP to manage the organization. An organization cannot manage other organizations on the same level. Within the Nuclias structure,

organizations are considered clients. Examples of organizations include, branch offices, restaurants, medium-sized offices.

Site Tag: A Site Tag is a label for structurally organizing and visualizing an organization. Site Tags act as branches, with each Site Tag being able to carry one or more Sites. For example, an organization with activities in multiple geographical areas can use Site Tags to easily identify and manage regional branches.

Site: A Site is a label representing a physical location. Sites are used to group devices together for easier management. Sites can also be associated with a Site Tag, in which case the Site will branch of from the Site Tag. Examples of Sites include cities, branch offices, and work floors, depending on the size and scope of the organization.

Profile: Profiles are a set of general configuration settings that can be applied to all devices associated with the Profile so all devices are configured identically as a group. Profiles can be set up to cater to specific purposes and can be applied across different Sites and Site Tags. Examples of Profiles include customer Wi-Fi with limited access, a secure office network, and public Wi-Fi with captive portal login.

Privileges: Privileges determines to what extent the user can actively manage, ranging from full access to viewing only. Some elements of the Portal interface may be locked depending on the selected privilege. Refer to the overview below for a list of all available privileges.

| | |
|----------------|---|
| Admin | An administrator has full access to all elements of the Portal interface and has full management capabilities. |
| Editor | An editor shares similar rights as an administrator, but cannot add or delete devices, users, or organizations. |
| Monitor | A monitor is limited to read-only access to configurations and analysis, and cannot configure or edit devices, users, or organizations. |
| Viewer | A viewer is restricted to read-only access to analysis only and cannot configure or edit devices, users, or organizations. This is primarily for on-site managers who only require organization statistics. |

3 Getting Started with Nuclias

This section is designed to provide new users with instructions on how to get started with the D-Link Nuclias Cloud. This covers the basic requirements for using Nuclias, including how to create an account and adding a new device using the provided Default Profile template that sets up a Wi-Fi network with recommended settings.

3.1 Creating an Account

Access to the D-Link Nuclias Cloud can be obtained by signing up for a free Nuclias account.

1. Go to www.nuclias.com and click **Login**.



2. Click **Create Account**.



3. Select a server region and customer service country and click **Next**.

| | |
|----------------------|---|
| Server Region | Select which server region to store your data on. |
| Country | Select a country for local support. If your country is not listed, choose the country closest to your area. |

4. Fill out the required information:

| | |
|------------------|---|
| Email | Enter your email address. This is also your user name to log into the Nuclias Portal interface. |
| Full Name | Enter your full name |

| | |
|--------------------------|--|
| Password | Enter your account password. |
| Confirm Password | Confirm your password. |
| Organization Name | Enter your organization name. This will automatically create an organization with this name. |
| Region | Select a region. This will automatically create a Site using this region. |
| Timezone | Select a time zone. |
| Address | Enter your address. |

3. Click **Create Account**.
4. You will receive an email containing a verification link. Once verified, you can now log into the Nuclias Portal interface using your account email address and password.

3.2 Logging In To Nuclias

1. In a web browser, go to login.nuclias.com.
2. Enter your registration email address and password.
3. Click **Log In**.

3.3 Adding a Device

In order to be able to manage the network, devices need to be added to the organization and assigned to Sites. There are multiple ways of adding devices to an organization.

3.3.1 Adding a Single Device

With all the configuration settings done, devices can be added to the organization. Devices are linked to a Site and a Profile to automatically retrieve their configuration settings.

1. Navigate to the **Configure > Access Point > Profiles** page.
2. Click **Add device**.



3. Fill out the required information.

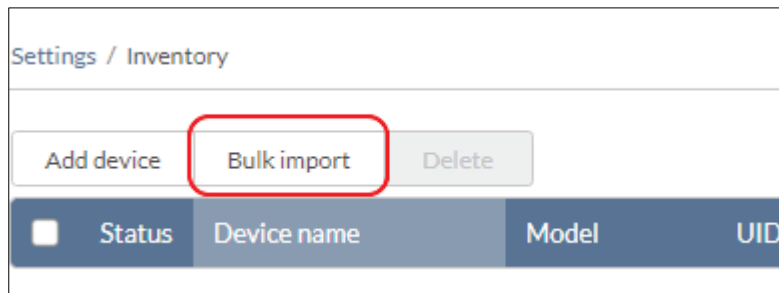
| | |
|--------------------|--|
| Device UID | Enter the device's Unique Identifier (UID) found on the label printed on the device. The UID may be listed in the format XXXX-XXXX-XXXX or XXXXXXXXXXXX . When entering the UID, do not include dashes. |
| Device name | Enter a name for the device. |
| Site | Select a Site to link this device to. |
| Profile | Select a Profile for this device. The device will use the settings configured in that profile. |
| License Key | [Optional] Enter the device license key. Note: Every new device will be issued a one year free license key. Once expired, an additional license must be purchased to continue using the device. |

3. Click **Save** when you are done.

3.3.2 Bulk Adding Devices to Inventory

Devices can be bulk imported and added to Inventory to be assigned to a Site later.

1. Navigate to the **Configure > Switch > Profiles** page.
2. Click **Bulk import**.



3. [Optional] Download the reference sample template.

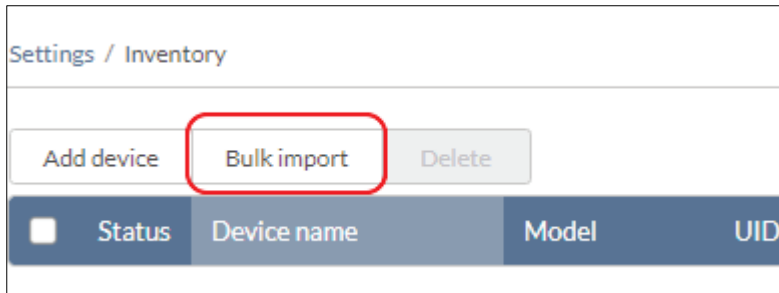


4. Click **Browse**.
5. Locate the CSV-formatted file containing the UIDs of the devices.
Note: To add devices to the inventory, use the following format:
[UID]
6. Click **Upload**.

3.3.3 Bulk Assigning Devices to Sites

Devices can be bulk imported and immediately registered to a Site.

1. Navigate to the **Configure > Switch > Profiles** page.
2. Click **Bulk import**.



3. [Optional] Download the reference sample template.



4. Click **Browse**.
5. Locate the CSV-formatted file containing the UIDs of the devices.
Note: To directly register devices to a Site, use the following format:
[UID][Device Name][Profile Name][Site][License Key]
6. Click **Upload**.

3.3.4 Adding a Device from QR Code

Devices can be imported and immediately registered to a Site by scanning the QR code on the back or bottom of the device.

3.4 Managing With Nuclias

With the everything now set up, you can now start expanding and managing your network using Nuclias. There are several ways you can manage your network, refer to the following overview for more information.

- To view the real-time status of the network and at-a-glance information, refer to the **Dashboard** section.
- To monitor the organization and device activity, refer to the **Monitor** section.
- To visually structure organizations and manage devices using maps and floor plans, refer to the **Map** and **Floor Plans** sections.
- To create, edit, and manage Profiles for device group configuration, refer to the **Profiles** section.
- To manage devices and perform device-specific configurations, refer to the **Devices** section.
- To create, edit, and manage organizations, Site Tags, and Sites, refer to the **Organization Management** section.
- To create, edit, and manage user accounts, refer to the **Account Management** section.

4 Accessing the Nuclias Portal

4.1 Logging in to Nuclias

1. In a web browser, go to login.nuclias.com.
2. Enter your registration email address and password.
3. Click **Log In**.

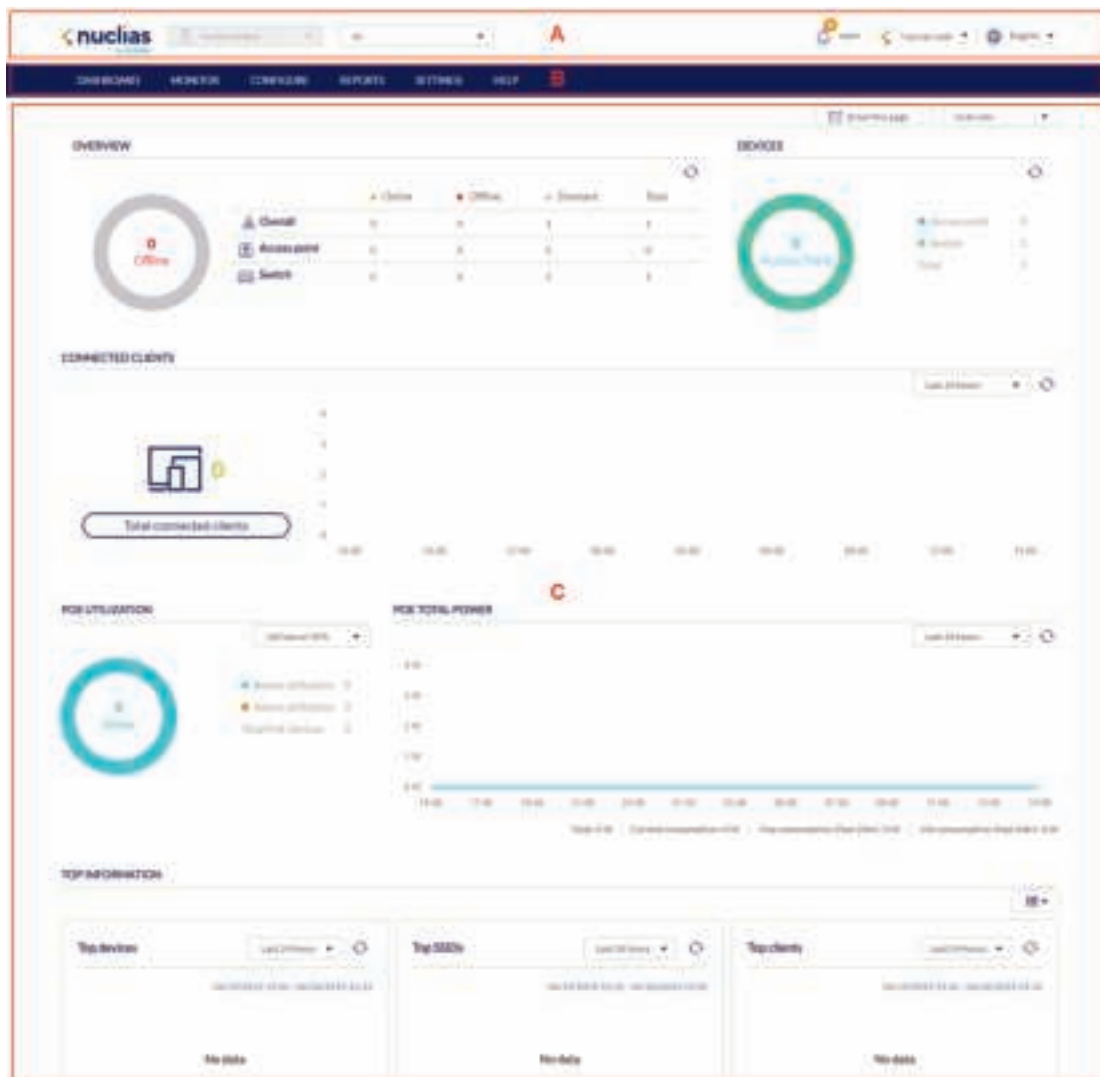
4.2 Logging Out of Nuclias

1. Click the user name in the top-right corner.
2. Click **Logout**.

Note: Clicking **Logout** will immediately send the user back to the login page and will not prompt for confirmation.



5 Interface Overview



| Section | Item | Description |
|----------|---------------------------|---|
| A | Global Toolbar | Provides access to the organization and site selection menu as well as alerts, user account, and language menu. |
| B | Management Toolbar | Provides access to the various device management, report, and inventory sections. |
| C | Workspace | The interactive workspace to manage and configure through the Nuclias Portal. Information and options displayed in the workspace depend on the currently active management section. |

5.1 Global Toolbar

5.1.1 Site Menu

The Site menu is used to select a Site or Site Tag within the selected organization, and may only contain selected sites, depending on the privilege of the account that you have logged in with. Site Tags and Sites are an easy way of grouping devices within an organization and allow for multiple devices to be configured more easily. For most configuration options, it is necessary to select a Site to manage. Site Tags are marked by a tag icon, while Sites are marked by a single pin icon.



5.1.1.1 Selecting a Site

By selecting a specific Site, users can view network activity, client information, and at-a-glances for the selected Site. Certain management features are also handled on the Site-level.

1. From the Global Toolbar, click the Site menu.



2. **[Optional]** Click a Site Tag to only show Sites associated with that Site Tag or click **All** to show all Sites.
3. Click the Site name.

Note: Only information for that Site will be shown in the dashboard and management sections.

5.1.2 Account Menu

The account menu contains the User Profile and Logout options and can be reached by clicking the user name you have logged in with.



Figure 5-1

5.1.2.1 Editing a User Profile

The User Profile page is used to view the current user's profile and access privilege information. It can also be used to change the user's password and profile image.



1. From the Global Toolbar, click the Account menu.



2. Select **User Profile**.
3. Edit the user profile using one of the following actions:
 - a. **Change user name**
 - i. Click the user name in the **Name** field.
 - ii. Enter a new name and press **Enter** or click outside of the field.
 - b. **Change password**
 - i. Enter your current password in the **Current Password** field.
 - ii. Enter a new password in the **New Password** field.
 - iii. Enter the new password again in the **Confirm Password** field.

c. Edit profile image

- i. Click on the green **pencil icon** in the bottom-right corner of the profile image.
- ii. In the Upload Image window click **Browse** and navigate to the image you want to use.
- iii. Click **Save**.

d. Email user information

- i. Click the **Email this page** button to send your user information to your registered email address.

4. Click **Save**.

5.1.2.2 Sending A User Profile Snapshot by Email

1. From the Global Toolbar, click the Account menu.



2. Select **User Profile**.
3. Click **Email this page**.

Note: This will immediately send a snapshot of the user profile page to the email address registered to this user account.



5.1.2.3 Deleting a User Account

1. From the Global Toolbar, click the Account menu.



2. Select **User Profile**.
3. Click **Delete Account**.



4. Enter your account password and click **Save**.

Note: Deleting an account will remove all data associated with this user. This is permanent and cannot be undone.

5.1.3 Language Menu

5.1.3.1 Changing the Portal Language

The language menu allows users to change the display language of the Portal interface.



1. From the dashboard, click the **display language** in the top-right.
2. Select a language from the drop-down menu.

Note: Selecting another language will immediately change the portal display language into the selected language. Currently only English is supported.

5.2 Management Toolbar

From the Management toolbar, users can access the various management features of the Nuclias Cloud platform, including Profiles and device management, device and network reports, account management, and the device and license inventory.

| | |
|------------------|--|
| Dashboard | The Dashboard offers users a real time overview of the status of the network including device and user activity and performance. Refer to the Dashboard section on page 17 for more information. |
| Monitor | The Monitor section grants access to detailed device, client, and event logs as well as the interactive map and floor plan tools. Refer to the Monitor section on page 21 for more information. |
| Configure | The Configure section grants access to the main configuration section including Profiles and individual device settings. Refer to the Configure section on page 39 for more information. |
| Reports | The Reports section grants access to detailed reports for changes on the platform, device activity, |

| | |
|-----------------|---|
| | Refer to the Reports section on page 74 for more information. |
| Settings | The Settings section grants access to organization and user management, the device and license inventory, and firmware management. Refer to the Settings section on page 79 for more information. |
| Help | The Help section offers users a platform to submit support tickets and provide feedback. Refer to the Help section on page 98 for more information. |

6 Dashboard

The Dashboard page is the default window that is displayed after logging into the Nuclias Portal interface. It can also be reached by clicking the **Dashboard** tab in the tool bar, and. It provides an overview of the devices, connected clients, and device activity for the selected organization. It is also possible to email a dashboard report, access the map and organization view from this window by clicking the corresponding icons in the top right of the page.

6.1 Customizing the Overview

1. Navigate to the **Dashboard** page
2. Select a Site from the Site menu.

Note: Selecting a Site will only show network and device information for the selected Site. Select **All** to show network, client, and device information for all Sites.



3. In the **Usage Overview** section, select Switch or SSID, the Switch(s) and SSID(s), and the time frame from the drop-down menus.



4. In the **Connected Clients** section, select a time frame from the drop-down menu.



5. In the **Top Information** section, click the filter selection in the top-right.



6. Check the information parameters to display the corresponding top information in the overview window.
7. In the **Top Information** section, select a time frame from the drop-down menu for each enabled section.



6.2 Sending A Dashboard Snapshot by Email

Users can create and send a snapshot of the dashboard window by email.

1. Navigate to the **Dashboard** page.
2. Select a dashboard viewing mode from the drop-down menu in the top-right of the screen.

Note: The information and subsequent sections on the dashboard vary depending on the currently selected viewing mode.



3. In the **Usage Overview** section, select **Switch or SSID**, the **Switch(s)** and SSID(s), and the time frame from the drop-down menus.



4. In the **Connected Clients** section, select a time frame from the drop-down menu.



5. In the **Top Information** section, click the filter selection in the top-right.



6. Check the information parameters to display the corresponding top information in the overview window.
7. In the **Top Information** section, select a time frame from the drop-down menu for each enabled section.



8. Click **Email this page** in the top-right.
9. In the Email report window, enter the email address of the recipient(s).
Note: Up to 10 recipients can be added, separated by “,”.
10. Click **Send email**.

7 Monitor

From the Monitor tab, users can view detailed device monitoring reports and access the map and floor plan windows.

| | |
|--------------------|---|
| Switch | The Switch section provides detailed logs for switch devices, connected clients, and events. Refer to the Switch section for more information. |
| Map | The Map section provides users with an interactive map that offers a geographical overview of the organization's Sites. Refer to the Map section on page 31 for more information. |
| Floor Plans | The Floor Plans section allows users to create, edit, manage, and delete floor plans. Refer to the Floor Plans section on page 34 for more information. |

7.1 Switch

7.1.1 Devices

From the Devices window, users can consult a detailed log of events occurring on the network. Users can also filter events using specific event filter parameters, including event type and time period.

7.1.1.1 Customizing the Device Monitor

Overview

1. Navigate to the **Monitor > Switch > Device** page.
2. Select a time frame from the drop-down menu.



3. Click the filter parameter icon.



4. Click the checkbox next to the parameters to display them in the overview.
Note: All checked parameters will automatically appear.

7.1.1.2 Downloading Device Monitoring

Logs

1. Navigate to the **Monitor > Switch > Device** page.
2. From the device list, click the **Download** icon in the top-right.



7.1.1.3 Changing the Device Site and

Profile

1. Navigate to the **Monitor > Switch > Device** page and select a device from the list.
2. Select the **Basic** tab in the top-right of the screen.
3. In the Site and Profile section, select a Site from the drop-down menu.
4. In the Site and Profile section, select a Profile from the drop-down menu.
5. Click **Apply**.

7.1.1.4 Changing the Device Connection

Type to DHCP

1. Navigate to the **Monitor > Switch > Device** page and select a device from the list.
2. Select the **Basic** tab in the top-right of the screen.
3. In the IP Connection section, select a **DHCP** as the Type.
Note: Changing the connection type may disrupt the connection to the Nuclias Cloud.

4. When prompted to confirm, click **Yes**.
5. Select a VLAN ID from the drop-down menu to assign the switch to a VLAN.
Note: VLAN and Voice VLAN settings can be configured on the Profile Basic Settings page. Refer to the **Configuring Basic Switch Profile Settings** section on page 50 for more information.
6. Click **Apply**.

7.1.1.5 Changing the Device Connection to Static IP

1. Navigate to the **Monitor > Switch > Device** page and select a device from the list.
2. Select the **Basic** tab in the top-right of the screen.
3. In the IP Connection section, select a **Static IP** as the Type.
Note: Changing the connection type may disrupt the connection to the Nuclias Cloud.
4. When prompted to confirm, click **Yes**.
5. Specify the following information:

| | |
|---------------------|---|
| Local IP | Enter a valid IP address. |
| VLAN | [Optional] Check to enable VLAN functionality. This segments traffic on the SSID. |
| Subnet Mask | Enter a subnet mask. |
| Gateway | Enter a default gateway address. |
| DNS server#1 | Enter a primary Domain Name System (DNS) server address. |
| DNS server#2 | [Optional] Enter a secondary Domain Name System (DNS) server address. |
| DNS server#3 | [Optional] Enter a tertiary Domain Name System (DNS) server address. |

6. Click **Apply**.

7.1.1.6 Viewing and Customizing the Switch Performance Summary

1. Navigate to the **Monitor > Switch > Device** page and select a device from the list.
2. Select the **Summary** tab in the top-right of the screen.

3. In the Connectivity and CPU Utilization sections, select a time frame from the drop-down menu to show data for the specified time frame. Click the refresh icon to renew the data.
4. **[Optional]** Click on a port on the interactive switch diagram to view port-specific information.



5. **[Optional]** Click **Configure ports on the switch** to go to the switch port configuration window. Refer to the **Switch Ports** section on page 67 for more information.



7.1.1.7 Viewing and Customizing the Switch Port Status Overview

1. Navigate to the **Monitor > Switch > Device** page and select a device from the list.
2. Select the **Ports** tab in the top-right of the screen.
3. Click on a port on the interactive switch diagram to view specific information for that port.
4. Select a time frame from the drop-down menu to show data for the specified time frame. Click the refresh icon to renew the data.
5. In the Current Configuration section, click **Edit** to configure the selected port's settings. Specify the following information:

| | |
|------------------|--|
| Port name | Enter a name for the port. If multiple ports are |
|------------------|--|

| | |
|----------------------|--|
| | selected, this name will be applied to all ports. |
| Port state | Choose to enable or disable the port. |
| RSTP | Choose to enable or disable Rapid Spanning Tree Protocol (RSTP). RSTP prevents data loops by issuing frequent BPDU packets to monitor link status. Note: RSTP cannot be used in conjunction with LBD. |
| STP guard | If RSTP is enabled, choose the guard type. Disabled: Do not use root guard enhancement. Root guard: Root guard enhancement allows administrators to define the position of the root bridge port in the network. |
| LBD | Choose to enable or disable Loopback Detection (LBD). The Loopback Detection function is used to detect the loop created by a specific port while Spanning Tree Protocol (STP) is not enabled in the network, especially when the down links are hubs or unmanaged switches. The Switch will automatically shut down the port and sends a log to the administrator. Note: LBD cannot be used in conjunction with RSTP. |
| Type | Choose the function type of the port. Trunk: Sends and receives tagged data from different VLANs. Access: Only sends and receives untagged data from the VLAN the port belongs to. |
| Native VLAN | Enter the ID of the native VLAN the port belongs to. |
| Allowed VLANs | Enter the IDs of the VLANs that can route traffic through this port. Enter All to allow all traffic from all VLANs to pass through this port. |
| Tags | Enter a descriptive tag for the port. Multiple tags can be entered. If multiple ports are selected, any tags will be applied to all ports. |
| Link (RJ45) | Choose the maximum link speed of the port. Select Auto to allow the port to auto-negotiate port speed with the partner port or device. |
| PoE | Choose to enable or disable Power over Ethernet |

| | |
|----------------------|---|
| | (PoE) functionality on this port. Note: The PoE setting will only apply to ports that support Power over Ethernet. |
| Port Schedule | Choose a port schedule. Port schedules are configured separately. Refer to the Creating a Switch Port Schedule section on page 47. |

6. Click **Apply**.
7. In the Cable Test window of the Troubleshooting section, click **Test** to perform a cable test on this port. This will scan the physical connection to the port for any problems.
8. In the Cycle Port window of the Troubleshooting section, click **Test** to perform a port cycle test on this port. This will disable and re-enable the port.
9. In the Overview Packets section, select a time frame from the drop-down menu to display data for the selected time period.

7.1.1.8 Viewing and Customizing The Switch Power Consumption Overview

1. Navigate to the **Monitor > Switch > Device** page and select a device from the list.
2. Select the **Power** tab in the top-right of the screen.
3. Select a time frame from the drop-down menu to show data for the specified time frame.
Click the refresh icon to renew the data.



7.1.1.9 Performing a Device Ping Test

1. Navigate to the **Monitor > Switch > Device** page and select a device from the list.
2. Select the **Tools** tab in the top-right of the screen.
3. In the IP address/FQDA field in the **Ping** section, enter a valid IP address or FQDA.
4. Click **Ping**.

7.1.1.10 Performing a MAC Forwarding Table Test

1. Navigate to the **Monitor > Switch > Device** page and select a device from the list.
2. Select the **Tools** tab in the top-right of the screen.
3. In the MAC Forwarding Table section, click **Run**.

7.1.1.11 Performing a Cable Test

1. Navigate to the **Monitor > Switch > Device** page and select a device from the list.
2. Select the **Tools** tab in the top-right of the screen.
3. In the Cable Test section, enter the port numbers to run the cable test on.
Note: The scan will only be performed on ports with a physical connection.
4. Click **Test**.

7.1.1.12 Performing a Port Cycle Test

1. Navigate to the **Monitor > Switch > Device** page and select a device from the list.
2. Select the **Tools** tab in the top-right of the screen.
3. In the Cycle Port section, enter the port numbers to run the cable test on.
4. Click **Test**.

7.1.1.13 Performing a Blink LED Test

1. Navigate to the **Monitor > Switch > Device** page and select a device from the list.
2. Select the **Tools** tab in the top-right of the screen.
3. In the **Others** section, click **Start**.
Note: The **Start** button will change to **Stop** once the test begins.
4. Click **Stop** to end the test.

7.1.1.14 Manually Rebooting a Device

1. Navigate to the **Monitor > Switch > Device** page and select a device from the list.
2. Select the **Tools** tab in the top-right of the screen.
3. In the **Others** section, click **Reboot**.

7.1.1.15 Adding a License Key to a Device

1. Navigate to the **Monitor > Switch > Device** page and select a device from the list.
2. Select the **License** tab in the top-right of the screen.
3. In the License Table section, click **Add License**.
4. Enter a valid license key.
5. Click **Save**.



7.1.1.16 Deleting a License Key From a Device

6. Navigate to the **Monitor > Switch > Device** page and select a device from the list.
7. Select the **License** tab in the top-right of the screen.
8. In the License Table section, from the license key list, click **Delete** under the Actions column of the license key you wish to delete.
9. When prompted to confirm, click **Yes**.

Note: Deleting a license key from a device will move it back to the license management inventory until it is reassigned to another device.



7.1.2 Clients

From the Clients window, users can consult a detailed overview of all currently registered devices with additional information including status, clients, and general settings.

7.1.2.1 Customizing the Client Monitor

Overview

1. Navigate to the **Monitor > Switch > Clients** page.
2. Select a time frame from the drop-down menu.



3. Click the parameter filter icon.



4. Click the checkbox next to the parameters to display them in the overview.
Note: All checked parameters will automatically appear.

7.1.2.2 Downloading Client Monitoring

Logs

1. Navigate to the **Monitor > Switch > Clients** page.
2. From the device list, click the **Download** icon in the top-right.



7.1.3 Event Logs

From the Events Logs window, users can consult a detailed log of events occurring on the network. Users can define event filter parameters, including event type and time period.

7.1.3.1 Filtering Event Log Parameters

1. Navigate to the **Monitor > Switch > Event Logs** page.
2. In the Start Date field, click the calendar icon to select a date and enter a time of day to define the event log starting time.
3. In the End date field, click the calendar icon to select a date and enter a time of day to define the event log ending time.
4. Click the Severity drop-down menu and select the severity levels to display.
5. Click the Event type drop-down menu and select the event types to display.
6. Click the Device drop-down menu and select a device whose events logs you wish to filter.
Note: Select **All** to show event logs for all devices.
7. Click **Filter** to display all events matching the defined parameters.
8. [Optional] Click **Reset filters** to reset all currently set parameters.

7.1.3.2 Downloading Event Logs

1. Navigate to the **Monitor > Switch > Event Logs** page.
2. From the event log list, click **Download** icon in the center.



7.2 Map

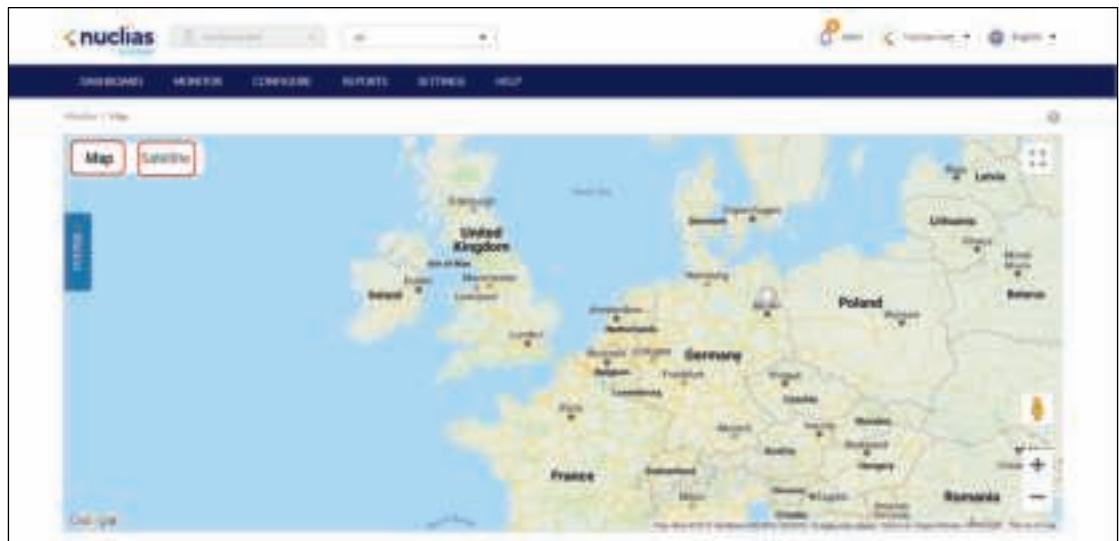
From the Map window, users can consult a geographical overview of the organization's Sites in the form of an interactive world map.

Note: Sites must be linked to a valid address in order to show up on the map.

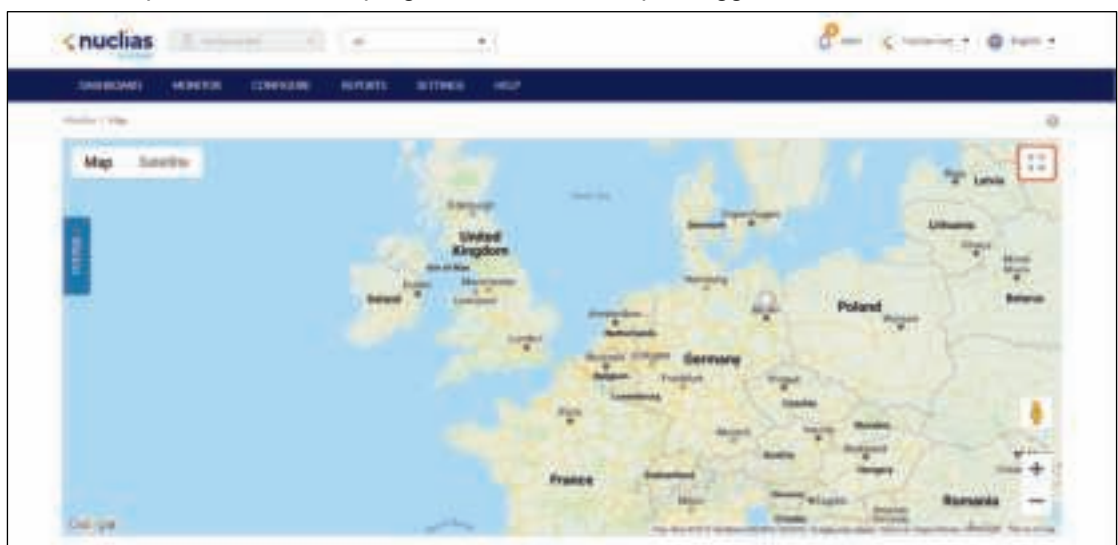
7.2.1 Navigating the Map

From the interactive map, users can view a geographical representation of the Site's physical location as well as view basic information and the current status of the Site.

1. Navigate to the **Monitor > Map** page.
2. Click **Map** or **Satellite** in the top-left corner of the map to switch between the street map and satellite image map.

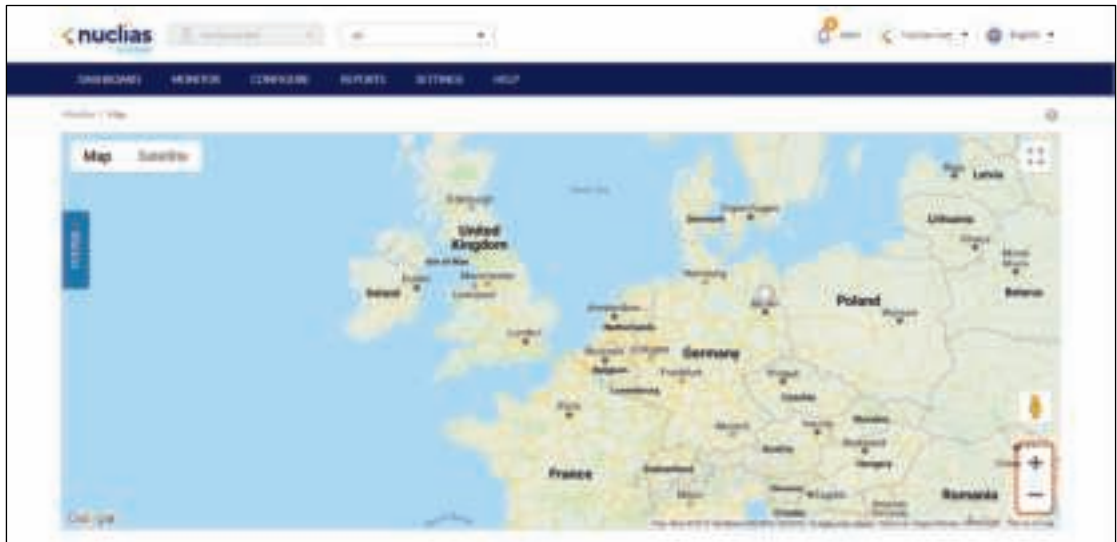


3. Click the expand icon in the top-right corner of the map to toggle full-screen mode.



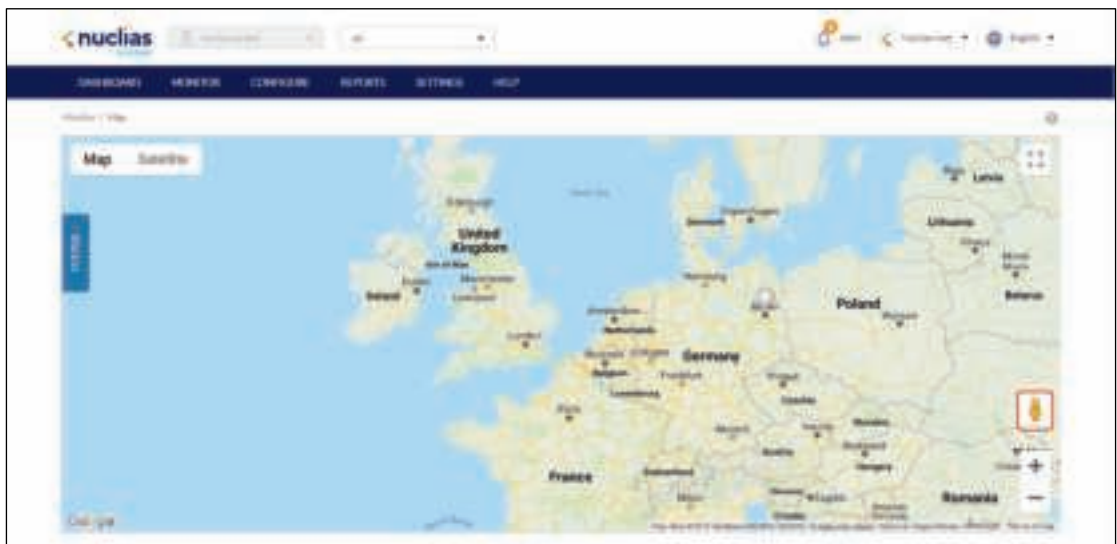
Note: Click the expand icon again to return to windowed mode.

4. Click and drag the left-mouse button to move around on the map.
5. Click the + and – buttons in the bottom-right corner of the map to zoom in and out on the map. Alternatively, hold **Ctrl** and scroll the mouse wheel up and down to zoom in and out.



6. Drag and drop the Pegman icon anywhere on the map to open the street view of that location.

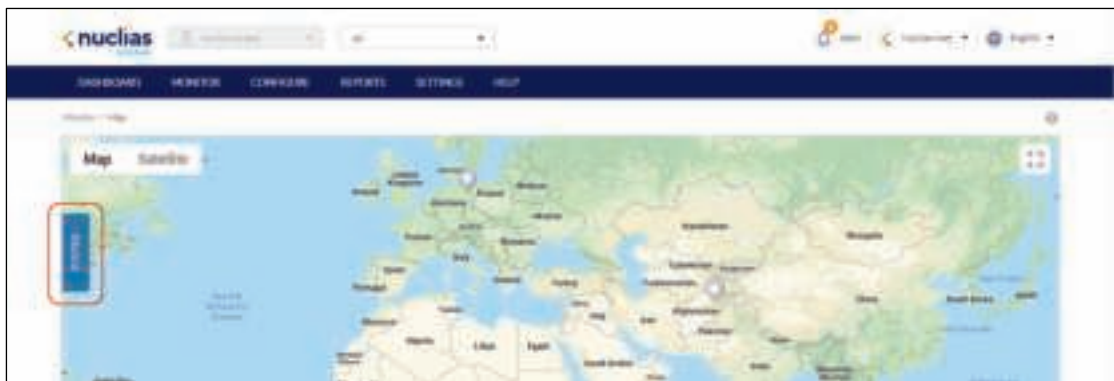
Note: When in street view, click the return arrow to return to the map view.



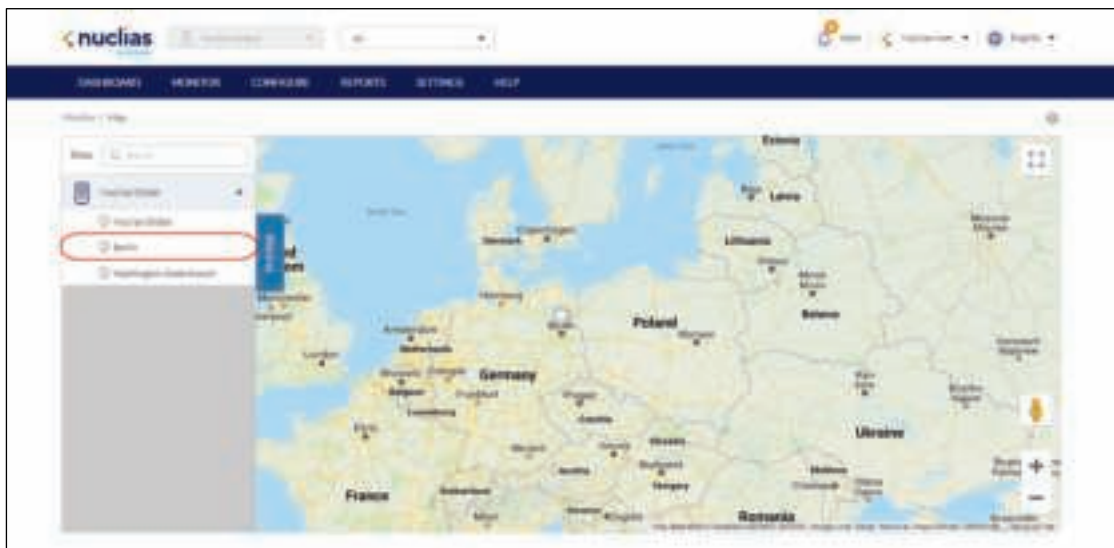
7.2.2 Navigating Sites on the Map Using the Site List

From the interactive map, users can view a geographical representation of the Site's physical location as well as view basic information and the current status of the Site.

1. Navigate to the **Monitor > Map** page.
2. Click **Site List** on the left-hand side of the map.



3. In the Site List, click the organization name to expand the list of Sites under the organization.
4. **[Optional]** Click the search field and enter the Site name.
5. From the expanded Site list, click the Site name. The map will automatically navigate to the Site's location on the map.



6. Hover the cursor over the Site icon to view basic information.
7. **[Optional]** Click the Site name in the Site window to open the Dashboard view for that Site.

7.3 Floor Plans

Floor plans offer an easy way to visually represent the location of each device within the organization. Floor plans are managed per Site, and each Site can have multiple floor plans.

7.3.1 Adding a Floor Plan

Users can create floor plans to have a visual overview of device placement.

Note: Floor plans are created for individual Sites within the organization.

1. Navigate to the **Monitor > Floor plans** page.
2. Select a Site from the Site menu.

Note: Selecting a Site will only show floor plans created for the selected Site. Select **All** to show all floor plans for all Sites.



3. From the floor plan list, click **Add Floor Plan**.



4. Select the Site to associate this floor plan with.
5. Click **OK**.

7.3.1 Editing Floor Plan

Users can add and remove device icons to floor plans for a visual overview of the device placement, edit the floor plan name, and upload a custom floor plan image.

7.3.1.1 Adding Devices to a Floor Plan

Devices can be dragged onto the floor plan to create a visual representation of the placement of the devices within the organization.

1. Navigate to the **Monitor > Floor Plan** page.

2. Select a Site from the Site menu.

Note: Selecting a Site will only show floor plans created for the selected Site. Select **All** to show all floor plans for all Sites.



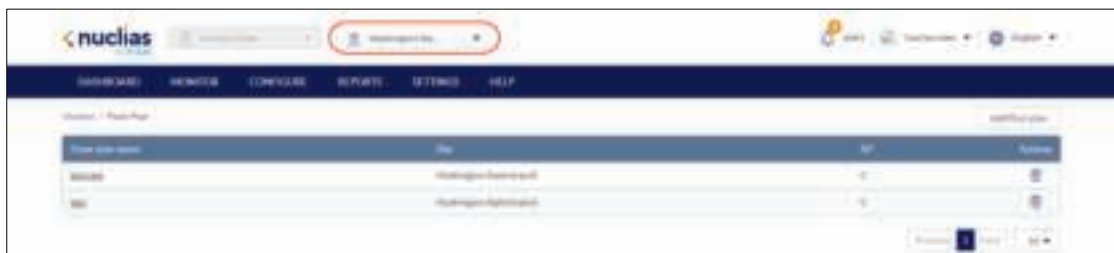
3. From the floor plan list click on the floor plan name.
4. Click and drag a device from the **Unplaced Devices** list onto the floor plan to place it on the floor plan.
5. Click **Save**.

7.3.1.2 Removing Devices from a Floor Plan

Plan

1. Navigate to the **Monitor > Floor Plan** page.
2. Select a Site from the Site menu.

Note: Selecting a Site will only show floor plans created for the selected Site. Select **All** to show all floor plans for all Sites.



3. From the floor plan list, click on the floor plan name.
4. Click the **X** icon next to the device in the **AP** list that you wish to remove.

Note: Devices removed from the floor plan will automatically be moved to the **Unplaced Devices** list.



5. Click **Save**.

7.3.1.3 Editing a Floor Plan Name

1. Navigate to the **Monitor > Floor Plan** page.
2. Select a Site from the Site menu.

Note: Selecting a Site will only show floor plans created for the selected Site. Select **All** to show all floor plans for all Sites.



3. From the floor plan list, click on the floor plan name.
4. Click the floor plan name in the Floor Plan Name field.

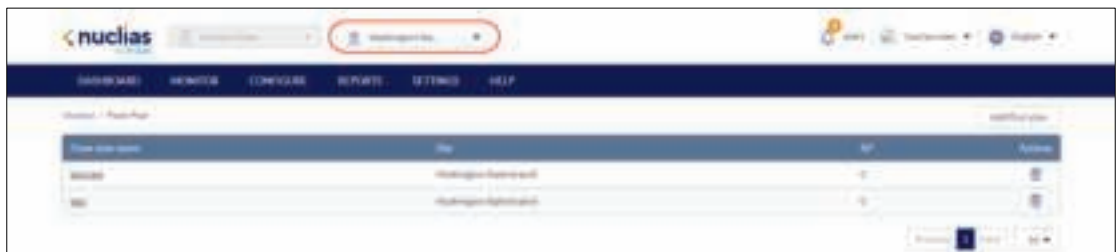


5. Enter a new name and press Enter or click outside of the field
6. Click **Save**.

7.3.1.4 Adding a Custom Floor Plan Image

1. Navigate to the **Monitor > Floor Plan** page.
2. Select a Site from the Site menu.

Note: Selecting a Site will only show floor plans created for the selected Site. Select **All** to show all floor plans for all Sites.



3. From the floor plan list, click on the floor plan name.
4. On the floor plan page, click **Upload image**.
5. In the Upload Image window click **Browse** and navigate to the floor plan image you want to use.
6. Click **Upload**.
7. Click **Save**.

7.3.1.5 Removing a Custom Floor Plan Image

1. Navigate to the **Monitor > Floor plans** page.

2. Select a Site from the Site menu.

Note: Selecting a Site will only show floor plans created for the selected Site. Select **All** to show all floor plans for all Sites.



3. From the floor plan list, click on the floor plan name.
4. On the floor plan page, click **Remove image**.
5. When prompted to confirm, click **Delete**.

Note: Deleting a custom image will restore the default floor plan image.

6. Click **Save**.

7.3.2 Deleting a Floor Plan

1. Navigate to the **Monitor > Floor plans** page.
2. Select a Site from the Site menu.

Note: Selecting a Site will only show floor plans created for the selected Site. Select **All** to show all floor plans for all Sites.



3. From the floor plan list, click the trash can icon under the Actions column of the floor plan you wish to delete.



4. When prompted to confirm, click **Yes**.

8 Configure – Switch

From the Configure section, users can manage Profiles and devices for organizations. Because Profiles and Devices are managed on the organization level and are not shared between organizations, users must select a specific organization from the organization drop-down menu. The following sections provides more detailed information about Profile and Device management respectively.

| | |
|---------------------|--|
| Profiles | From the Profiles section, users can create new and edit existing profiles, add a single device or bulk import a group of devices, and apply profile configuration settings to device groups. Refer to the Profiles section on page 39 for more information. |
| Devices | From the Devices section, users can add a single device, or bulk import a group of devices, and configure individual devices. Refer to the Devices section on page 61 for more information. |
| Switch Ports | From the Switch Ports section, users can configure features on a single port or a group of selected ports. Refer to the Switch Ports section on page 67 for more information. |

8.1 Profiles

8.1.1 Creating a Profile

Profiles are a set of general configuration settings that can be swiftly and easily applied to all devices associated with the Profile so all devices are configured identically as a group. Within each profile, users can configure switch port functionality, port activity schedules, and advanced features including VLAN, Quality of Service, and access control functions.

Note: Profiles are created for individual organizations. In order to configure Profiles, select the organization from the drop-down menu at the top of the page.

1. Navigate to the **Configure > Switch > Profiles** page.

2. Click **Create Profile**.
3. Enter a name for the Profile and choose the device model.
Note: The Profile can only be used for the selected device model type.
4. **[Optional]** Select **Clone from exist profile** and choose a Profile from the drop-down menu to clone an existing Profile.
5. Click **Create Profile**.

8.1.2 Deleting a Profile

1. Navigate to the **Configure > Switch > Profiles** page.
2. From the Profile list, click **Delete** under the Actions column of the Profile you wish to delete.
3. When prompted to confirm, click **Yes**.

8.1.3 Deleting Multiple Profiles

1. Navigate to the **Configure > Switch > Profiles** page.
2. Click the checkbox next to the Profiles you wish to delete.
3. Click **Delete profile**.



4. When prompted to confirm, click **Yes**.

8.1.4 Configuring Switch Port Settings

From the Ports window, users can configure basic and advanced settings for individual ports or groups of ports. Switch ports are categorized into group ports, with each group referring to the number of ports on the physical switch model. For example, port group 10 configures port settings for 10-port switches. The port settings configured in the profile will only apply to the ports of the corresponding switch type. For example, any port configurations for port group 10 will only apply to corresponding ports on 10-port switch using this profile.

8.1.4.1 Customizing the Profile Port Configuration Overview

1. Navigate to the **Configure > Switch > Profiles** page.
2. From the Profile list, click **Ports** under the Actions column of the Profile you wish to edit.
3. Select a port group from the drop-down menu. This will only display ports for the selected port group profile. For example, selecting port group 28 will only show ports 1 to 28 of the profile used for 28-port switches. Select **All** to show all port groups.



4. Click the filter parameter icon.



5. Click the checkbox next to the parameters to display them in the overview.

Note: All checked parameters will automatically appear.

8.1.4.2 Configuring Profile Port Settings For One or More Switch Ports

Switch port configuration allows administrators to configure extensive port functionality including port availability, port speed, redundancy, VLAN, PoE, and port activity schedules for an individual port or for a group of ports.

1. Navigate to the **Configure > Switch > Profiles** page.

2. From the Profile list, click **Ports** under the Actions column of the Profile you wish to edit.
3. From the port list, check the box next to the ports you wish to edit.
4. Click **Edit**.
5. Specify the following information:
Note: At the top of the edit port window is a list of all selected ports. The changes made will apply to all selected ports.

| | |
|----------------------|--|
| Port name | Enter a name for the port. If multiple ports are selected, this name will be applied to all ports. |
| Port state | Choose to enable or disable the port. |
| RSTP | Choose to enable or disable Rapid Spanning Tree Protocol (RSTP). RSTP prevents data loops by issuing frequent BPDU packets to monitor link status. Note: RSTP cannot be used in conjunction with LBD. |
| STP guard | If RSTP is enabled, choose the guard type. Disabled: Do not use root guard enhancement. Root guard: Root guard enhancement allows administrators to define the position of the root bridge port in the network. |
| LBD | Choose to enable or disable Loopback Detection (LBD). The Loopback Detection function is used to detect the loop created by a specific port while Spanning Tree Protocol (STP) is not enabled in the network, especially when the down links are hubs or unmanaged switches. The Switch will automatically shut down the port and sends a log to the administrator. Note: LBD cannot be used in conjunction with RSTP. |
| Type | Choose the function type of the port. Trunk: Sends and receives tagged data from different VLANs. Access: Only sends and receives untagged data from the VLAN the port belongs to. |
| Native VLAN | Enter the ID of the native VLAN the port belongs to. |
| Allowed VLANs | Enter the IDs of the VLANs that can route traffic |

| | |
|----------------------|--|
| | through this port. Enter All to allow all traffic from all VLANs to pass through this port. |
| Tags | Enter a descriptive tag for the port. Multiple tags can be entered. If multiple ports are selected, any tags will be applied to all ports. |
| Link (RJ45) | Choose the maximum link speed of the port. Select Auto to allow the port to auto-negotiate port speed with the partner port or device. |
| PoE | Choose to enable or disable Power over Ethernet (PoE) functionality on this port. Note: The PoE setting will only apply to ports that support Power over Ethernet. |
| Port Schedule | Choose a port schedule. Port schedules are separately configured. Refer to the Creating a Switch Port Schedule section on page 47. |

6. Click **Save**.
7. Click **Push Configuration**.

8.1.4.3 Aggregating Multiple Switch Profile Ports

Port aggregation allows users to link multiple physical ports together as one logical link to increase port bandwidth and redundancy in the event of a single physical link failure. Ports can be aggregated using either LACP or static link.

Note: Port aggregation is not supported if the port type is set to "Access". To configure the port type, refer to the **Configuring Port Settings for One or More Switch Ports** section on page 41 for more information.

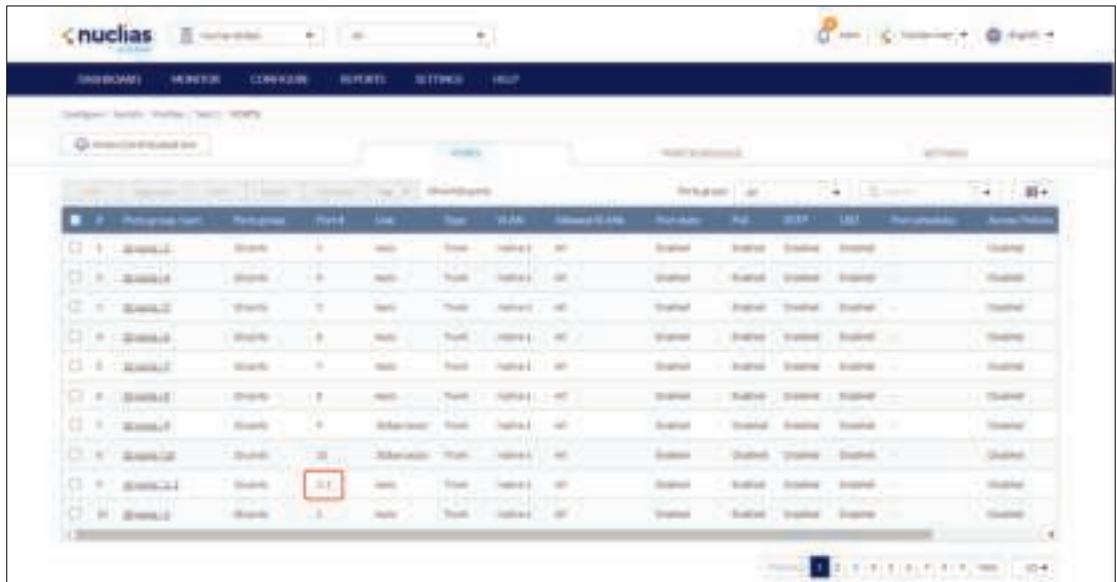
1. Navigate to the **Configure > Switch > Profiles** page.
2. From the Profile list, click **Ports** under the Actions column of the Profile you wish to edit.
3. From the port list, check the box next to the ports you wish to link together.
4. Click **Aggregate**.
5. In the Link Aggregation Setting window, select the aggregation type.

Note: Static link requires manual configuration of the ports in the aggregation group. Link Aggregation Control Protocol (LACP) dynamically queries to listening ports to join the aggregation group.

| | |
|---------------|---|
| LACP | LACP (Link Aggregation Control Protocol) allows the switch to automatically detect links in a port trunk group. |
| Static | Static link aggregation. |

6. Click **Aggregate**.

Note: Aggregated ports can be identified by the combined port number in the Port # column of the port overview.



7. Click **Push Configuration**.

8.1.4.4 Splitting Aggregated Switch Ports

Linked port groups can be split into their respective individual ports. Splitting port groups will undo all aggregation settings applied to the affected ports.

1. Navigate to the **Configure > Switch > Profiles** page.
2. From the Profile list, click **Ports** under the Actions column of the Profile you wish to edit.
3. From the port list, check the box next to the aggregated port(s) you wish to split.
4. Click **Split**.
Note: This will immediately split the selected aggregated ports.
5. Click **Push Configuration**.

8.1.4.5 Mirroring Port Traffic to Another Switch Profile Port

Port Mirroring is a method of monitoring network traffic that forwards a copy of each incoming and/or outgoing packet from one port of the switch to another port, where the packet can be studied. This enables network managers to better monitor network performance.

1. Navigate to the **Configure > Switch > Profiles** page.
2. From the Profile list, click **Ports** under the Actions column of the Profile you wish to edit.
3. From the port list, check the box next to the port(s) you wish to mirror.
4. Click **Mirror**.
5. Specify the following information:

| | |
|-------------------------|---|
| Source ports | Select the data to mirror from the drop-down menu for each selected port. Both: Mirror both incoming and outgoing. Rx: Mirror only data received on the port. Tx: Mirror only data transmitted by the port. |
| Destination port | Enter the port number of the destination port. Note: The port number should be in numerical format, for example 28 . |

6. Click **Create port mirror**.
7. Click **Push Configuration**.

8.1.4.6 Undoing Port Traffic Mirroring

1. Navigate to the **Configure > Switch > Profiles** page.
2. From the Profile list, click **Ports** under the Actions column of the Profile you wish to edit.
3. From the port list, check the box next to the mirrored port(s) you wish to unmirror.
4. Click **Unmirror**.

Note: This will immediately undo the selected mirrored ports.

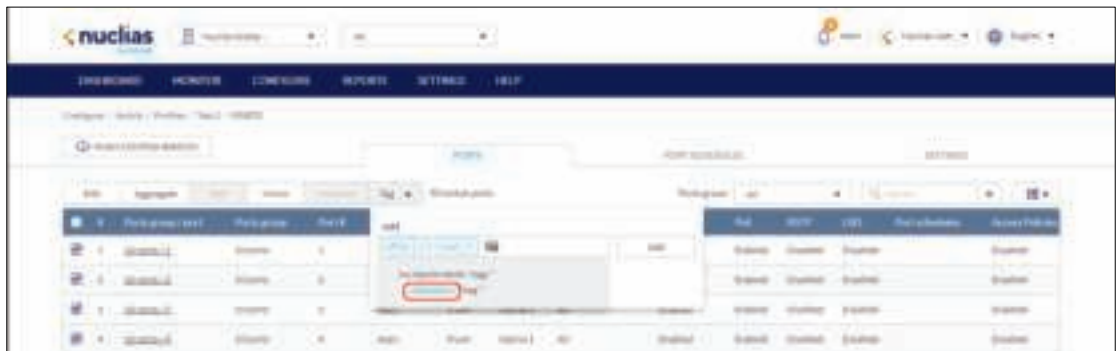
5. Click **Push Configuration**.

8.1.4.7 Adding a Tag to One or More Switch Profile Ports

User can add descriptive tag to ports to identify and filter different ports or groups of ports. Tags are purely informational and do not affect the functionality of the port.

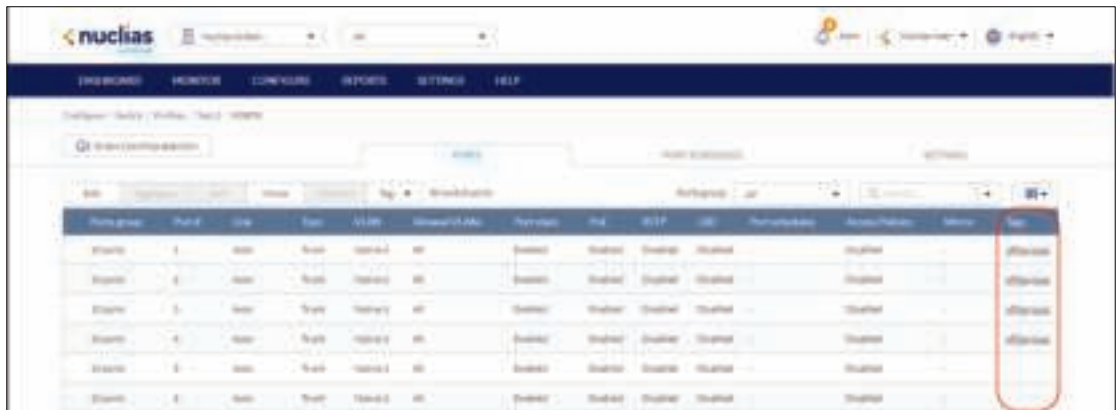
1. Navigate to the **Configure > Switch > Profiles** page.
2. From the Profile list, click **Ports** under the Actions column of the Profile you wish to edit.
3. From the port list, check the box next to the port(s) you wish to add a tag to.
4. Click **Tag**.
5. In the Add field, enter the tag content. Multiple tags can be entered.

Note: If this is a new tag, click **Add option** to make this a reusable tag.



6. Click **Add**.

Note: Any tags associated to a port will be shown in the Tags column.



8.1.4.8 Removing a Tag From One or More Switch Ports

1. Navigate to the **Configure > Switch > Profiles** page.
2. From the Profile list, click **Ports** under the Actions column of the Profile you wish to edit.
3. From the port list, check the box next to the tagged port(s) you wish to remove the tag(s) from.
4. Click **Tag**.
5. In the Delete field, enter the tag name. Alternatively, click the input field to bring up a list with all the associated tags.
6. Click **Remove**.

8.1.5 Configuring Switch Profile Port Schedules

8.1.5.1 Creating a Switch Port Schedule

Users can create customized schedules to configure port activity for each day of the week. Schedules are applied to individual ports. To apply schedules to ports, refer to the **Configuring Port Settings for One or More Ports** section on page 41.

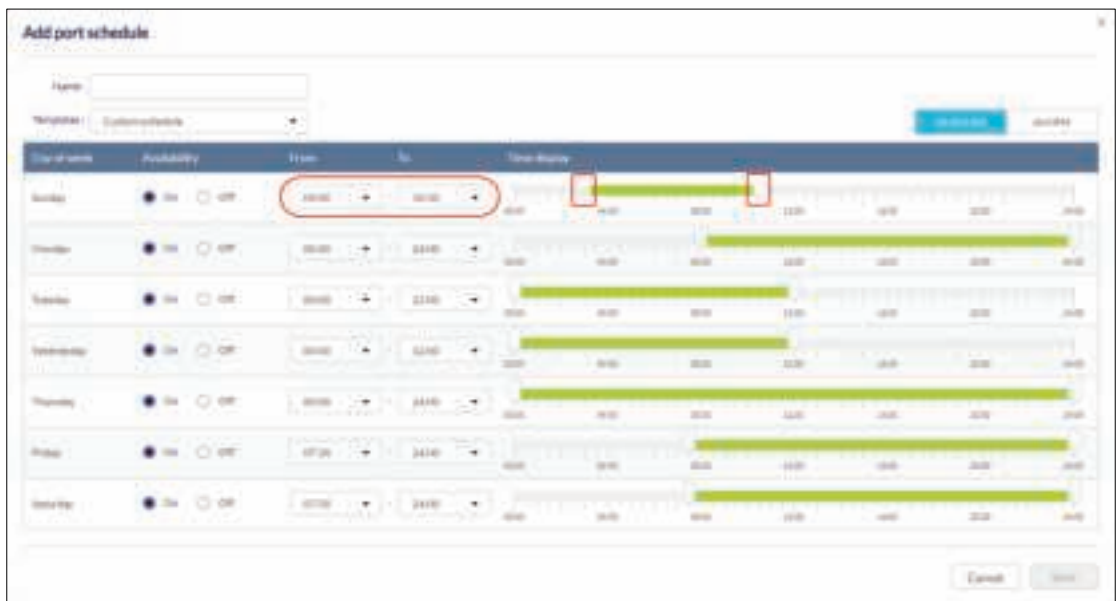
1. Navigate to the **Configure > Switch > Profiles** page.
2. From the Profile list, click **Port Schedules** under the Actions column of the Profile you wish to edit.
3. Click **Add port schedule**.



4. Enter a name for the schedule.
5. [Optional] Select a predefined schedule template from the drop-down menu.
6. [Optional] Click the **24 HOURS** or **AM/PM** button in the top-right to change the time display format.
7. In the Availability column, select the schedule behavior for each day of the week:

| | |
|------------|---|
| On | The port will be active during the defined time period. |
| Off | The port will be disabled during the defined time period. |

8. In the From and To column, select a schedule starting and ending time from the drop-down menu. Alternatively, drag the left and right sliders in the Time display column to define the port activity period.



9. In the add port schedule window, click **Save**.
10. [Optional] Repeat steps 3 to 9 to create additional schedules.
11. Click **Save**.

8.1.5.2 Editing a Switch Port Schedule

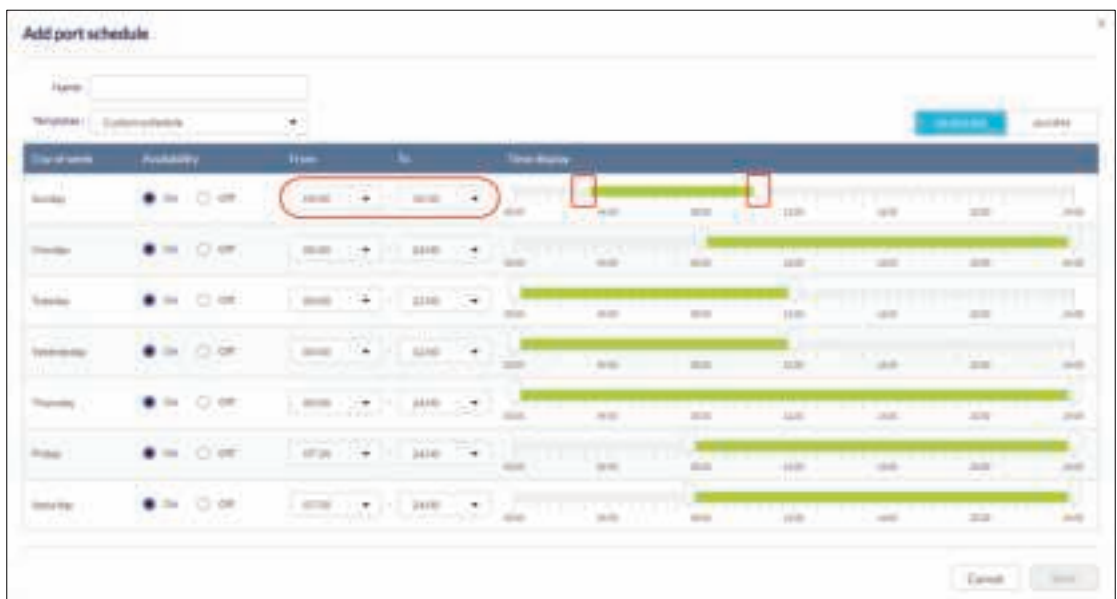
1. Navigate to the **Configure > Switch > Profiles** page.
2. From the Profile list, click **Port Schedules** under the Actions column of the Profile you wish to edit.
3. From the port schedule list, click **Edit** under the Actions column of the port schedule you wish to edit.



4. **[Optional]** Select a predefined schedule template from the drop-down menu.
5. **[Optional]** Click the **24 HOURS** or **AM/PM** button in the top-right to change the time display format.
6. In the Availability column, select the schedule behavior for each day of the week:

| | |
|------------|---|
| On | The port will be active during the defined time period. |
| Off | The port will be disabled during the defined time period. |

7. In the From and To column, select a schedule starting and ending time from the drop-down menu. Alternatively, drag the left and right sliders in the Time display column to define the port activity period.



8. Click **Save**.
9. Click **Push Configuration**.

8.1.5.3 Deleting a Switch Port Schedule

1. Navigate to the **Configure > Switch > Profiles** page.
2. From the Profile list, click **Port Schedules** under the Actions column of the Profile you wish to edit.
3. From the port schedule list, click **Delete** under the Actions column of the port schedule you wish to delete.



4. When prompted to confirm, click **Yes**.

8.1.6 Configuring Basic Switch Profile Settings

8.1.6.1 Configuring Management VLAN Membership

The management VLAN is the primary VLAN to connect to the cloud to configure and manage the network. By default, management VLAN 1 is the default for all switch ports.

1. Navigate to the **Configure > Switch > Profiles** page.
2. From the Profile list, click **Settings** under the Actions column of the Profile you wish to edit.
3. Click the **Basic** tab.
4. In the VLAN Configuration section, select a VLAN ID from the drop-down menu or directly enter an ID into the VLAN ID field.

Note: Changing the management VLAN ID requires the management port(s) to be assigned to the new management VLAN ID.

5. Click **Save**.
6. Click **Push Configuration**.

8.1.6.2 Configuring Spanning Tree

Protocol (STP) Functionality

Rapid Spanning Tree Protocol (RSTP) is an availability and redundancy feature that prevents redundant backup links between switches and prevents switch loops from forming by shutting down the port causing the loop. If RSTP is enabled under profile settings, this profile's device will be enabled. Users can enable/disable RSTP of individual ports under the **Switch Ports** page, or at **Configure > Profile > Ports**. **Note:** RSTP must be manually enabled under BOTH Switch Settings of a profile and Switch Ports.

1. Navigate to the **Configure > Switch > Profiles** page.
2. From the Profile list, click **Settings** under the Actions column of the Profile you wish to edit.
3. Click the **Basic** tab.
4. In the STP Configuration section, select **Enable** next to RSTP.
5. Click **Add** to add a STP bridge priority.
6. In the Set the bridge priority for switches window, specify the following information:

| | |
|------------------------|--|
| Switch | Enter the name of the switch or click the field and select an available switch from the drop-down menu. |
| Bridge Priority | Select a priority value from the drop-down menu. Lower values are more likely to act as the root, while higher values are more likely to act as edges. |

7. [Optional] Click **Add** to add additional bridge priorities.
8. Click **Add**.
9. [Optional] To delete a bridge priority, check the checkbox next to the switch and click **Delete**.
10. Click **Save**.
11. Click **Push Configuration**.

8.1.6.3 Configuring Internet Group

Management Protocol (IGMP) Snooping

Functionality

Internet Group Management Protocol (IGMP) Snooping allows administrators to configure switches to subscribe to and receive multicast traffic. If a switch is not added to the IGMP list, it will not receive multicast traffic by default.

1. Navigate to the **Configure > Switch > Profiles** page.
2. From the Profile list, click **Settings** under the Actions column of the Profile you wish to edit.
3. Click the **Basic** tab.
4. In the IGMP Snooping Configuration section, click **Add** to add a switch to the IGMP snooping list.
5. In the Set multicast settings for switches window, specify the following information:

| | |
|----------------------|--|
| Switch | Enter the name of the switch or click the field and select an available switch from the drop-down menu. |
| IGMP Snooping | Select an IGMP policy. Enable: The switch will subscribe to and receive multicast traffic. Disable: The switch will not receive multicast traffic. |

6. [Optional] Click **Add** to add switches to the IGMP list.
7. Click **Add**.
8. [Optional] To delete a switch from the list, check the checkbox next to the switch and click **Delete**.
9. Click **Save**.
10. Click **Push Configuration**.

8.1.6.4 Configuring DHCP Server

Screening

DCHP screening allows administrators to whitelist DHCP servers to prevent unauthorized DHCP servers and devices from gaining access to the network.

1. Navigate to the **Configure > Switch > Profiles** page.
2. From the Profile list, click **Settings** under the Actions column of the Profile you wish to edit.
3. Click the **Basic** tab.
4. In the DHCP Server Screening Configuration section, select **Enable** next to DHCP

Server Screening.

5. In the Allowed DHCP server field, enter the IP address of the DHCP server to whitelist.
Note: Currently, only one DHCP server can be whitelisted.
6. Click **Save**.
7. Click **Push Configuration**.

8.1.6.5 Configuring Voice VLAN

Functionality

The voice traffic from IP phone can be assigned to a dedicated VLAN (via Voice VLAN ID setting) and given traffic priority (via Voice VLAN CoS setting).

Note: Voice VLAN priority settings overrule any priority settings configured in the Quality of Service section.

Note: Voice VLAN is not supported if the port type is set to "Trunk". To configure the port type, refer to the **Configuring Port Settings for One or More Switch Ports** section on page 41 for more information.

1. Navigate to the **Configure > Switch > Profiles** page.
2. From the Profile list, click **Settings** under the Actions column of the Profile you wish to edit.
3. Click the **Basic** tab.
4. In the Voice VLAN Configuration section, select **Enable** next to Voice VLAN.
5. In the Voice VLAN ID field, enter an ID between 2 and 4094.
6. Select a Voice VLAN Class of Service (CoS) level from the drop-down menu.
Note: The CoS level reflects the priority level of Voice VLAN traffic. A higher value means a high priority, whereas a lower value means a low priority.
7. **[Optional]** Click **Add** to add a Voice VLAN OUI.
Note: An Organizationally Unique Identifier (OUI) is used to add additional manufacturers to the voice VLAN identification list.
8. In the Add OUIs for switches window, specify the following information:

| | |
|--------------------|---|
| OUI Address | This field will contain which MAC address range the OUI mask will begin with. |
|--------------------|---|

| | |
|--------------------|---|
| Mask | With the same concept of subnet mask, OUI Mask uses “F” as match, while “0” as any. |
| Description | Add a description for the OUI. |

| OUI Address | Mask | Description | Actions |
|-------------------|-------------------|-------------|---------|
| 00:17:00:00:00:00 | FF:FF:FF:00:00:00 | Siemens | |
| 00:03:00:00:00:00 | FF:FF:FF:00:00:00 | Clou | |
| 00:07:00:00:00:00 | FF:FF:FF:00:00:00 | Avaya | |
| 00:0E:00:00:00:00 | FF:FF:FF:00:00:00 | Huawei/3COM | |
| 00:60:00:00:00:00 | FF:FF:FF:00:00:00 | HEC/Hitips | |
| 00:00:00:00:00:00 | FF:FF:FF:00:00:00 | Ringid | |
| 00:00:00:00:00:00 | FF:FF:FF:00:00:00 | Vendor | |
| 00:00:00:00:00:00 | FF:FF:FF:00:00:00 | STUN | |

Note: The above figure represents the default OUI

9. [Optional] Click **Add** to add additional OUIs.
10. Click **Add**.
11. [Optional] To delete an OUI, check the checkbox next to the OUI and click **Delete**.
Note: Default OUIs cannot be deleted.
12. Click **Save**.
13. Click **Push Configuration**.

8.1.6.6 Configuring Jumbo Frame

Enabling Jumbo Frame allows the port to switch frames larger than the standard Ethernet 1518 byte frame. Utilizing Jumbo Frames, packets of up to 9,000 bytes, can maximize server-to-server performance.

1. Navigate to the **Configure > Switch > Profiles** page.
2. From the Profile list, click **Settings** under the Actions column of the Profile you wish to edit.
3. Click the **Basic** tab.
4. In the Jumbo Frame Configuration section, select **Enable** next to Jumbo Frame.
5. Click **Save**.
6. Click **Push Configuration**.

8.1.6.7 Configuring Quality of Service

Settings

QoS is an implementation of the IEEE 802.1p standard that allows network administrators to

reserve bandwidth for important functions that require a larger bandwidth or that might have a higher priority, such as VoIP (voice-over Internet Protocol), web browsing applications, file server applications or video conferencing. By reserving more bandwidth for critical traffic, less critical traffic is deprioritized to ensure that critical data is transmitted smoothly.

The Quality of Service windows displays the status of Quality of Service priority levels of each port, a higher priority means the traffic from this port will be first handled by the switch. For packets that are untagged, the switch will assign the priority depending on your configuration.

1. Navigate to the **Configure > Switch > Profiles** page.
2. From the Profile list, click **Settings** under the Actions column of the Profile you wish to edit.
3. Click the **Basic** tab.
4. In the Quality of Service section, click **Edit**.
5. In the DSCP to Class-of-Service Queue Mapping window, select a Class of Service (CoS) value between **0** to **7** for each DSCP value. A higher value means a higher priority while a lower value means a lower priority. Traffic from ports with high CoS values are processed first.



6. Click **Save**.
7. Click **Save**.
8. Click **Push Configuration**.

8.1.7 Configuring Switch Profile IPv4 ACL Settings

8.1.7.1 Creating IPv4 Access Control

Policy Rules

IPv4 Access Control Lists (ACL) allow administrators to configure a set of criteria for permitting or denying traffic coming from and to the switch based on IP address.

1. Navigate to the **Configure > Switch > Profiles** page.
2. From the Profile list, click **Settings** under the Actions column of the Profile you wish to edit.
3. Click the **IPV4 ACL** tab.
4. In the User Defined IPv4 Rules section, click **Add**.
5. In the Add IPv4 rules window, specify the following information:

| | |
|-----------------|--|
| Policy | Select an access policy. Permit: Traffic with matching parameters will be forwarded. Deny: Traffic with matching parameters will be denied. |
| Protocol | Select a protocol from the drop-down menu. Any: The rule applies to any protocol traffic. UDP: The rule only applies to traffic with a User Datagram Protocol (UDP) header. TCP: The rule only applies to traffic with a Transmission Control Protocol (TCP) header. |
| Source | Enter the source IP address. If the source address is configured as Any , all source traffic will be evaluated according to the conditions of the rule. |
| Src port | Specify the source port number between 0 and 65535 . If the source port is configured as Any , all source ports will be evaluated according to the conditions of the rule. |

| | |
|--------------------|---|
| Destination | Enter the destination IP address. If the destination address is configured as Any , all destination traffic will be evaluated according to the conditions of the rule. |
| Dst port | Specify the destination port number between 0 and 65535 . If the source port is configured as Any , all source ports will be evaluated according to the conditions of the rule. |
| Comment | Enter a description for the rule. |

6. [Optional] Click **Add** to add additional rules.
7. Click **Add**.
8. Click **Save**.
9. Click **Push Configuration**.

8.1.7.2 Editing IPv4 Access Control Policy

Rules

1. Navigate to the **Configure > Switch > Profiles** page.
2. From the Profile list, click **Settings** under the Actions column of the Profile you wish to edit.
3. Click the **IPV4 ACL** tab.
4. In the policy rules list, click **Edit** in the Actions column of the rule you wish to edit.
5. Specify the following information:

| | |
|-----------------|--|
| Policy | Select an access policy. Enable: Traffic with matching parameters will be forwarded. Deny: Traffic with matching parameters will be denied. |
| Protocol | Select a protocol from the drop-down menu. Any: The rule applies to any protocol traffic. UDP: The rule only applies to traffic with a User Datagram Protocol (UDP) header. TCP: The rule only applies to traffic with a Transmission Control Protocol (TCP) header. |
| Source | Enter the source IP address. If the source address is configured as Any , all source traffic will be evaluated according to the conditions of the rule. |

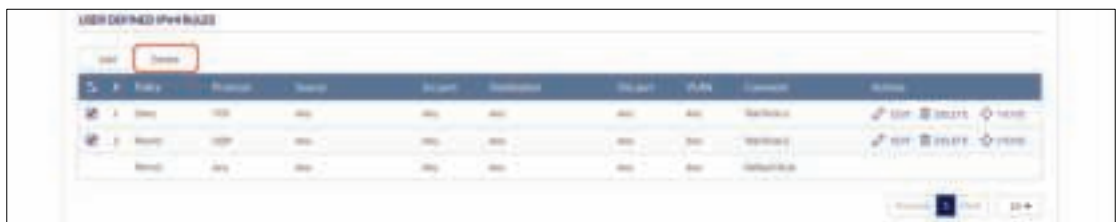
| | |
|--------------------|---|
| Src port | Specify the source port number between 0 and 65535 . If the source port is configured as Any , all source ports will be evaluated according to the conditions of the rule. |
| Destination | Enter the destination IP address. If the destination address is configured as Any , all destination traffic will be evaluated according to the conditions of the rule. |
| Dst port | Specify the destination port number between 0 and 65535 . If the source port is configured as Any , all source ports will be evaluated according to the conditions of the rule. |
| VLAN | Specify a VLAN to which the rule will apply. |
| Comment | Enter a description for the rule. |

6. Click **Save**.
7. Click **Push Configuration**.

8.1.7.3 Deleting IPv4 Access Control Policy

Rules

1. Navigate to the **Configure > Switch > Profiles** page.
2. From the Profile list, click **Settings** under the Actions column of the Profile you wish to edit.
3. Click the **IPV4 ACL** tab.
4. In the policy rules list, click the checkbox next to the rule(s) you wish to delete.
5. Click **Delete**.



6. When prompted to confirm, click **Yes**.

8.1.7.4 Moving IPv4 Access Control Policy

Rules

If an IPv4 Access Control List contains multiple rules other than the default rule, rules can be moved around. Moving rules will affect their priority. In the event of a conflict between two rules, the rule listed as #1 will override the rule(s) below it.

Note: The index means priority. The lower the index the higher the priority.

1. Navigate to the **Configure > Switch > Profiles** page.
2. From the Profile list, click **Settings** under the Actions column of the Profile you wish to edit.
3. Click the **IPV4 ACL** tab.
4. In the policy rules list, click and drag the **Move** icon of the rule you wish to move. Dragging it below another rule will lower its priority, dragging above another rule increases its priority over that rule.



5. Click **Save**.
6. Click **Push Configuration**.

8.1.8 Configuring Access Policies

8.1.8.1 Creating an Access Policy

Administrators can configure one or more remote RADIUS servers for port-based or MAC-based authorization and authentication. This ensures that only users with matching credentials have access to the network. Administrators can also configure a Guest VLAN to grant internet access to visitors, while preventing them from accessing the network.

1. Navigate to the **Configure > Switch > Profiles** page.

2. From the Profile list, click **Settings** under the Actions column of the Profile you wish to edit.
3. Click the **Access Policies** tab.
4. Enter a name for the policy.
5. In the RADIUS servers field, click **Add** to add a new RADIUS server.
6. In the Add RADIUS servers window, specify the following information:

| | |
|-------------|--|
| Host | Enter the IP address of the RADIUS server. |
| Port | Enter a port for the RADIUS server. The range is between 1 and 65535 . |
| Key | Enter a shared secret. |

7. **[Optional]** Click Add to add additional RADIUS servers.
8. Click **Save**.
9. Select an access policy type:

| | |
|--------------------------|---|
| 802.1x port-based | This method requires only one user to be authenticated per port by a remote RADIUS server to allow the remaining users on the same port to access the network. |
| 802.1x MAC-based | Using this method, the Switch will automatically learn up to a maximum of 448 MAC addresses by port and set them in a list. Each MAC address must be authenticated by the Switch using a remote RADIUS server before being allowed access to the Network. |

10. **[Optional]** Select a VLAN ID from the drop-down menu.
11. Click **Save**.
12. Click **Push Configuration**.

8.1.8.2 Configure a Guest VLAN

Administrators can configure one or more Guest VLAN to grant internet access to visitors, while preventing them from accessing the network.

1. Navigate to the **Configure > Switch > Profiles** page.
2. From the Profile list, click **Settings** under the Actions column of the Profile you wish to edit.
3. Click the **Access Policies** tab.
4. Select a **Guest VLAN** from the list.

5. Click **Save**.
6. Click **Push Configuration**.



8.1.9 Pushing Configuration Changes

The Push Configuration function allows users to quickly apply Profile configuration changes to all devices using this Profile.

Note: Changes made to a Profile's ports, port schedule or settings, will be pushed to all associated devices after the user selects **Push Configuration**.

1. Navigate to the **Configure > Switch > Profiles** page.
2. From the Profile list, click **Push Configuration** under the Actions column of the Profile you wish to update the configuration settings of.

Note: A result window will appear providing a summary of the update status.

3. In the Push Configuration Result window, click the **X** icon in the top-right to close the window.

8.2 Devices

From the Devices page, users can add a single device, or bulk import a group of devices, and configure individual devices. This page also provides a detailed overview of all currently registered devices with additional information including status, clients, and general settings.

8.2.1 Filtering Device Information

1. Navigate to the **Monitor > Switch > Devices** page.
2. **[Optional]** Select a time frame from the drop-down menu.
3. Click the filter selection in the top-right.



4. Check the information parameters to display the corresponding device information in the overview window. Check **All** to show all device information parameters.

8.2.2 Adding a Single Device

1. Navigate to the **Configure > Switch > Devices** page.
2. Click **Add device**.



3. Fill out the required information.

| | |
|--------------------|--|
| Device UID | Enter the device's Unique Identifier (UID) found on the label printed on the device. The UID may be listed in the format XXXX-XXXX-XXXX or XXXXXXXXXXXX . When entering the UID, do not include dashes. |
| Device name | Enter a name for the device. |
| Site | Select a Site to link this device to. |
| Profile | Select a Profile for this device. The device will use the settings configured in that profile. |
| License Key | Enter the device license key. Note: Every new device will be issued a one-year free license key. Once expired, an additional license must be purchased to continue using the device. |

4. Click **Save**.

8.2.3 Bulk Adding Multiple Devices to the Inventory

Bulk adding new devices to the Inventory stores the devices in a warehouse where they are kept inactive until they are manually assigned to a Site and Profile by the user at a later point.

1. Navigate to the **Configure > Switch > Devices** page.
2. Click **Bulk import**.



3. [Optional] Download the reference sample template.



4. Click **Browse**.
5. Locate the CSV-formatted file containing the UIDs of the devices.
Note: To add devices to the inventory, use the following format:
[UID]
6. Click **Upload**.

8.2.4 Bulk Adding and Registering Multiple Devices to a Site

When bulk adding a new device, assigning a Site and Profile to the devices during the device registration process allows them to be used immediately.

1. Navigate to the **Configure > Switch > Devices** page.
2. Click **Bulk import**.



3. [Optional] Download the reference sample template.



4. Click **Browse**.
5. Locate the CSV-formatted file containing the UIDs of the devices.
Note: To directly register devices to a Site, use the following format:
[UID][Device Name][Profile Name][Site][License Key]
6. Click **Upload**.

8.2.5 Adding a Tag to One or More Devices

Users can add descriptive tag to devices to identify and filter different devices or groups of devices. Tags are purely informational and do not affect the functionality of the device.

1. Navigate to the **Configure > Switch > Profiles** page.
2. From the devices list, check the box next to the tagged device(s) you wish to add a tag to.
3. Click **Tag**.
4. In the Add field, enter the tag content. Multiple tags can be entered.
Note: If this is a new tag, click **Add option** to make this a reusable tag.



5. Click **Add Tag**.

Note: Any tags associated to a device will be shown in the Tags column.

8.2.6 Removing a Tag From One or More Devices

1. Navigate to the **Configure > Switch > Devices** page.
2. From the devices list, check the box next to the tagged device(s) you wish to remove the tag(s) from.
3. Click **Tag**.
4. In the Delete field, enter the tag name. Alternatively, click the input field to bring up a list with all the associated tags.
5. Click **Remove**.

8.2.7 Editing a Device

1. Navigate to the **Configure > Switch > Device** page.
2. From the device list, click the device name.
3. In the Device Information section, click the device name in the Name field. You will be navigated to **Monitor > Switch > Device** page when you select a device from this list. Please refer to [Monitor > Switch > Devices](#) for a comprehensive guide on how to edit and monitor your switch.

8.2.8 Deleting a Device

Assigned devices can be unassigned and sent back to the device inventory so they can be reassigned at a later point.

1. Navigate to the **Configure > Switch > Devices** page.
2. From the device list, click the checkbox next to the device you wish to delete.
3. Click **Delete**.
4. When prompted to confirm, click **Yes**.

Note: Deleted devices are automatically moved to the inventory until they are reassigned by the user.

8.2.9 Deleting Multiple Devices

Assigned devices can be unassigned and sent back to the device inventory so they can be reassigned at a later point.

1. Navigate to the **Configure > Switch > Devices** page.
2. From the device list, click the checkbox next to the devices you wish to delete.
3. Click **Delete**.
4. When prompted to confirm, click **Yes**.

Note: Deleted devices are automatically moved to the inventory until they are reassigned by the user.

8.2.10 Download the Device List

The device list can be exported in a CSV-formatted file and download to the local device.

1. Navigate to the **Configure > Switch > Devices** page.
2. From the device list, click the **Download** icon in the top-right.



8.3 Switch Ports

From the Switch Ports section, users can configure individual ports or groups of ports for physical switches. Any settings configured in this window are applied to the physical switch directly and override any overlapping or conflicting settings in the Profile applied to the switch. Local switch configurations may be useful in cases where one switch in a group of switches requires specialized settings that are not configured in the associated Profile to accommodate a specific application.

8.3.1 Customizing the Switch Ports Configuration Overview

1. Navigate to the **Configure > Switch > Switch Ports** page.
2. Select a port group from the port groups drop-down menu. This will only display ports for the select port group profile. For example, selecting port group 28 will only show ports 1 to 28 of 28-port switches added to the organization. Select **All** to show all port groups.



3. If the organization has multiple switches of the same port group, for example multiple DBS-2000-10MP switches, select a specific switch from the drop-down menu to only show the ports of that switch.



4. Select a time frame from the time frame drop-down menu.
5. Click the filter parameter icon.



- Click the checkbox next to the parameters to display them in the overview.

Note: All checked parameters will automatically appear.

8.3.2 Configuring Local Port Settings for One or More Switch Ports

Switch port configuration allows administrators to configure extensive port functionality including port availability, port speed, RSTP, VLAN, PoE, and port activity schedules for an individual port or for a group of ports.

Note: These local settings will override any conflicting Profile settings associated with the device.

- Navigate to the **Configure > Switch > Switch Ports** page.
- From the port list, check the box next to the ports you wish to edit.
- Click **Edit**.
- Specify the following information:

Note: At the top of the edit port window is a list of all selected ports. The changes made will apply to all selected ports.

| | |
|-------------------|---|
| Port name | Enter a name for the port. If multiple ports are selected, this name will be applied to all ports. |
| Port state | Choose to enable or disable the port. |
| RSTP | Choose to enable or disable Rapid Spanning Tree Protocol (RSTP). RSTP prevents data loops caused by issuing frequent BPDU packets to monitor link status. Note: RSTP cannot be used in conjunction with LBD. Note: User must enable Profile/Settings/STP Configuration for this port to enable RSTP |
| STP guard | If RSTP is enabled, choose the guard type. |

| | |
|----------------------|---|
| | <p>Disabled: Do not use root guard enhancement.</p> <p>Root guard: Root guard enhancement allows administrators to define the position of the root bridge port in the network.</p> |
| LBD | <p>Choose to enable or disable Loopback Detection (LBD). The Loopback Detection function is used to detect the loop created by a specific port while Spanning Tree Protocol (STP) is not enabled in the network, especially when the down links are hubs or unmanaged switches. The Switch will automatically shut down the port and sends a log to the administrator.</p> <p>Note: LBD cannot be used in conjunction with RSTP.</p> |
| Type | <p>Choose the function type of the port.</p> <p>Trunk: Sends and receives tagged data from different VLANs.</p> <p>Access: Only sends and receives untagged data from the VLAN the port belongs to.</p> |
| Native VLAN | Enter the ID of the native VLAN the port belongs to. |
| Allowed VLANs | Enter the IDs of the VLANs that can route traffic through this port. Enter All to allow all traffic from all VLANs to pass through this port. |
| Tags | Enter a descriptive tag for the port. Multiple tags can be entered. If multiple ports are selected, any tags will be applied to all ports. |
| Link (RJ45) | Choose the maximum link speed of the port. Select Auto to allow the port to auto-negotiate port speed with the partner port or device. |
| Link (SFP) | Choose the maximum link speed of the port. Select Auto to allow the port to auto-negotiate port speed with the partner port or device. |
| PoE | <p>Choose to enable or disable Power over Ethernet (PoE) functionality on this port.</p> <p>Note: The PoE setting will only apply to ports that support Power over Ethernet.</p> |
| Port Schedule | Choose a port schedule. Port schedules are |

| | |
|--|--|
| | separately configured. Refer to the Creating a Switch Port Schedule section on page 47. |
|--|--|

5. Click **Save**.

8.3.3 Aggregating Switch Ports

Port aggregation allows users to link multiple physical ports together as one logical link to increase port bandwidth and redundancy in the event of a single physical link failure. Ports can be aggregated using either LACP or static link.

Note: Aggregated ports must maintain the same settings, otherwise users will not be permitted to aggregate multiple ports in one group.

Note: Port aggregation is not supported if the port type is set to “Access”. To configure the port type, refer to the **Configuring Local Port Settings for One or More Switch Ports** section on page 68 for more information.

Note: These local settings will override any conflicting Profile settings associated with the device.

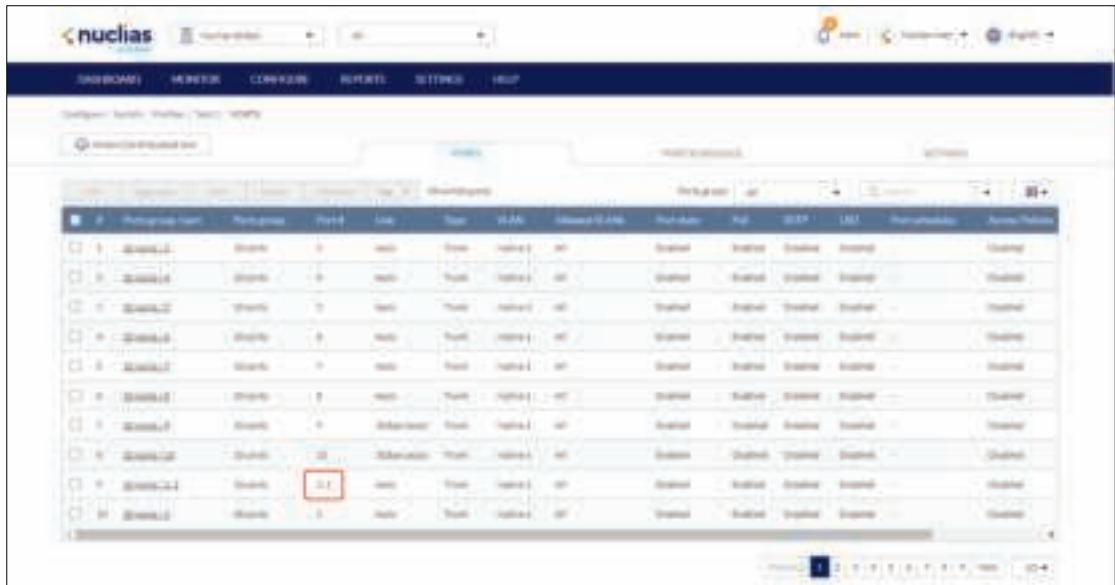
1. Navigate to the **Configure > Switch > Profiles** page.
2. From the Profile list, click **Ports** under the Actions column of the Profile you wish to edit.
3. From the port list, check the box next to the ports you wish to link together.
4. Click **Aggregate**.
5. In the Link Aggregation Setting window, select the aggregation type.

Note: Static link requires manual configuration of the ports in the aggregation group. Link Aggregation Control Protocol (LACP) dynamically queries to listening ports to join the aggregation group.

| | |
|---------------|---|
| LACP | LACP (Link Aggregation Control Protocol) allows the switch to automatically detect links in a port trunk group. |
| Static | Static link aggregation. |

6. Click **Aggregate**.

Note: Aggregated ports can be identified by the combined port number in the Port # column of the port overview.



7. Click **Push Configuration**.

8.3.4 Splitting Aggregated Switch Ports

Linked port groups can be split into their respective individual ports. Splitting port groups will undo all aggregation settings applied to the affected ports.

Note: These local settings will override any conflicting Profile settings associated with the device.

1. Navigate to the **Configure > Switch > Switch Ports** page.
2. From the port list, check the box next to the aggregated port(s) you wish to split.
3. Click **Split**.

Note: This will immediately split the selected aggregated ports.

8.3.5 Mirroring Port Traffic to Another Switch Port

Port Mirroring is a method of monitoring network traffic that forwards a copy of each incoming and/or outgoing packet from one port of the switch to another port, where the packet can be studied. This enables network managers to better monitor network performance.

Note: These local settings will override any conflicting Profile settings associated with the device.

1. Navigate to the **Configure > Switch > Switch Ports** page.
2. From the port list, check the box next to the port(s) you wish to mirror.
3. Click **Mirror**.
4. Specify the following information:

| | |
|-------------------------|---|
| Source ports | Select the data to mirror from the drop-down menu for each selected port. Both: Mirror both incoming and outgoing. Rx: Mirror only data received on the port. Tx: Mirror only data transmitted by the port. |
| Destination port | Enter the destination port number. Note: The port number should be in numerical format, for example 28 . |

5. Click **Create port mirror**.

8.3.6 Undoing Port Traffic Mirroring

1. Navigate to the **Configure > Switch > Switch Ports** page.
2. From the port list, check the box next to the mirrored port(s) you wish to unmirror.
3. Click **Unmirror**.
Note: This will immediately undo the selected mirrored ports.
4. Click **Push Configuration**.

8.3.7 Adding a Tag to One or More Switch Ports

User can add descriptive tag to ports to identify and filter different ports or groups of ports. Tags are purely informational and do not affect the functionality of the port.

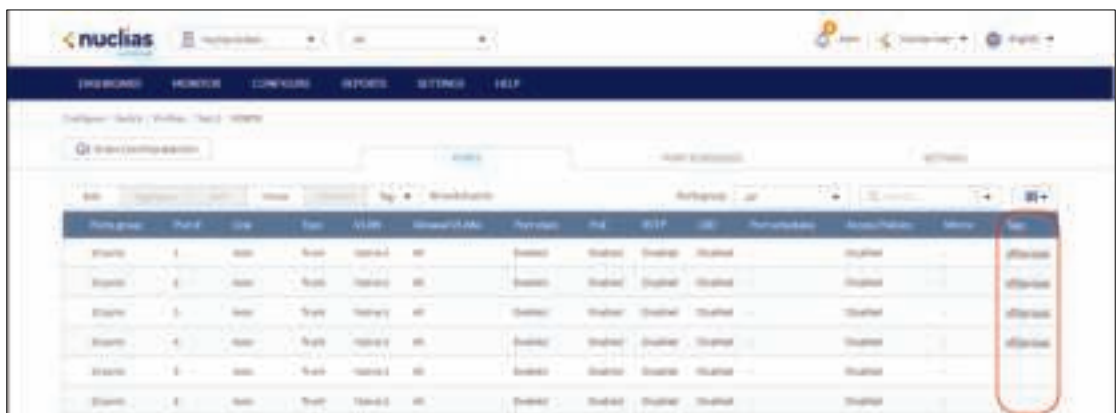
Note: These local settings will override any conflicting Profile settings associated with the device.

1. Navigate to the **Configure > Switch > Switch Ports** page.
2. From the port list, check the box next to the port(s) you wish to add a tag to.
3. Click **Tag**.
4. In the Add field, enter the tag content. Multiple tags can be entered.
Note: if this is a new tag, click **Add option** to make this a reusable tag.



5. Click **Add**.

Note: Any tags associated to a port will be shown in the Tags column.



8.3.8 Removing a Tag from One or More Switch Ports

1. Navigate to the **Configure > Switch > Switch Ports** page.
2. From the port list, check the box next to the tagged port(s) you wish to remove the tag(s) from.
3. Click **Tag**.
4. In the Delete field, enter the tag name. Alternatively, click the input field to bring up a list with all the associated tags.
5. Click **Remove**.

9 Reports

From the Reports section, users can view and generate detailed reports for changes on the platform such as switch activity, network alerts, and license reports.

The following sections provide more detailed information about the different types of reports.

| | |
|-------------------|--|
| Change Log | From the Change Log section, users can consult a detailed log of changes occurring on the network. Refer to the Change Log section on page 74 for more information. |
| Switch | From the switch section, users can view detailed reports about switch activity on the managed network. Refer to the Switch section on page 75 for more information. |
| Alerts | From the Alerts section, users can view a detailed log of all alerts occurring on the network. Refer to the Alerts section on page 77 for more information. |
| Licenses | From the Licenses section, users can consult a list of detailed information about licenses assigned to the selected organization. Refer to the Licenses section on page 79 for more information. |

9.1 Change Log

From the Change Log window, users can consult a detailed log of changes to user accounts, profiles, SSIDs, and sites.

9.1.1 Searching for Change Events

1. Navigate to the **Reports > Change Log** page.
2. **[Optional]** Select a time frame from the drop-down menu.
3. From the change event list, click the **Search** field.
4. Enter the change event name.
Note: All events matching the value entered in the search field will automatically appear.
5. **[Optional]** Click the filter drop-down menu and enter the following information:
Note: Multiple filters can be populated to narrow down the search result.

| | |
|----------------|---|
| Account | Enter the Account name that the event is linked to. |
|----------------|---|

| | |
|----------------|---|
| Site | Enter the name of the Site the event is linked to. |
| Profile | Enter the name of the Profile the event is linked to. |
| SSID | Enter the name of the SSID the event is linked to. |
| Device | Enter the name of the Device the event is linked to. |

9.1.2 Downloading Change Logs

1. Navigate to the **Reports > Change Log** page.
2. From the change log list, click the **Download** icon in the top-right.



9.2 Switch

9.2.1 Filtering the Switch Logs

1. Navigate to the **Reports > Switch** page.
2. [Optional] Select a time frame from the drop-down menu.
3. Check the profiles to filter switch logs for from the Device report drop-down menu.
4. Check the devices to filter switch logs for from the Device drop-down menu.
Note: Only devices using the profile selected in the previous step will be shown.
5. Check the profiles to filter switch rankings for from the Ranking report drop-down menu.
6. Select the maximum number of entries to display from the Show top results drop-down menu.
7. Check the type of switch logs to show from the Customize report drop-down menu. Select **All** to show all report types.
8. Click **Preview**.

9.2.2 Sending Switch Logs by Email

1. Navigate to the **Reports > Switch** page.
2. [Optional] Select a time frame from the drop-down menu.
3. Check the profiles to filter switch logs for from the Device report drop-down menu.
4. Check the devices to filter switch logs for from the Device drop-down menu.
Note: Only devices using the profile selected in the previous step will be shown.

5. Check the profiles to filter switch rankings for from the Ranking report drop-down menu.
6. Select the maximum number of entries to display from the Show Top Results drop-down menu.
7. Check the type of switch logs to show from the Customize Report drop-down menu. Select **All** to show all report types.
8. **[Optional]** Click Preview to see a preview version of the switch log with the selected parameters.
9. Click **Send email**.

9.2.3 Download Archived Switch Logs

Monthly switch logs are automatically archived in the system and can be downloaded for reference.

1. Navigate to the **Reports > Switch** page.
2. From the change log list, click **Archive** in the top-right.
3. Select a time frame from the drop-down menu.
4. Click **Download**.

9.2.4 Download Switch Logs

1. Navigate to the **Reports > Switch** page.
2. **[Optional]** Select a time frame from the drop-down menu.
3. Check the profiles to filter switch logs for from the Device report drop-down menu.
4. Check the devices to filter switch logs for from the Device drop-down menu.
Note: Only devices using the profile selected in the previous step will be shown.
5. Check the profiles to filter switch rankings for from the Ranking report drop-down menu.
6. Select the maximum number of entries to display from the Show Top results drop-down menu.
7. Check the type of switch logs to show from the Customize report drop-down menu. Select **All** to show all report types.
8. **[Optional]** Click Preview to see a preview version of the switch log with the selected parameters.
9. Click **Download**.

9.3 Alerts

From the Alerts window, users can view a detailed log of all alerts occurring on the network. Alerts are divided into two types: processed and not processed alerts. Unprocessed alerts are events that have occurred on the network which are pending action by the managing user. Processed alerts are event alerts that have been acknowledged and handled by the managing user.

The type of alerts shown in the alert log can be configured in the Alert Settings. Refer to the **Alert Settings section on page 96** for more information.

9.3.1 Acknowledging Unprocessed Alerts

Unprocessed alerts shown in the alert log can be flagged as acknowledged to keep track of which alerts have been reviewed and handled by the user.

Note: Alerts are managed per user. Multiple users with the required editing rights within the same organizations will see the same alerts. If one user acknowledges or deletes alerts, they will no longer appear for this user, but will still be visible for the other users until they acknowledge or delete these alerts on their respective user accounts.

1. Navigate to the **Reports > Alerts** page.
2. Click the **Not Processed** tab in the top-right of the screen.
3. From the alerts list, click the checkbox next to the alert(s) you wish to acknowledge.
4. Click **Acknowledge**.

Note: Acknowledged alerts will be automatically moved to the **Processed** tab.

9.3.2 Deleting Unprocessed Alerts

Unprocessed alerts shown in the alert log can be deleted from the log.

Note: Alerts are managed per user. Multiple users with the required editing rights within the same organizations will see the same alerts. If one user acknowledges or deletes alerts, they will no longer appear for this user, but will still be visible for the other users until they acknowledge or delete these alerts on their respective user accounts.

1. Navigate to the **Reports > Alerts** page.
2. Click the **Not Processed** tab in the top-right of the screen.

3. From the alerts list, click the checkbox next to the alert(s) you wish to delete.
4. Click **Delete**.
5. When prompted to confirm, click **Yes**.

Note: Deleted alerts will be permanently deleted, this action cannot be undone.

9.3.3 Deleting Processed Alerts

Unprocessed alerts shown in the alert log can be deleted from the log.

Note: Alerts are managed per user. Multiple users with the required editing rights within the same organizations will see the same alerts. If one user acknowledges or deletes alerts, they will no longer appear for this user, but will still be visible for the other users until they acknowledge or delete these alerts on their respective user accounts.

1. Navigate to the **Reports > Alerts** page.
2. Click the **Processed** tab in the top-right of the screen.
3. From the alerts list, click the checkbox next to the alert(s) you wish to delete.
4. Click **Delete**.
5. When prompted to confirm, click **Yes**.

Note: Deleted alerts will be permanently deleted, this action cannot be undone.

9.3.4 Searching for Alerts

1. Navigate to the **Reports > Alerts** page.
2. Click the **Not Processed** or **Processed** tab to filter the shown alerts.
3. **[Optional]** Select a time frame from the drop-down menu.
4. From the alert list, click the **Search** field.
5. Enter the alert name.

Note: All alerts matching the value entered in the search field will automatically appear.

6. **[Optional]** Click the filter drop-down menu and enter the following information:

Note: Multiple filters can be populated to narrow down the search result.

| | |
|--------------------|--|
| Device type | Select the device type from the drop-down menu to filter alerts for. |
| Device name | Enter the name of the device that triggered the alert. |
| Severity | Select an alert severity level from the drop-down menu. |

9.4 Licenses

9.4.1 Filtering the License Logs

1. Navigate to the **Reports > Licenses** page.
2. Click the filter selection in the top-right.



3. Check the information parameters to display the corresponding license information in the overview window. Check **All** to show all license information parameters.

9.4.2 Downloading License Logs

1. Navigate to the **Reports > Licenses** page.
2. From the license log list, click the **Download** icon in the top-right.



10 Settings

| | |
|--------------------------------|--|
| Account Management | From the Account Management section, users can view a full overview that includes detailed information of all managed user accounts, invite new users, and edit existing users. Refer to the Account Management section on page 80 for more information. |
| Organization Management | From the Organization Management section, users can create and edit Sites and Site Tags, as well as invite users to the organization. Refer to the Organization Management section on page 83 for more information. |
| License Management | From the License Management section, users can consult more detailed information of all licenses assigned to the |

| | |
|-----------------------|---|
| | <p>organization including status, activation and expiration dates, and how much time is currently left on a license.</p> <p>Refer to the License Management section on page 86 for more information.</p> |
| Inventory | <p>From the Inventory section, users can consult comprehensive information about all devices currently assigned to the selected organization, including status, hardware information, and which Site (Tag) it is associated with. New devices can also be added from this window.</p> <p>Refer to the Inventory section on page 88 for more information.</p> |
| Firmware | <p>From the Firmware section, users can set device upgrade schedules, or manually upgrade a device's firmware.</p> <p>Refer to the Firmware section on page 93 for more information.</p> |
| Alert Settings | <p>From the Alert Settings section, users can choose the type of network events that will trigger alert notifications.</p> <p>Refer to the Alert Settings section on page 96 for more information.</p> |
| Add Device | <p>From the Add Device section, users can quickly add a new device to the organization.</p> <p>Refer to the Add Device section on page 97 for more information.</p> |

10.1 Account Management

From the Account Management window users can consult an overview of all managed user accounts. It provides additional information about users, including the organization, Site Tag, and Site(s) the user is assigned to, and the user status.

Note: Access to user accounts depends on the account type and privilege level of the managing user.

10.1.1 Inviting a New User

1. Navigate to the **Settings > Account Management** page.
2. Click **Invite User**.



3. Specify the following information:

| | |
|----------------------|--|
| User name | Enter the user's name. |
| Access Level | Select the access level of the user. This determines what information the user can view. Based on the selected access level, select the organization from the drop-down menu. |
| Email address | Enter the user's email address. This is also the user name to log into the Nuclias Portal interface. |
| Managed Site | This determines which Sites of which the organization can be viewed by the user. Selecting All sites will allow the user to see all Sites under the selected organization. |
| Role | Select a role for the user. Roles determine the degree of editing and viewing privileges of the user. Admin: Full editing and full viewing rights. Editor: Partial editing and full viewing rights. Monitor: Limited editing and partial viewing rights. Viewer: Limited viewing rights. |

4. Click **Save change**.

10.1.2 Editing an Existing User

10.1.2.1 Editing a User Name

1. Navigate to the **Settings > Account Management** page.
2. From the user account list, click the user you wish to edit.
3. In the Edit User window, edit the following information:

| | |
|-------------|-------------------|
| Name | Enter a user name |
|-------------|-------------------|

4. Click **Save change**.

10.1.2.2 Editing a User's Access Privilege

1. Navigate to the **Settings > Account Management** page.
2. From the user account list, click the user you wish to edit.
3. In the Edit User window, edit the following information:

| | |
|---------------------|--|
| Managed Site | Based on the selected Site tag, select a Site. This determines which Sites of the organization can be viewed by the user. Selecting All will allow the user to see all Sites under the selected organization. |
| Role | Select a role for the user. Roles determine the degree of editing and viewing privileges of the user. Admin: Full editing and full viewing rights. Editor: Partial editing and full viewing rights. Monitor: Limited editing and partial viewing rights. Viewer: Limited viewing rights. |

4. Click **Save change**.

10.1.3 Searching for a User

1. Navigate to the **Configure > Account Management**.
2. From the user list, click the **Search** field.
3. Enter the user name.
Note: All user names matching the value entered in the search field will automatically appear.
4. **[Optional]** Click the filter drop-down menu and enter the following information:
Note: Multiple filters can be populated to narrow down the search result.

| | |
|--------------|--------------------------------------|
| Name | Enter the user name. |
| Email | Enter the user's email address. |
| Role | Enter the role assigned to the user. |

10.1.4 Deleting a User

Users can be deleted from an organization, permanently removing their ability to view and edit the organization.

Note: The ability to delete a user is dependent on the role and privilege level of the managing user.

1. Navigate to the **Settings > Account Management** page.
2. From the user account list, click the checkbox next to the user account(s) you wish to delete.
3. Click **Delete**.



4. When prompted to confirm, enter your user password.
Note: This is the password of the managing user and not the password of the user to be deleted.
5. click **Yes**.
Note: The deleted user will receive a notification email to confirm the account was deleted.

10.2 Organization Management

From the Organization Management window, users can view more information about all organizations linked to the user account including organization type, device status and amount. Users can also create Site and Site Tags, and invite new users.

10.2.1 Creating a New Organization

Organization creation is only available for Managed Services Providers (MSP)-level users. Normal user accounts cannot create additional organizations.

10.2.2 Adding A Site to an Organization

Sites are an easy way for organizations to geographically group devices together. Sites are

informational and do not impact the configuration settings of devices that are listed under it. Creating additional Sites allows users to further subdivide and structure the organization and network.

1. Navigate to the **Settings > Organization Management** page.
2. From the organization list, click **Create Site** under the Actions column.
3. Specify the following information:

| | |
|------------------------------------|---|
| Site Name | Enter a name for the Site |
| Site tag | [Optional] Select a Site Tag from the drop-down menu. This will place the Site under the selected Site Tag in the organization structure. |
| Country and local time zone | Select a country and time zone from the respective drop-menu. |
| Address | Enter a valid address. This is required for the Site to properly show on the Map overview. |
| NTP server 1 | Enter an NTP server address. |
| NTP server 2 | [Optional] Enter a secondary NTP server address. |
| Name | [Optional] Enter the name of the Site's contact person. |
| Phone | [Optional] Enter the contact number of the Site's contact person. |
| Email address | [Optional] Enter the email address of the Site's contact person. |

4. Click **Save**.

10.2.3 Adding A Site Tag to an Organization

1. Navigate to the **Settings > Organization Management** page.
2. From the organization list, click **Create Site Tag** under the Actions column.
3. Specify the following information:

| | |
|-------------------|---|
| Site Name | Enter a name for the Site |
| Parent Tag | Select a Parent Tag from the drop-down menu. This will place this Site Tag under the selected Parent Tag in the organization's structure. |

4. Click **Save**.

10.2.4 Invite Users to an Organization

Additional users can be invited to the organization through the organization management window.

Note: The ability to invite users depends on the account role and privilege level of the managing user.

1. Navigate to the **Settings > Organization Management** page.
2. From the organization list, click **Invite User** under the Actions column.
3. Specify the following information:

| | |
|----------------------|--|
| User name | Enter the user's name. |
| Access Level | Select the access level of the user. This determines what information the user can view. Based on the selected access level, select the organization from the drop-down menu. |
| Email address | Enter the user's email address. This is also the user name to log into the Nuclias Portal interface. |
| Site Tag | Select a Site tag. This determines which Site tags of the organization can be viewed by the user. Selecting None will allow the user to see all Site tags under the selected organization. |
| Site | Based on the selected Site tag, select a Site. This determines which Sites of the organization can be viewed by the user. Selecting All will allow the user to see all Sites under the selected organization. |
| Role | Select a role for the user. Roles determine the degree of editing and viewing privileges of the user. Admin: Full editing and full viewing rights. Editor: Partial editing and full viewing rights. Monitor: Limited editing and partial viewing rights. Viewer: Limited viewing rights. |

4. Click **Save change**.

10.2.5 Searching for an Organization

Organization deletion is only available for Managed Services Providers (MSP)-level users. Normal user accounts cannot delete additional organizations.

10.2.6 Deleting an Organization

Organization deletion is only available for Managed Services Providers (MSP)-level users. Normal user accounts cannot delete additional organizations.

10.3 License Management

The License Management window provides more detailed information for all licenses assigned to the selected organization including status, activation and expiration dates, and how much time is currently left on a license.

10.3.1 Adding a License Key

A single license key can be added to the organization so they can be manually assigned to a device at a later point.

1. Navigate to the **Settings > License Management** page.
2. Click **Add Licenses**.
3. In the License Key window, enter the required information:

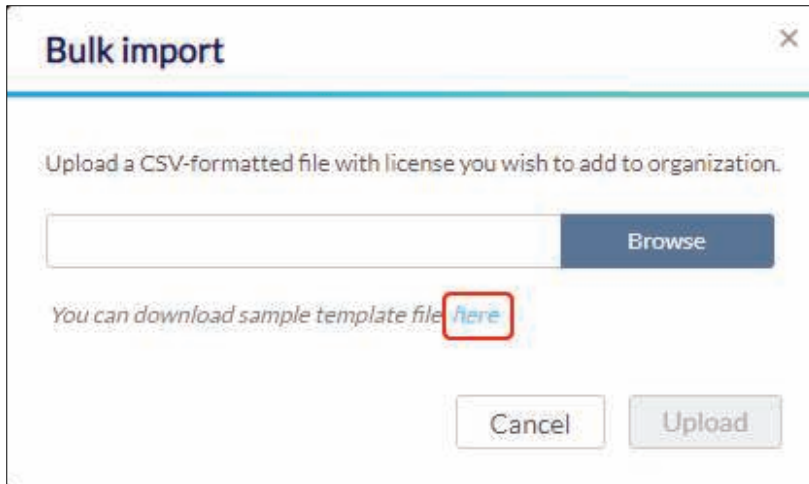
| | |
|--------------------|----------------------------|
| License Key | Enter a valid license key. |
|--------------------|----------------------------|

4. Click **Add**.

10.3.2 Bulk Adding Multiple Licenses

Multiple license keys can be bulk added to the organization so they can be manually assigned to a device at a later point.

1. Navigate to the **Configure > License Management**.
2. Click **Bulk Import**.
3. **[Optional]** Download the reference sample template.



4. Click **Browse**.
5. Locate the CSV-formatted file containing the license keys using the following format:
[License key]
6. Click **Upload**.

10.3.3 Searching for a License Key

1. Navigate to the **Configure > License Management** page.
2. From the license key list, click the **Search** field.
3. Enter the license key number.
Note: All license keys matching the value entered in the search field will automatically appear.
4. **[Optional]** Click the filter drop-down menu and enter the following information:
Note: Multiple filters can be populated to narrow down the search result.

| | |
|---------------------|---|
| Status | Enter the current status of the license. The available statuses are Inactive and Active . |
| License Key | Enter the license key serial number. |
| Term | Enter the license term. The available terms are 1 Year and 3 Years . |
| Claimed at | Enter the date and time the license was added to the organization in the format mm/dd/yyyy 00:00 AM/PM . |
| Organization | Enter the name of the organization the license key is linked to. |
| Device UID | Enter the UID of the device the license is linked to. |
| Model Name | Enter the model name of the device the license is linked to. |

| | |
|------------------------|---|
| MAC Address | Enter the MAC address of the device the license is linked to. |
| Start Date | Enter the license start date in the format mm/dd/yyyy . |
| Expiration Date | Enter the license expiration date in the format mm/dd/yyyy . |
| Time Remaining | Enter the time remaining on the license in the format mm/dd/yyyy . |

10.3.4 Viewing the License History

1. Navigate to the **Settings > License Management** page.
2. From the license key list, click **License History** in the top-right.



10.3.5 Downloading License Key List

1. Navigate to the **Settings > License Management** page.
2. From the license key list, click the **Download** icon in the top-right.



10.4 Inventory

From the Inventory windows, users can consult comprehensive information about all devices currently assigned to the selected organization, including status, hardware information, and which Site and Profile it is associated with. The inventory is divided into three sections: **Used** (assigned), **Unused** (unassigned devices), and **Both** (all devices).

Note: The displayed devices are based on the selected organization and Site.

10.4.1 Adding and Registering a Single Device to a Site

When adding a new device, assigning a Site and Profile to a device during the device registration process allows it to be used immediately.

1. Navigate to the **Settings > Inventory** page.
2. Click **Add device**.
3. Specify the following information:

| | |
|--------------------|--|
| Device UID | Enter the device's Unique Identifier (UID) found on the label printed on the device. The UID may be listed in the format XXXX-XXXX-XXXX or XXXXXXXXXXXX . When entering the UID, do not include dashes. |
| Device Name | Enter a name for the device. |

4. Under **Register device**, select **Enable**.
5. Specify the following information:

| | |
|--------------------|--|
| Site | Select a Site to link this device to. |
| Profile | Select a Profile for this device. The device will use the settings configured in that profile. |
| License Key | [Optional] Enter the device license key. Note: Every new device will be issued a one-year free license key. Once expired, an additional license must be purchased to continue using the device. |

6. Click **Save**.

10.4.2 Adding a Single Device to the Inventory

Adding a new device to the Inventory stores the device in a warehouse where it is kept inactive until it is manually assigned to a Site and Profile by the user at a later point.

1. Navigate to the **Settings > Inventory** page.

2. Click **Add device**.



3. Specify the following information:

| | |
|--------------------|--|
| Device UID | Enter the device's Unique Identifier (UID) found on the label printed on the device. The UID may be listed in the format XXXX-XXXX-XXXX or XXXXXXXXXXXX . When entering the UID, do not include dashes. |
| Device Name | Enter a name for the device. |

4. Under the Register Device option, select **Disable**.
5. Click **Save**.

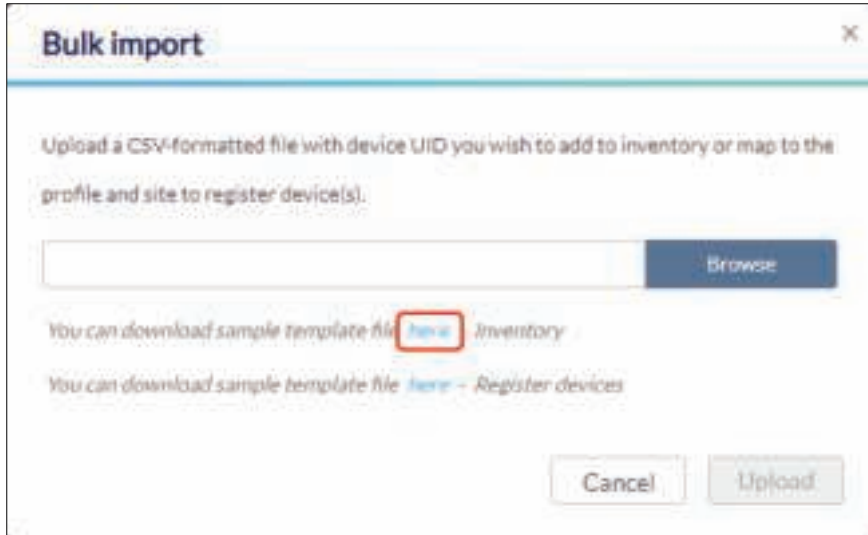
10.4.3 Bulk Adding Multiple Devices to the Inventory

Bulk adding new devices to the Inventory stores the devices in a warehouse where they are kept inactive until they are manually assigned to a Site and Profile by the user at a later point.

1. Navigate to the **Settings > Inventory** page.
2. Click **Bulk import**.



3. **[Optional]** Download the reference sample template.



4. Click **Browse**.
5. Locate the CSV-formatted file containing the UIDs of the devices.
Note: To add devices to the inventory, use the following format:
[UID]
6. Click **Upload**.

10.4.4 Bulk Adding and Registering Multiple Devices to a Site

When bulk adding a new device, assigning a Site and Profile to the devices during the device registration process allows them to be used immediately.

1. Navigate to the **Settings > Inventory** page.
2. Click **Bulk import**.



3. [Optional] Download the reference sample template.



4. Click **Browse**.
5. Locate the CSV-formatted file containing the UIDs of the devices.
Note: To directly register devices to a Site, use the following format:
[UID][Device Name][Profile Name][Site][License Key]
6. Click **Upload**.

10.4.5 Deleting a Device from the Inventory

Deleting a device from the inventory completely removes the device from the organization it was linked to, allowing it to be reassigned to a different organization.

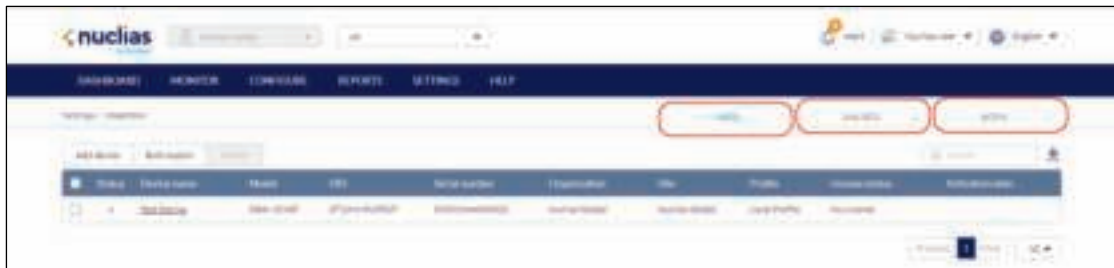
1. Navigate to the **Settings > Inventory** page.
2. Click the tab of the inventory list to filter shown devices.



3. From the device list, click the checkbox next to the device(s) you wish to delete.
4. Click **Delete**.
5. When prompted to confirm, click **Yes**.

10.4.6 Searching for a Device

1. Navigate to the **Configure > Inventory** page.
2. Click the tab of the inventory list to filter shown devices.



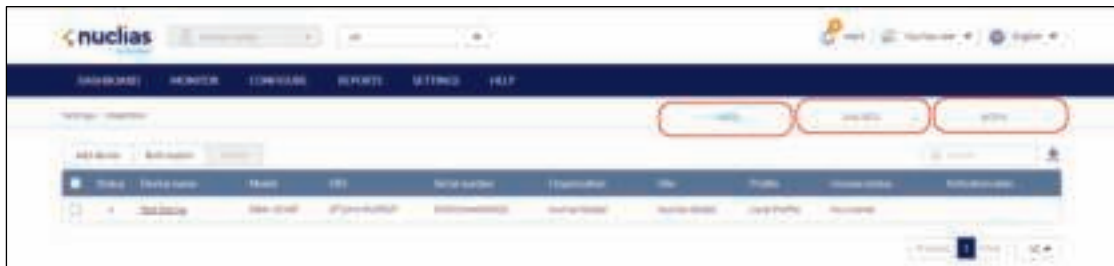
3. From the device list, click the **Search** field.
4. Enter the device name.

Note: All devices matching the value entered in the search field will automatically appear.

10.4.7 Exporting the Inventory List

1. Navigate to the **Settings > Inventory** page.
2. Click the tab of the inventory list you wish to export.

Note: Each tab exports a separate inventory list for the respective tab.



3. From the device list, click the **Download** icon in the top-right.



10.5 Firmware

From the Firmware window, users can view basic firmware information, and set up a firmware upgrade schedule. Firmware upgrades are managed at the Site level and configured per device type, which means that all devices of the same type that are linked to that Site will use the same firmware upgrading policy.

10.5.1 Setting an Automatic Upgrade Window

Automatic upgrade windows provide an easy way of regularly maintaining device firmware by setting a fixed weekly time and date to automatically scan for new firmware and upgrade devices if a new firmware version is available.

1. Navigate to the **Settings > Firmware** page.
2. Select a Site from the Site menu in the top of the screen.



3. Select a day of a week and time of day from the drop-down menu.



4. Click the tab of the device you wish to configure firmware upgrades for.

Note: Upgrade windows need to be configured separately for each device type.



5. Select **Follow upgrade window**.
6. Click **Save**.

10.5.2 Setting a Custom Device Upgrade Time

Users can define a specific time and date to scan for firmware updates which overrides the automatic upgrade schedule.

1. Navigate to the **Settings > Firmware** page.
2. Select a Site from the Site menu in the top of the screen.



3. Select a day of a week and time of day from the drop-down menu.



4. Click the tab of the device you wish to configure firmware upgrades for.

Note: Upgrade windows need to be configured separately for each device type.



5. Select **Reschedule the upgrade to**.
6. Click the date field to choose a date and select a time from the drop-down menu.
7. Click **Save**.

10.5.3 Performing a Manual Firmware Upgrade

Devices can be manually upgraded by performing an on-the-spot firmware upgrade check.

1. Navigate to the **Settings > Firmware** page.
2. Select a Site from the Site menu in the top of the screen.



3. Select a day of a week and time of day from the drop-down menu.



4. Click the tab of the device you wish to configure firmware upgrades for.

Note: Upgrade windows need to be configured separately for each device type.



5. Select **Perform the upgrade now**.
6. Click **Upgrade now**.
7. When prompted to confirm, click **Yes**.

10.6 Alert Settings

10.6.1 Configuring Alert Notifications

Users can customize what type of network events will trigger alert notifications. Events are divided into general and device-specific events.

1. Navigate to the **Settings > Alert Settings** page.
2. In the General section, select the event types to receive alert notifications for:

| | |
|---|---|
| Firmware upgraded | Sends an alert notification when a device firmware has successfully upgraded. |
| Firmware upgrade failed | Sends an alert notification when a device firmware upgrade failed. |
| Device added to profile | Sends an alert notification when a device has been assigned to a Profile. |
| Device removed from profile | Sends an alert notification when a device has been unassigned from a Profile. |
| Device connected to Nuclias | Sends an alert notification when a device has successfully connected to the Nuclias server. |
| Configuration pushed to devices | Sends an alert notification when a configuration update has been successfully pushed to affected devices. |
| Configuration failed to push to device | Sends an alert notification when a configuration update failed to be pushed to affected devices. |

3. In the Access Point section, select a time (in minutes) from the drop-down menu, and check the respective checkbox to receive notifications by email or through the app

whenever the device goes offline for longer than the selected time period.

4. In the Switch section, select a time (in minutes) from the drop-down menu, and check the respective checkbox to receive notifications by email or through the app whenever the device goes offline for longer than the selected time period.
5. Select **Any port** or a specific from the drop-down menu, select a time (in minutes) from the drop-down menu, and check the respective checkbox to receive notifications by email or through the app whenever the selected port(s) are down for longer than the selected time period..
6. Click **Save**.

10.7 Add Device

1. Navigate to the **Settings > Add device** page.
Note: The add device window will automatically appear.
2. Specify the following information:

| | |
|--------------------|--|
| Device UID | Enter the device's Unique Identifier (UID) found on the label printed on the device. The UID may be listed in the format XXXX-XXXX-XXXX or XXXXXXXXXXXX . When entering the UID, do not include dashes. |
| Device name | Enter a name for the device. |
| Site | Select a Site to link this device to. |
| Profile | Select a Profile for this device. The device will use the settings configured in that profile. |
| License Key | [Optional] Enter the device license key. Note: Every new device will be issued a one year free license key. Once expired, an additional license must be purchased to continue using the device. |

3. Click **Save**.

11 Help

11.1 Contact Us

From the Contact Us window, users can submit a support ticket for various issues with devices or the platform as well as provide feedback so we may continue to improve the quality of our platform.

11.1.1 Contacting Nuclias Support

1. Navigate to the Help > **Contact Us** page.
2. Specify the following information:

| | |
|-----------------------|---|
| Name | Click to enter a sender name. The recipient will see this name. By default, this is the user name. |
| E-mail | Enter an email address. Responses to submitted tickets will be received on this email address. By default, this is the user account email. |
| Phone | [Optional] Enter a contact number. |
| Issue category | Select a category type from the drop-down menu. |
| Problem device | If Installation, Device Problem, or License Issue is selected as the category, enter the UID of the affected device. [Optional] Click Add to enter additional device UIDs. |
| Description | Enter a description of the issue or feedback. |

3. **[Optional]** Drag and drop an image file of up to 2 mb in size. Alternatively, click **Browse** and navigate to the image file.
4. Click **Submit**.