



Crestron® Room Scheduling Panels for TSW-70 Series

Operations Guide

Crestron Electronics, Inc.

Original Instructions

The U.S. English version of this document is the original instructions.

All other languages are a translation of the original instructions.

Crestron product development software is licensed to Crestron dealers and Crestron Service Providers (CSPs) under a limited nonexclusive, nontransferable Software Development Tools License Agreement. Crestron product operating system software is licensed to Crestron dealers, CSPs, and end-users under a separate End-User License Agreement. Both of these Agreements can be found on the Crestron website at www.crestron.com/legal/software_license_agreement.

The product warranty can be found at www.crestron.com/warranty.

The specific patents that cover Crestron products are listed at www.crestron.com/legal/patents.

Certain Crestron products contain open source software. For specific information, visit www.crestron.com/opensource.

Crestron, the Crestron logo, Crestron Fusion, Crestron Toolbox, RoomView, and XiO Cloud are either trademarks or registered trademarks of Crestron Electronics, Inc. in the United States and/or other countries. Ad Astra is either a trademark or a registered trademark of Ad Astra Information Systems, LLC in the United States and/or other countries. CollegeNET and 25Live are either trademarks or registered trademarks of CollegeNET, Inc. in the United States and/or other countries. Google and Google Calendar are either trademarks or registered trademarks of Google, Inc. in the United States and/or other countries. Active Directory, Microsoft, Microsoft Entra, and Office 365 are either trademarks or registered trademarks of Microsoft Corporation in the United States and/or other countries. Other trademarks, registered trademarks, and trade names may be used in this document to refer to either the entities claiming the marks and names or their products. Crestron disclaims any proprietary interest in the marks and names of others. Crestron is not responsible for errors in typography or photography. Other trademarks, registered trademarks, and trade names may be used in this document to refer to either the entities claiming the marks and names or their products. Crestron disclaims any proprietary interest in the marks and names of others. Crestron is not responsible for errors in typography or photography.

©2023 Crestron Electronics, Inc.

Contents

Introduction	1
Setup	2
Access the Web Configuration Interface	2
Set the Time Zone	3
Select the Scheduling App (Non-TSS Only)	4
Connect to a Scheduling Calendar	6
Connect to Crestron Fusion	6
Connect to Microsoft Exchange Using EWS	7
Connect to Office 365 Using Microsoft Graph	9
Connect to Google Calendar	10
Connect to Ad Astra	12
Connect to CollegeNet 25 Live	13
Web Configuration	14
Actions Menu	15
Save Changes	15
Revert	15
Reboot	15
Restore	16
Update Firmware	16
Download Logs	16
Manage Certificates	16
Enter Setup	16
Enter Standby	17
Upload Scheduling Project	17
Status	18
Device	18
Network	19
USB	21
Room Scheduling	21
Display	22
Schedule	22
SNMP Configuration	25
Settings	26
System Setup	27
Network	37
Services	43
Network Proxy Settings	44
Device Pairing	45
Audio	46
Reservation	47

Auto Update	49
Schedule	50
Cloud Settings	57
UI Settings	58
Display	60
LED Accessory	62
Room	63
Automation	65
Broadcast Messages	66
Applications	67
Work Hours	67
SNMP Configuration	68
Security	70
Current User	71
Users	72
Groups	76
802.1x Configuration	79
Crestron Fusion Configuration	82
Add Custom Properties to a Room	82
Set Custom Properties for the Scheduling Application	83
Scheduling Application Custom Properties	84
Work Hours Settings	84
Display Settings	85
Broadcast Message Settings	85
UI Settings	86
Automation Settings	87
Room Settings	87
Reservation Settings	89
Schedule Settings	90
All Scheduling Application Custom Properties	91
Appendix A: Configure Modern Authentication for EWS	93
Configure the Crestron Room Scheduling EWS App	93
Create the Crestron Room Scheduling App	93
Obtain Authentication IDs	95
Configure Additional Settings	96
Connect the Scheduling App to EWS	104
Appendix B: Configure Microsoft Graph for Crestron Room Scheduling	108
Configure the Crestron Room Scheduling App	108
Create the Crestron Room Scheduling App	109
Create a Client Secret	113
Add API Permissions	115
Obtain Authentication IDs	120
Connect the Scheduling App to Microsoft Graph	122

Introduction

The Crestron® room scheduling application provides a complete room scheduling solution for the Crestron [TSS-770](#) and [TSS-1070](#) room scheduling touch screens and the [TSW-570](#), [TSW-570P](#), [TSW-770](#), [TSW-1070](#), [TS-770](#), and [TS-1070](#) touch screens. When the scheduling application is enabled on a touch screen installed outside of a meeting space, users may view the room's availability, check the status of nearby rooms, and book an ad hoc meeting directly through the touch screen.

The scheduling application integrates with Crestron Fusion® software, Microsoft® Exchange and Microsoft Office 365® software, the Google Calendar™ calendaring application (via a Google® software account), Ad Astra™ software, or CollegeNet® 25Live® software to provide real-time notifications and to monitor the meeting space intelligently.

NOTE: The scheduling application comes preinstalled on supported touch screens. Ensure that the touch screen is running the latest firmware version that includes the scheduling application. For more information, refer to the firmware release notes.

The following documents are also provided for the scheduling application:

- For more information about scheduling application functionality and the user interface, refer to the [Crestron Room Scheduling Panels User Guide](#).
- For more information about customizing the scheduling application, refer to the [Crestron Room Scheduling Panels Programming Guide](#).

Setup

Use the following procedures to select the room scheduling application mode on the touch screen (for touch screens not dedicated to room scheduling) and to set up a connection to a supported scheduling calendar.

NOTE: Ensure that the latest touch screen firmware that includes the scheduling application is installed on the touch screen. If older firmware is installed on the touch screen, download and install the most recent firmware from www.crestron.com/Support/Resource-Library.

Access the Web Configuration Interface

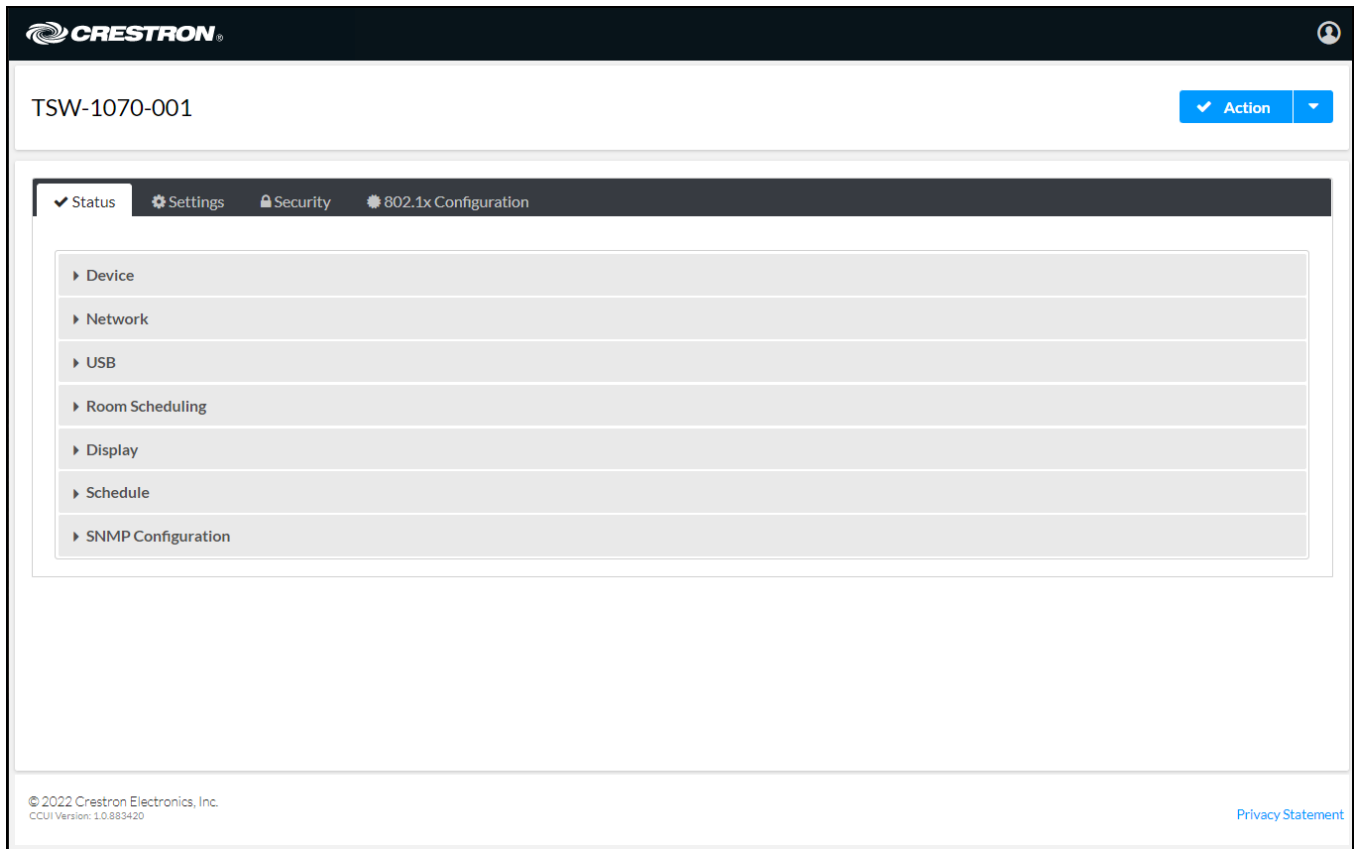
Turn on the room scheduling application via the included web configuration interface. The web configuration interface is accessible from a web browser if the IP address of the touch screen is known. A similar interface is also accessible using the XiO Cloud® service.

To access the web configuration interface:

1. Use the **Device Discovery** tool in Crestron Toolbox™ software to discover the touch screen and its IP address on the network
2. Open a web browser.
3. Enter the touch screen IP address into the browser URL field. The configuration interface is displayed.

NOTE: If authentication is turned on for the touch screen, an administrator username and password must be entered prior to accessing the web configuration interface. For more information on configuring authentication settings, refer to [Security on page 70](#).

Web Configuration Interface



Set the Time Zone

If Microsoft Exchange or Crestron Fusion will be used as the scheduling calendar provider, set the time zone on the touch screen prior to enabling the scheduling application.

NOTE: If Google Calendar will be used as the scheduling panel provider, the scheduling application uses the time zone set in the Google Calendar settings.

To set the time zone from the configuration interface:

1. Navigate to **Settings > System Settings > Date/Time**.

System Settings Accordion - Date/Time

The screenshot shows the 'Date/Time' configuration interface. It includes a 'Synchronization' section with a 'Time Synchronization' toggle switch turned on and a 'Synchronize Now' button. Below this is the 'NTP Time Servers' section, which contains a table with columns for Address, Port, Authentication Method, Authentication Key, and Key ID. The table has one row with the address 'pool.ntp.org', port '123', and authentication method 'None'. There are 'Add' and 'Remove' buttons below the table. The 'Configuration' section at the bottom includes fields for 'Time Zone' (set to '(UTC - 05: 00) Eastern Time (US & ...)'), 'Date' (set to '04/30/2021'), 'Time Format' (radio buttons for 12 and 24, with 12 selected), 'Date Format' (set to 'WMDY'), and 'Time' (set to '15:30').

	Address	Port	Authentication Method	Authentication Key	Key ID
<input type="checkbox"/>	pool.ntp.org	123	None	0

2. Turn on the **Time Synchronization** toggle to use time synchronization via SNTP (Simple Network Time Protocol).
3. Enter the necessary information in the **NTP Time Servers** table and the **Time Zone, Date, Time Format, Date Format,** and **Time** fields. For more information, refer to [System Setup on page 27](#).
4. Select **Synchronize Now**. The touch screen may take up to two minutes to synchronize with the SNTP server.

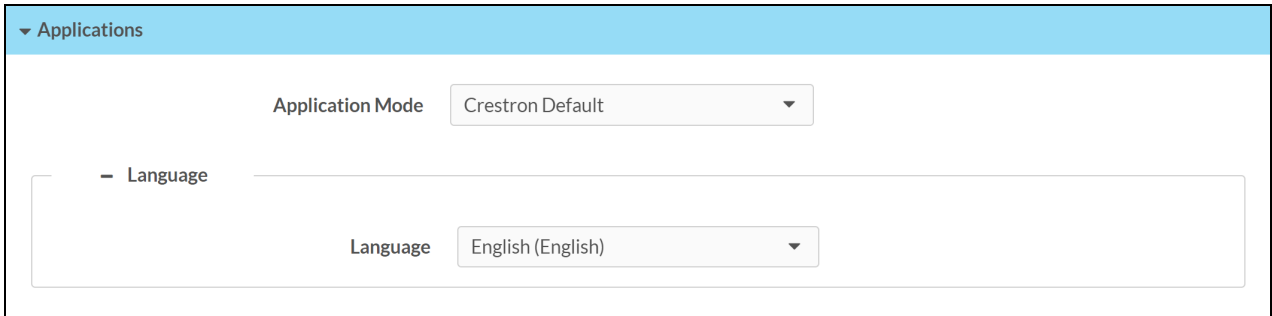
Select the Scheduling App (Non-TSS Only)

To select the scheduling application from the configuration interface if using a TSW-70 series touch screen not dedicated exclusively to room scheduling:

NOTE: The Crestron scheduling application is selected by default on TSS-770 and TSS-1070 touch screens.

1. Navigate to **Settings > System Settings > Applications**.
2. Select **Crestron Default** from the **Application Mode** drop-down menu.

System Settings Accordion - Applications



▼ Applications

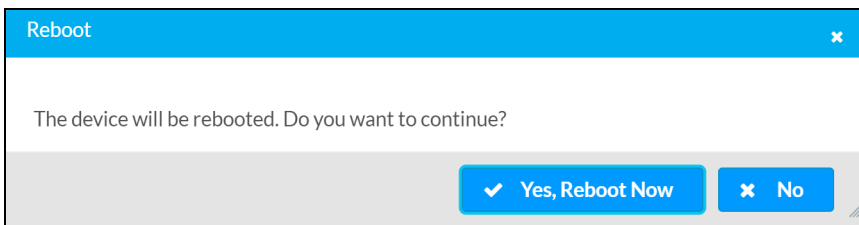
Application Mode Crestron Default ▼

— Language

Language English (English) ▼

3. Use the **Language** drop-down menu to select the language that will be displayed by the scheduling application.
4. Select **Save Changes** from the **Action** menu. A pop-up window stating that the touch screen will be rebooted displays.

Reboot Window



Reboot X

The device will be rebooted. Do you want to continue?

✓ Yes, Reboot Now X No

5. Select **Yes, Reboot Now** to restart the touch screen in scheduling mode.

Connect to a Scheduling Calendar

Use the following procedures to connect to one of the supported scheduling calendars (Crestron Fusion, Microsoft Exchange/Office 365, Google Calendar, Ad Astra, or CollegeNet 25Live).

NOTE: The scheduling application must be selected before a connection to a scheduling calendar can be established.

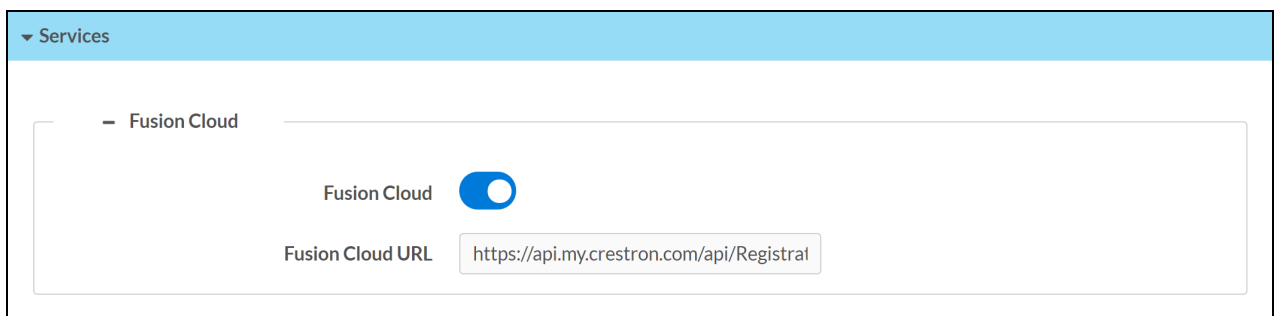
Connect to Crestron Fusion

To connect to a Crestron Fusion scheduling calendar:

NOTE: The touch screen must be added to a room in Crestron Fusion before the scheduling calendar shows as online. For more information, refer to the [Adding Devices to Crestron Fusion Getting Started Guide](#).

1. Navigate to **Settings > Services > Crestron Fusion Cloud**.
2. Turn on the **Crestron Fusion Cloud** toggle.

Settings Tab - System Setup (Crestron Fusion Cloud)



3. Enter the Crestron Fusion cloud URL that contains the desired scheduling calendar in the **Crestron Fusion Cloud URL** field.
4. Navigate to **Settings > Schedule**.
5. Configure the desired **Polling Interval** and **Custom Reserve Time** settings. For more information, refer to [Schedule](#).

6. Select **Crestron Fusion** from the **Schedule Source** drop-down menu.

Settings Tab - Schedule (Crestron Fusion)

The screenshot shows the 'Schedule' settings for Crestron Fusion. At the top, there's a blue header with a dropdown arrow and the word 'Schedule'. Below this, the settings are organized as follows:

- Polling Interval:** A numeric input field containing '5' and a unit dropdown set to 'Minutes'.
- Custom Reserve Time:** A toggle switch currently in the 'off' position.
- Schedule Source:** A dropdown menu currently set to 'Fusion'.
- Fusion Section:** A container with a minus sign and the label 'Fusion'. Inside this container:
 - Enable Push Registration:** A toggle switch currently in the 'on' position.
 - Enable Find Button:** A toggle switch currently in the 'on' position.

7. Configure the following Crestron Fusion settings:
 - Turn on the **Enable Push Registration** toggle to have Crestron Fusion push scheduling calendar data to the scheduling application.
 - Turn on the **Enable Find Button** toggle to display a find button on the scheduling application so a user may look up nearby rooms available for meetings.
8. Select **Save Changes** from the **Action** menu. The Crestron Fusion scheduling calendar connects to the scheduling application without requiring a restart.

Connect to Microsoft Exchange Using EWS

To connect to a Microsoft Exchange scheduling calendar using EWS (Exchange Web Services):

NOTE: The Microsoft Exchange account and scheduling calendar must be fully configured before the scheduling calendar shows as online.

1. Navigate to **Settings > Schedule**.
2. Configure the desired **Polling Interval** and **Custom Reserve Time** settings. For more information, refer to [Schedule](#).

3. Select **Exchange EWS** from the **Schedule Source** drop-down menu.

Settings Tab - Schedule (Exchange EWS)

The screenshot shows the 'Schedule' settings page for 'Exchange EWS'. At the top, there is a 'Polling Interval' set to 5 minutes, a 'Custom Reserve Time' toggle, and a 'Schedule Source' dropdown menu set to 'Exchange EWS'. Below this is a section titled 'Exchange' containing several configuration options: 'Enable Modern Authentication' (a toggle switch), 'Exchange Calendar Email Address' (a text field), 'Exchange Account Username' (a text field), 'Exchange Account Password' (a text field), 'Exchange Domain' (a text field), and 'Exchange Web Services URL' (a text field).

4. Enter the following Microsoft Exchange account information:

- Turn on the **Enable Modern Authentication** toggle to use Modern Authentication for the EWS account. For instructions on configuring Modern Authentication for use with the Crestron Room Scheduling application, refer to [Appendix A: Configure Modern Authentication for EWS on page 93](#).
- Enter the email address associated with the Microsoft Exchange scheduling calendar in the **Exchange Calendar Email Address** text field.
- Enter the username for the Microsoft Exchange account in the **Exchange Account Username** text field.

NOTE: The username must include the ".com" suffix similar to the email address entered in the **Exchange Calendar Email Address** text field.

- Enter the password for the Microsoft Exchange account in the **Exchange Account Password** text field.
- Enter the domain name associated with the Microsoft Exchange account in the **Exchange Domain** text field.

NOTE: The **Exchange Domain** text field must be left blank if using Office 365 software.

- Enter the Microsoft EWS (Exchange Web Services) server URL that the scheduling calendar uses to access Microsoft Exchange scheduling data in the **Exchange Web Services URL** text field.
5. Select **Save Changes** from the **Action** menu. The Microsoft Exchange scheduling calendar connects to the scheduling application without requiring a restart.

Additional registration steps are required if Enable Modern Authentication is set to enabled. Refer to [Appendix A: Configure Modern Authentication for EWS on page 93](#) for more information.

Connect to Office 365 Using Microsoft Graph

To connect to an Office 365 scheduling calendar using Microsoft Graph:

NOTES:

- The Office 365 account and scheduling calendar must be fully configured before the scheduling calendar shows as online.
- Additional registration steps are required in the Microsoft Entra® portal. Refer to [Appendix B: Configure Microsoft Graph for Crestron Room Scheduling on page 108](#) for more information.

1. Navigate to **Settings > Schedule**.
2. Configure the desired **Polling Interval** and **Custom Reserve Time** settings. For more information, refer to [Schedule](#).
3. Select **O365** from the **Schedule Source** drop-down menu.

Settings Tab - Schedule (O365)

The screenshot shows the 'Schedule' settings page for an O365 calendar. At the top, there's a 'Schedule' tab. Below it, the 'Polling Interval' is set to 5 minutes. The 'Custom Reserve Time' is turned off. The 'Schedule Source' is set to 'O365'. Under the 'Exchange' section, there are four text input fields: 'Exchange Calendar Email Address', 'Client ID (Application ID)', 'O365 Tenant ID', and 'Client Secret'. Each field has a red asterisk indicating it's required.

4. Enter the following Office 365 account information:

NOTE: The **Client ID (Application ID)**, **O365 Tenant ID**, and **Client Secret** values are generated within the Microsoft Entra portal for the Microsoft Entra app. For more information, refer to [Appendix B: Configure Microsoft Graph for Crestron Room Scheduling on page 108](#).

- Enter the email address associated with the Office 365 scheduling calendar in the **Exchange Calendar Email Address** text field.
- Enter the client (application) ID generated for the Microsoft Entra app in the **Client ID (Application ID)** text field.

- Enter the directory (tenant) ID generated for the Microsoft Entra app in the **O365 Tenant ID** text field.
 - Enter the client secret generated for the Microsoft Entra app in the **Client Secret** text field.
5. Select **Save Changes** from the **Action** menu. The Office 365 scheduling calendar connects to the scheduling application without requiring a restart.

Connect to Google Calendar

To connect to a Google scheduling calendar:

NOTE: The Google account and scheduling calendar must be fully configured before the scheduling calendar shows as online.

1. Navigate to **Settings > Schedule**.
2. Configure the desired **Polling Interval** and **Custom Reserve Time** settings. For more information, refer to [Schedule](#).
3. Select **Google** from the **Schedule Source** drop-down menu.

Settings Tab - Schedule (Google)

The screenshot shows the 'Schedule' settings tab for Google. At the top, there's a blue header with a dropdown arrow and the text 'Schedule'. Below this, the settings are organized into sections. The first section has 'Polling Interval' set to '5' with a unit of 'Minutes' and a blue up/down arrow icon. The second section has 'Custom Reserve Time' with a grey toggle switch. The third section has 'Schedule Source' with a dropdown menu showing 'Google'. Below this, there's a section for 'Google' with a minus icon and a large text area. At the bottom of this text area is a 'Google Calendar' label and an empty text input field.

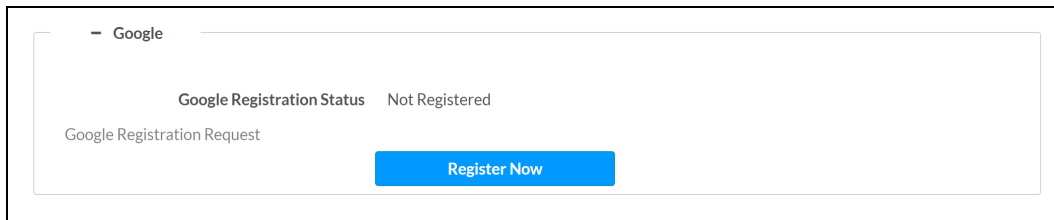
4. Enter the calendar account name or ID in the **Google Calendar** text field if more than one calendar is available for the Google account. If this field is left empty, the scheduling application uses the primary calendar set for the Google account.

NOTE: To switch to a different calendar on the same Google account, enter the new calendar account name or ID in the **Google Calendar** text field.

5. Select **Save Changes** from the **Action** menu.

6. Navigate to **Status > Schedule**. The **Google** subsection displays a **Register now** button.

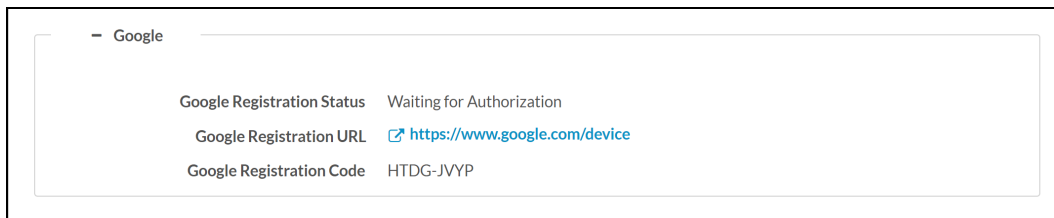
Status Tab - Schedule (Register now Button)



7. Select **Register Now**.

When the web configuration interface refreshes, the **Google** subsection displays a **Google Registration URL** and a **Google Registration Code**, and the **Google Registration Status** updates to "Waiting for Authorization."

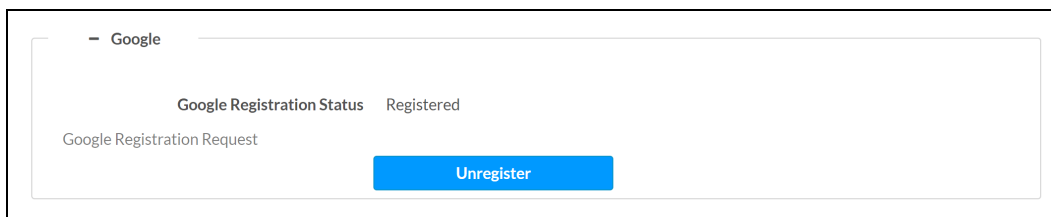
Status Tab - Schedule (Registration URL and Code)



8. Select the provided registration URL. The **Google Connect a device page** is displayed.
9. Enter the provided Google registration code in the **Enter code** field and select **Next**. The **Choose an account** page is displayed.
10. Select the Google account that contains the desired scheduling calendar and enter the account password if prompted. A message window is displayed asking whether Crestron Scheduling Panels is allowed access to manage the Google Calendar account.
11. Select **Allow**. A success message displays if the connection is successful.

When the web configuration interface refreshes, the **Google Registration Status** updates to **Registered**. The Google scheduling calendar connects to the scheduling application without requiring a restart.

Status Tab - Schedule (Registered)



NOTE: Google currently has a token refresh limit of 50. If the limit is reached, it will invalidate the oldest refresh token. For example, if a deployment has 50 touch screens under one account, and if an admin reregisters one of the panels with Google, the touch screen with the oldest refresh token from the remaining 49 will go offline. It is recommended that only 15 or 20 calendars/touch screens are used for one user account. This limit does not apply to service accounts.

Connect to Ad Astra

To connect to an Ad Astra scheduling calendar:

NOTE: The Ad Astra account and scheduling calendar must be fully configured before the scheduling calendar shows as online. Additionally, Ad Astra software does not support scheduling ad hoc meetings from the touch screen.

1. Navigate to **Settings > Schedule**.
2. Configure the desired **Polling Interval** and **Custom Reserve Time** settings. For more information, refer to [Schedule](#).
3. Select **Ad Astra** from the **Schedule Source** drop-down menu.

Settings Tab - Schedule (Ad Astra)

The screenshot shows the 'Schedule' settings page for 'Ad Astra'. At the top, there's a blue header with a dropdown arrow and the text 'Schedule'. Below this, there are three settings: 'Polling Interval' set to '5' with a 'Minutes' label and a blue up/down arrow; 'Custom Reserve Time' which is a disabled toggle switch; and 'Schedule Source' set to 'Ad Astra' with a dropdown arrow. Below these settings is a section titled 'Ad Astra' with a minus sign icon. Inside this section, there are four text input fields: 'Username', 'Password', 'Room ID', and 'Server URL'. Each field has a red border and a red error message to its right: 'Username is invalid', 'Password is invalid', 'Room ID is invalid', and 'Server URL is invalid'.

4. Enter the following Ad Astra account information:
 - Enter the username for the Ad Astra account in the **Username** text field.
 - Enter the password for the Ad Astra account in the **Password** text field.
 - Enter the room ID associated with the Ad Astra scheduling calendar in the **Room ID** text field.
 - Enter the URL of the Ad Astra scheduling calendar server in the **Server URL** text field.
5. Select **Save Changes** from the **Action** menu. The Ad Astra scheduling calendar connects to the scheduling application without requiring a restart.

Connect to CollegeNet 25 Live

To connect to an CollegeNet 25Live scheduling calendar:

NOTE: The CollegeNet 25Live account and scheduling calendar must be fully configured before the scheduling calendar shows as online. Additionally, CollegeNet 25 Live software does not support scheduling ad hoc meetings from the touch screen.

1. Navigate to **Settings > Schedule**.
2. Configure the desired **Polling Interval** and **Custom Reserve Time** settings. For more information, refer to [Schedule](#).
3. Select **25Live** from the **Schedule Source** drop-down menu.

Settings Tab - Schedule (25Live)

▼ Schedule

Polling Interval Minutes

Custom Reserve Time ☐

Schedule Source

— Ad Astra

Username Username is invalid

Password Password is invalid

Room ID Room ID is invalid

Server URL Server URL is invalid

4. Enter the following CollegeNet 25Live account information:
 - Enter the username for the CollegeNet 25Live account in the **Username** text field.
 - Enter the password for the CollegeNet 25Live account in the **Password** text field.
 - Enter the space ID associated with the CollegeNet 25Live scheduling calendar in the **Space ID** text field.
 - Enter the URL of the CollegeNet 25Live scheduling calendar server in the **Server URL** text field.
5. Select **Save Changes** from the **Action** menu. The CollegeNet 25Live scheduling calendar connects to the scheduling application without requiring a restart.

Web Configuration

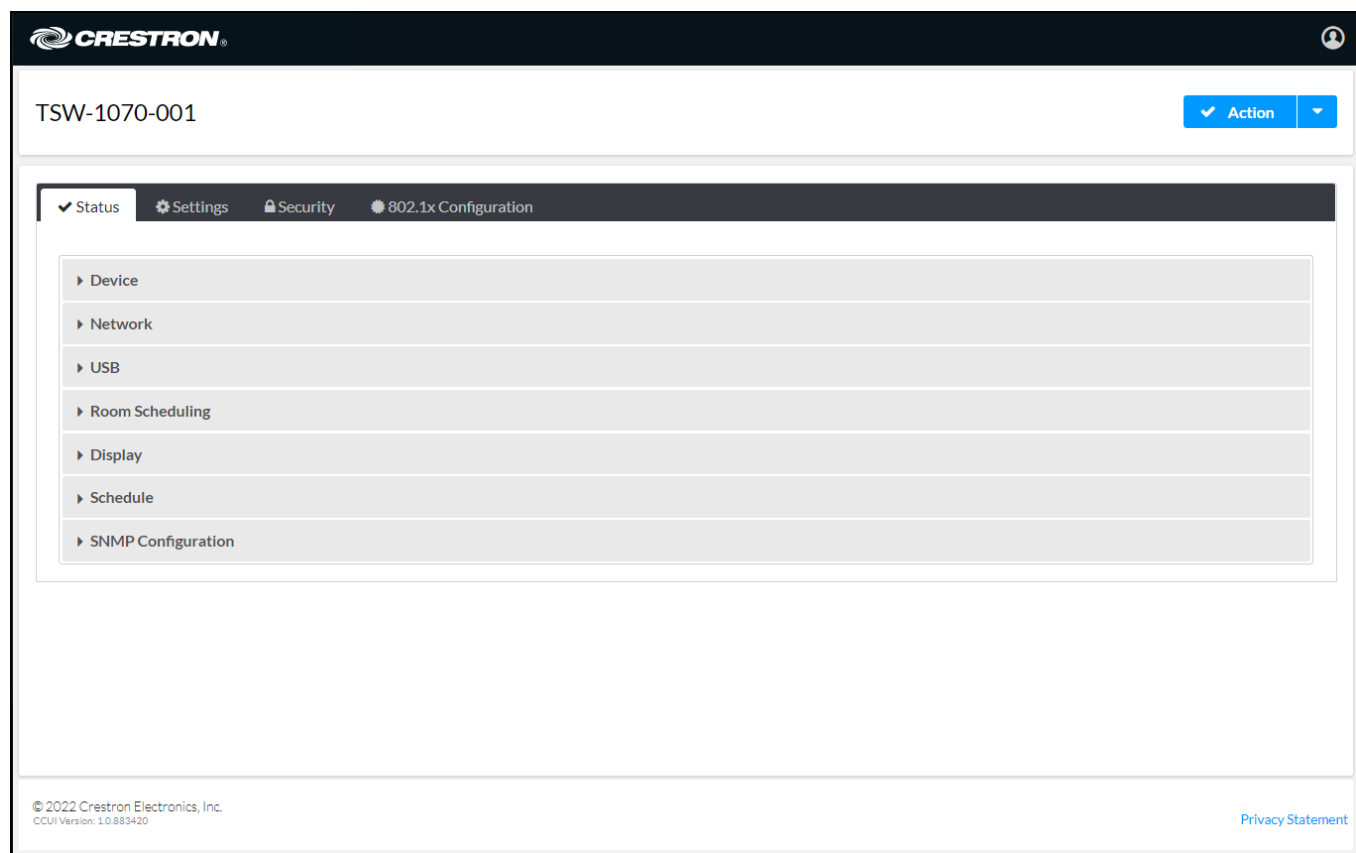
Once the scheduling application is enabled on the touch screen, scheduling application settings may be monitored and configured using the included web configuration interface. A similar interface is also accessible using the XiO Cloud® service.

NOTE: The scheduling application must be selected to view and configure scheduling application settings.

If Crestron Fusion will be used to configure the scheduling application, skip ahead to [Crestron Fusion Configuration on page 82](#).

To access the configuration interface, refer to the procedure described in [Access the Web Configuration Interface on page 2](#). The **Status** tab is opened by default.

Web Configuration Interface



The configuration interface provides the following tabs:

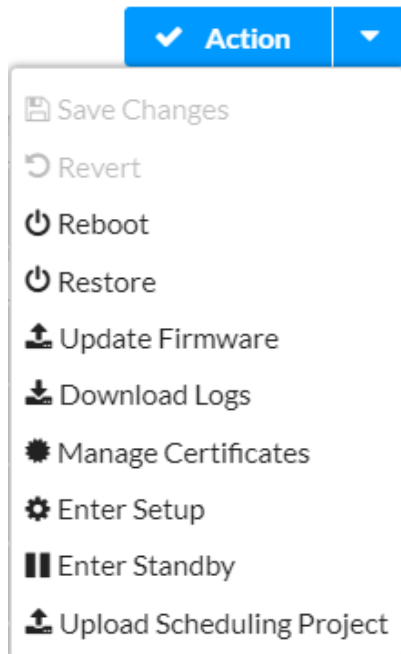
- **Status:** Used to monitor touch screen status
- **Settings:** Used to configure touch screen settings
- **Security:** Used to enable authentication and other security settings

- **802.1x Configuration:** Used to configure IEEE 802.1x network authentication for touch screen security

Actions Menu

The configuration interface provides an **Actions** drop-down menu on the top right of the page. The **Actions** menu may be accessed at any time.

Actions Menu



Once any changes have been made to the touch screen configuration, the **Actions** button changes to a **Save Changes** button. Select **Save Changes** to save changes to the configuration settings.

If a restart is required after changes have been saved, a dialog box is displayed asking whether the restart should be performed. Select **Yes** to restart the device or **No** to cancel the restart.

The **Actions** menu provides the following selections.

Save Changes

Select **Save Changes** to save any changes made to the configuration settings.

Revert

Select **Revert** to revert the touch screen back to the last saved configuration settings.

Reboot

Select **Reboot** to restart the touch screen.

After **Reboot** is selected, a dialog box is displayed asking whether the touch screen should be restarted. Select **Yes** to restart the device or **No** to cancel the restart.

Restore

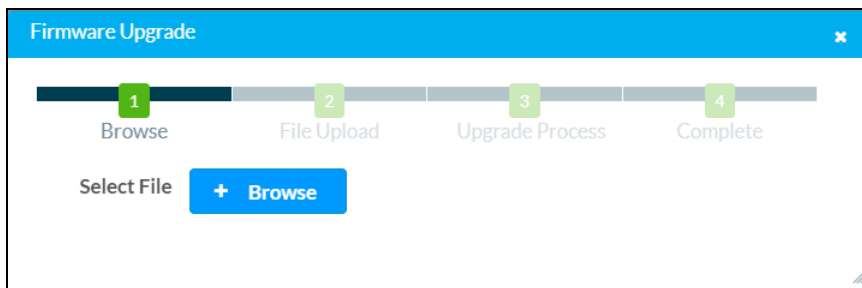
Select **Restore** to restore the touch screen configuration settings to their default values.

After **Restore** is selected a dialog box is displayed asking whether the device settings should be restored. Select **Yes** to restore the settings or **No** to cancel the restore.

Update Firmware

Select **Update Firmware** to upgrade the touch screen firmware manually with a downloaded PUF (package update file). The **Firmware Upgrade** dialog box opens.

Firmware Upgrade Dialog Box



To upload a firmware PUF through the web configuration interface:

NOTE: Visit the appropriate device product page or www.crestron.com/Support/Resource-Library to download the latest firmware PUF.

1. Select **Browse**, and then navigate to the firmware PUF on the host computer.
2. Select the firmware PUF, and then select **Open**.
3. Select **Load** to load the PUF to the touch screen. The upload progress is shown in the dialog box.
4. Once the touch screen has completed the firmware upgrade, select **OK**.

Select the **x** button to close the **Firmware Upgrade** dialog box at any time during the upgrade process. Selecting the **x** button before the PUF is uploaded to the touch screen cancels the upgrade.

Download Logs

Select **Download Logs** to download the touch screen message logs for diagnostic purposes. The message files download as a compressed .tgz file. Once the compressed file is downloaded, extract the message log files to view them.

Manage Certificates

Select **Manage Certificates** to manage any certificates that are installed on the touch screen. For more information on certificate management, refer to [802.1x Configuration on page 79](#).

Enter Setup

Select **Enter Setup** to force the touch screen to enter its built-in setup interface.

Enter Standby

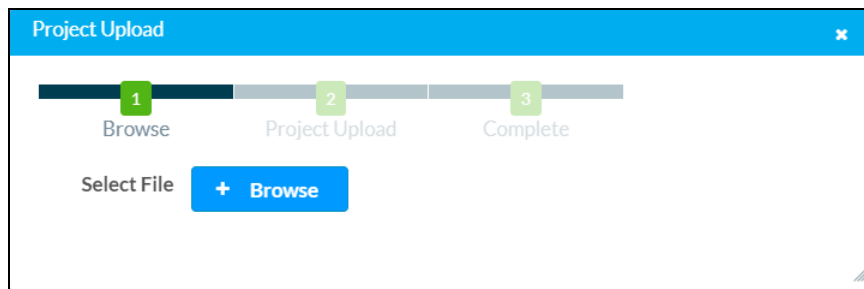
Select **Enter Standby** to force the touch screen to enter standby mode.

Upload Scheduling Project

Select **Upload Scheduling Project** to upload a custom scheduling project to the touch screen. A **Project Upload** dialog box opens.

NOTE: For more information, creating custom scheduling projects, refer to the [Crestron Room Scheduling Panels Programming Guide](#).

Project Upload Dialog Box



To upload a custom scheduling project:

1. Select **Browse**, and then navigate to the project .vtz file on the host computer.
2. Select the project .vtz file, and then select **Open**.
3. Select **Load** to load the project .vtz file to the touch screen. The upload progress is shown in the dialog box.
4. Once the touch screen has completed the project upload, select **OK**.

Select the **x** button to close the **Project Upload** dialog box at any time during the upgrade process. Selecting the **x** button before the project file is uploaded to the touch screen cancels the upload.

Status

Select the **Status** tab on the top left of the configuration interface to display selections for viewing the status of device, network, and control system settings.

Select on a selection name to expand the selection. If the selection is expanded, select the selection name again to collapse the section.

Status Tab Selections

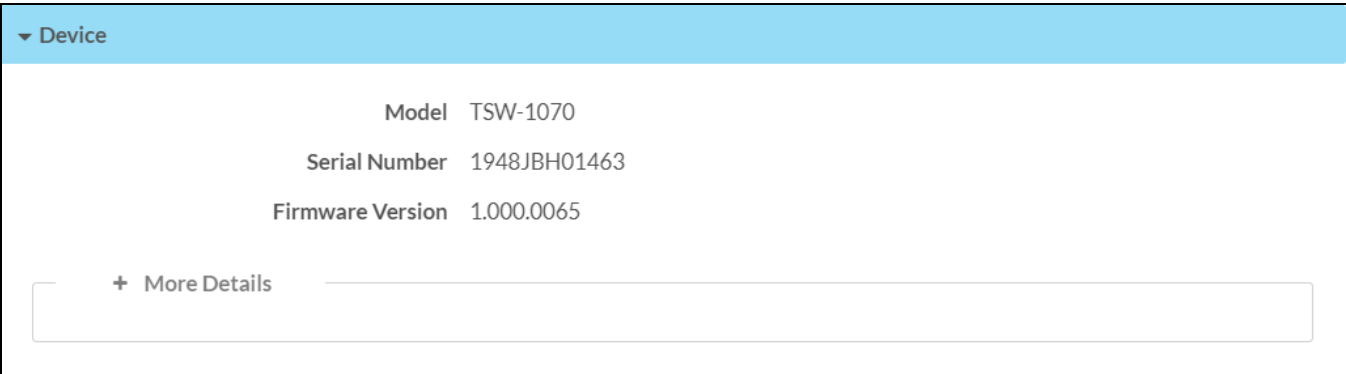


Each selection is described in the sections that follow.

Device

Select **Device** to view general device information.

Status Tab - Device



The following **Device** information is displayed:

- **Model:** The touch screen model name
- **Serial Number:** The touch screen serial number
- **Firmware Version:** The firmware version loaded onto the touch screen

Select **+ More details** at the bottom of the **Device** tab to display an expanded section that shows additional touch screen information. If **+ More Details** is selected, select **- Less** details to collapse the section.

Network

Select **Network** to view the status of the network settings for the touch screen.

Status Tab - Network

▼ Network

Hostname

TSW-1070-00107FDA645F

IPv6 Enabled

Yes

IPv6

DNS Servers

,

IPv4

DNS Servers

10.0.1.1(DHCP)

Primary LAN

Domain

localdomain

IPv4

DHCP Enabled

On

IP Address

10.0.1.2

Subnet Mask

255.255.255.0

Default Gateway

10.0.1.1

Link Active

True

MAC Address

00:10:7f:da:64:5f

IPv6

Default Gateway

::

Subnet Prefix Length	IP Address	Type
64	fe80::6a8c:d44:f5ad:6440	Link Local

WIFI

Domain

localdomain

IPv4

Link Active

False

MAC Address

de.ad.be.ef.12.34

LAN

Network Proxy Settings

Disabled

The following **Network** information is displayed:

- **Host Name:** The touch screen host name
- **IPv6 Enabled:** Reports whether IPv6 addressing is turned on (**Yes**) or not (**No**)
- **DNS Servers (IPv6):** The DNS (domain name server) addresses used to resolve the touch screen domain to an IPv6 address

- **DNS Servers (IPv4):** The DNS (domain name server) addresses used to resolve the touch screen domain to an IPv4 address

Select the + (plus) icon next to **Primary LAN** to display the following Ethernet settings:

- **Domain:** The touch screen domain name
- **IPv4:** Contains settings for IPv4 Ethernet addressing
 - **DHCP Enabled:** Reports whether the IPv4 Ethernet address is static (**Yes**) or dynamic (**No**)
 - **IP Address:** The touch screen IPv4 Ethernet address, shown only if an Ethernet connection is active
 - **Subnet Mask:** The touch screen subnet mask address, shown only if an Ethernet connection is active
 - **Default Gateway:** The gateway router address, shown only if an Ethernet connection is active
 - **Link Active:** Reports the status of the Ethernet connection (A **true** message indicates that the Ethernet connection is active, while a **false** message indicates that the Ethernet connection is inactive.)
 - **MAC Address:** The unique MAC (media access control) address for the Ethernet adapter
- **IPv6:** Contains settings for IPv6 Ethernet addressing
 - **Default Gateway:** The gateway router address, shown only if an Ethernet connection is active and IPv6 addressing is active
 - Each IPv6 Ethernet address configured for the touch screen is displayed in a table with the following information:
 - **Subnet Prefix Length:** The subnet prefix length for the IPv6 Ethernet address
 - **IP Address:** The IPv6 Ethernet address
 - **Type:** The IPv6 Ethernet address type

Select the + (plus) icon next to **Wi-Fi** to display the following Wi-Fi network settings:

- **Domain:** The Wi-Fi network domain name
- **DHCP Enabled:** Reports whether the Wi-Fi network IP address is static (**Yes**) or dynamic (**No**), shown only if a Wi-Fi network connection is active
- **IP Address:** The Wi-Fi network IP address, shown only if a Wi-Fi network connection is active
- **Subnet Mask:** The Wi-Fi network subnet mask address, shown only if a Wi-Fi network connection is active
- **Default Gateway:** The Wi-Fi network gateway router address, shown only if a Wi-Fi network connection is active
- **Link Active:** Reports the status of the Wi-Fi network connection (A true message indicates that the Wi-Fi network connection is active, while a false message indicates that the Wi-Fi network connection is inactive.)
- **MAC Address:** The unique Wi-Fi network MAC (media access control) address

Select the + (plus) icon next to **LAN** to display the following LAN settings:

- **Network Proxy Settings:** Reports whether network proxy settings are turned on or off for the touch screen

For more information on configuring network settings, refer to [System Setup on page 27](#).

USB

Select **USB** to view the status of a connected USB accessory, such as a room scheduling hallway sign or light bar.

Status Tab - USB

▼ USB	
Accessory Connected	No
Accessory Type	

The following **USB** information is displayed:

- **Accessory Connected:** The name of the connected accessory
- **Accessory Type:** The type of connected accessory

Room Scheduling

Select **Room Scheduling** to view the status of the room if using a room scheduling application.

Status Tab - Room Scheduling

▼ Room Scheduling	
Room Status	Available
Calendar Sync	Last Sync Succeeded: 11:33 AM - March 23, 2021
Fusion Online Status	Offline

The following **Room Scheduling** information is displayed:

- **Room Status:** The status of the connected room (available or reserved)
- **Calendar Sync:** The status of the sync between the touch screen and the room scheduling calendar
- **Crestron Fusion Online Status:** The status of the Crestron Fusion connection (if applicable)

Display

Select **Display** to view the display status.

Status Tab - Display

▼ Display
Display Status Standby

The **Display Status** field indicates the display status (on, standby, or screensaver).

Schedule

Select **Schedule** to view the status of the connected scheduling calendar and the current meeting information.

Status Tab - Schedule

▼ Schedule				
Connection Status Connected				
Connection Status Message Successfully connected				
Occupancy Status Vacant				
Occupancy Source Fusion				
Push Registration Status Not Supported				
— Current Meeting				
Meeting Info				
Scheduled Meeting is currently scheduled				
Subject Walk up meeting				
Start Time 1:09 PM - March 23, 2021				
End Time 1:39 PM - March 23, 2021				
Recurring Single Occurrence				
Organizer ianh				
Attendees				
<table><tr><th>Name</th><th>Required</th></tr><tr><td colspan="2">No records found</td></tr></table>	Name	Required	No records found	
Name	Required			
No records found				
Check In Status Yes				
Meeting Privacy Level Public				

The following **Schedule** information is displayed:

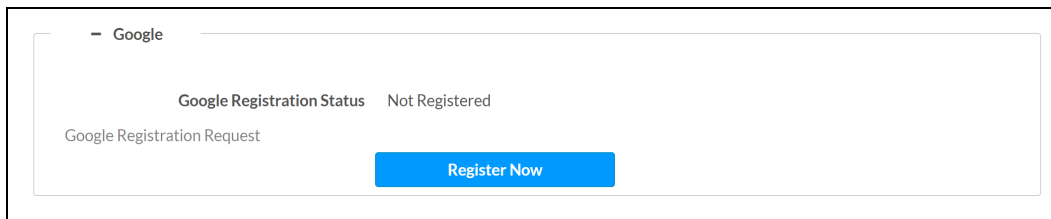
- **Connection Status:** Indicates the status of the scheduling calendar connection
- **Connection Status Message:** Displays any applicable information about the scheduling calendar connection status
- **Occupancy Status:** Indicates whether the connected room is occupied (if the room is equipped with an occupancy sensor)
- **Occupancy Source:** Displays occupancy sensor information for the connected room (if the room has occupancy-detecting equipment)
- **Push Registration Status:** The status of the scheduling calendar registration (if applicable)

The **Schedule** section also includes the following subsections.

Google

The **Google** subsection is used to register the touch screen with Google Calendar and to view the registration status of the Google Calendar account.

Status Tab - Schedule (Google)



Depending on the status of the Google Calendar registration, the following Google information may be displayed. For more information on connecting to a Google scheduling calendar, refer to [Connect to Google Calendar on page 10](#).

- **Google Registration Status:** Indicates the registration status between the touch screen and Google Calendar
- **Google Registration Request:** If the touch screen is not registered with Google Calendar, displays a **Register Now** button for requesting a connection to Google Calendar

NOTE: If the touch screen is registered with Google Calendar, an **Unregister** button is displayed instead. Select this button to unregister the touch screen with Google Calendar.

- **Google Registration URL:** If a Google Calendar registration has been requested, displays a URL used to register the touch screen with Google Calendar
- **Google Registration Code:** If a Google Calendar registration has been requested, displays a unique code used to register the touch screen with Google Calendar

Exchange

The **Exchange** subsection is used to register the touch screen with EWS via Modern Authentication and to view the registration status of the EWS account.

Status Tab - Schedule (Exchange)



Depending on the status of the EWS registration, the following registration information may be displayed. For more information on connecting to EWS via Modern Authentication, refer to [Appendix A: Configure Modern Authentication for EWS on page 93](#).

- **Exchange Registration Status:** Indicates the registration status between the touch screen and EWS
- **Exchange Registration Request:** If the touch screen is not registered with EWS, displays a **Register Now** button for requesting a connection to EWS

NOTE: If the touch screen is registered with EWS, an **Unregister** button is displayed instead. Select this button to unregister the touch screen with Google Calendar.

- **Exchange Registration Code:** If an EWS registration has been requested, displays a unique code used to register the touch screen with EWS

Current Meeting

The **Current Meeting** subsection is used to view details about an in-progress meeting. If no meeting is currently scheduled, no meeting details are displayed.

The following **Current Meeting** information is displayed:

- **Scheduled:** Indicates whether the connected room is currently reserved (A **true** message indicates that the room is reserved, while a **false** message indicates that the room is available.)
- **Subject:** The subject of the current reservation
- **Start Time:** The start time of the current reservation
- **End Time:** The scheduled end time of the current reservation
- **Recurring:** Indicates whether the current meeting is set to recur on the scheduling calendar (A **true** message indicates that the meeting is set to recur, while a **false** message indicates that the meeting is not set to recur.)
- **Organizer:** The name of the current reservation organizer (if this information is not set to private)
- **Attendees:** Shows all scheduled meeting attendees and whether they are required for this meeting (if this information is not set to private)
- **Check In Status:** Indicates whether the current reservation has been checked in (if required)
- **Meeting Privacy Level:** The privacy level of the current reservation

SNMP Configuration

Select **SNMP Configuration** to view the status of the SNMP (Simple Network Management Protocol) configuration for the touch screen.

Status Tab - SNMP Configuration

▼ SNMP Configuration						
SNMP Enabled Yes						
SNMP Allow All Yes						
Trap Enabled Yes						
User Name	Manager Name	Version	Write Access Level	Address	Authentication Protocol	Privacy Protocol
commV3	managerV3	AuthNoPrivacyV3	true	172.17.219.45	SHA	

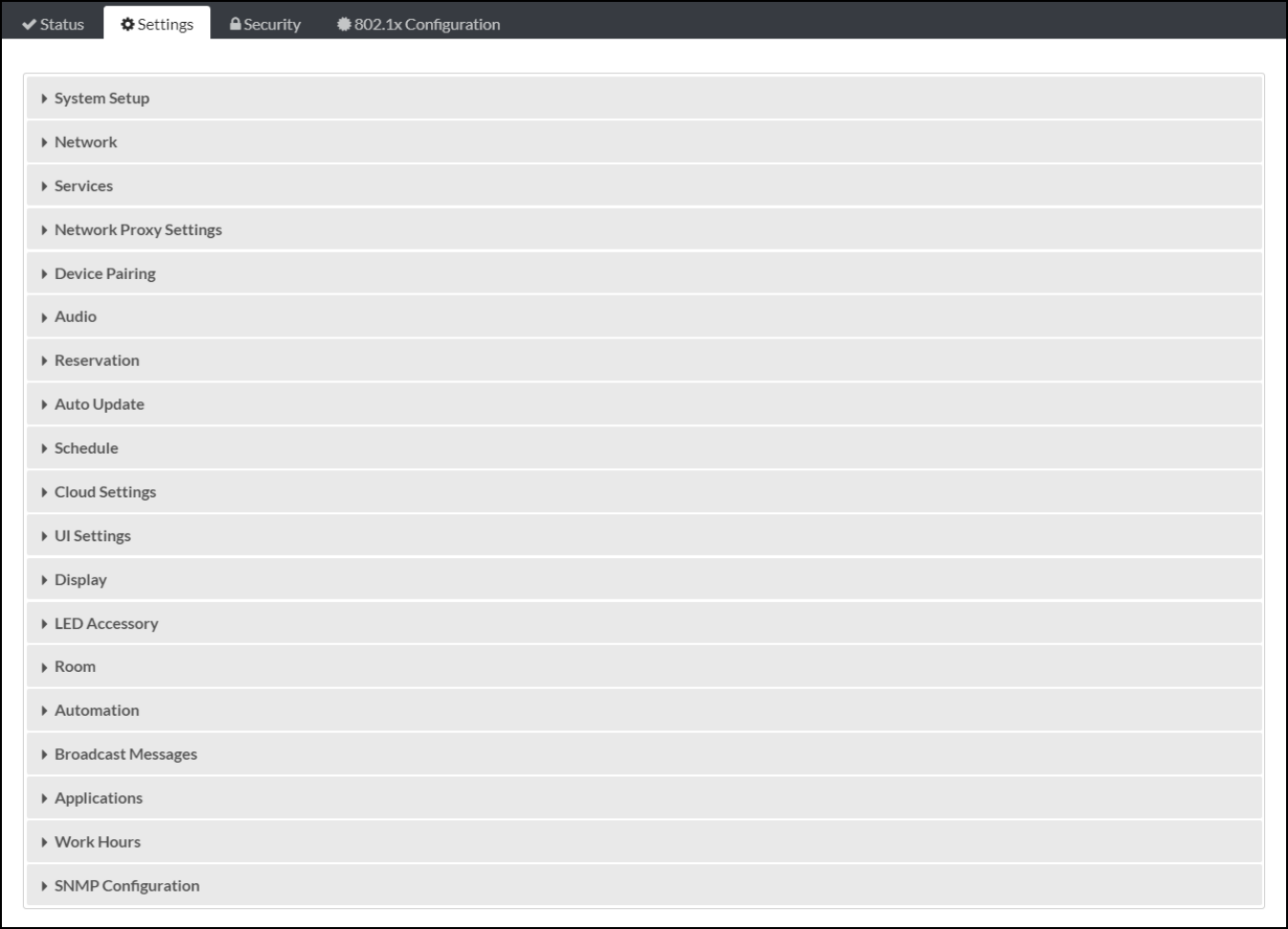
The following **SNMP Configuration** information is displayed:

- **SNMP Enabled:** Reports whether SNMP has been turned on for the touch screen (**Yes**) or not (**No**)
- **SNMP Allow All:** Reports whether the touch screen allows SNMP requests from all managers (**Yes**) or not (**No**)
- **Trap Enabled:** Reports whether SNMP trap notifications have been turned on (**Yes**) or not (**No**)
- Each SNMP user configured for the touch screen is displayed in a table with the following information:
 - **User Name:** The name of the SNMP user
 - **Manager Name:** The SNMP manager for the user
 - **Version:** The SNMP version set for the user
 - **Write Access Level:** Indicates whether the user has write level permissions (**true**) or read-only permissions (**false**)
 - **Address:** The IP address of the SNMP manager
 - **Authentication Protocol:** The authentication protocol used by the SNMP manager
 - **Privacy Protocol:** The privacy protocol used by the SNMP manager

Settings

Select the **Settings** tab on the top left of the configuration interface to display selections for configuring various touch screen settings and to select a touch screen application.

Settings Selections



Each selection is described in the sections that follow.

NOTE: If an invalid value is entered for a setting, the web interface will not allow changes to be saved until a valid value is entered. Red text is displayed next a setting to indicate an invalid value.

System Setup

Select **System Settings** to configure general network and touch screen settings.

Settings Tab - System Setup

▼ System Setup

+ Date/Time

+ Device Display

+ Proximity

+ Button Toolbar

+ Pinpoint Beacon

Date/Time

Select the **+** (plus) icon next to **Date/Time** to display the following time and date settings.

Settings Tab - System Setup (Date/Time)

Time Synchronization

- **Time Synchronization:** Turn on the toggle to use time synchronization via SNTP (Simple Network Time Protocol).
- **Synchronize Now:** With **Time Synchronization** turned on, select **Synchronize Now** to synchronize the touch screen with the SNTP server(s) entered in the **NTP Time Servers** table.
- **NTP Time Servers:** With **Time Synchronization** turned on, use the provided table to enter information regarding the SNTP server(s) used to synchronize the date and time for the touch screen.
 - Select **Add** to add a new SNTP server entry into the table.
 - Enter the following information for each entry:
 - Enter the SNTP server address into the **Address** text field.
 - Enter the SNTP server port into the **Port** text field.
 - Use the **Authentication Method** drop-down menu to select the authentication method used to access the SNTP server (if one exists).
 - If an authentication method is selected, enter the key used to authenticate against the SNTP server into the **Authentication Key** text field.

- If an authentication method is selected, enter the ID for the key used to authenticate against the SNTP server into the **Key ID** text field.
- To remove an entry, fill the checkbox to the left of the table entry, and then select **Delete**.

Time Configuration

- **Time Zone:** Select a time zone for the touch screen using the drop-down menu.
- **Date:** Select the date for the touch screen using the pop-up calendar that is displayed.
- **Time Format:** Select the format that the time will display on the touch screen (12 hour or 24 hour).
- **Date Format:** Select the format that the date will display on the touch screen using the drop-down menu.
- **Time:** Select the time for the touch screen (in 24-hour format) using the pop-up menu that is displayed.

Device Display

Select the **+** (plus) icon next to **Device Display** to display the following device display settings.

Settings Tab - System Setup (Device Display)

— Device Display

LCD

Auto Brightness



ALS Threshold Value

50



%

Brightness

100



%

Brightness High Preset

80



%

Brightness Low Preset

10



%

Setup

Local Setup Sequence



Screensaver and Standby

Standby Timeout

60



Minutes

Screensaver Enabled



24 Hour Digital Clock Enabled



Outdoor Temperature Enabled



Indoor Temperature Enabled



Date Enabled



Date Format

WMDY



Brightness

50



%

Text Color

#444444



Text Outline Color

#444444



Text Font Face

AndroidClock



Header Text Line 1

Header Text Line 2

Header Text Justification



Left



Center



Right

Header Text Bidirectional Text Direction



Left-To-Right



Right-To-Left

Background Image URL



Video URL

- **LCD**

- **Auto Brightness:** Turn on the toggle to use automatic brightness control for the touch screen LCD display.
- **ALS Threshold Value:** If **Auto Brightness** is turned on, enter a value (1–100%) for the ALS (ambient light sensor) threshold, which is used for switching between high and low autobrightness presets.
- **Brightness:** If **Auto Brightness** is turned off, enter a value (1–100%) for the LCD display brightness.
- **Brightness High Preset:** Enter a value (1–100%) for the LCD display high brightness preset.
- **Brightness Low Preset:** Enter a value (1–100%) for the LCD display low brightness preset.

- **Setup**

- **Local Setup Sequence:** Turn on the toggle to allow local access to the setup screens using a five-finger press.

- **Screensaver and Standby**

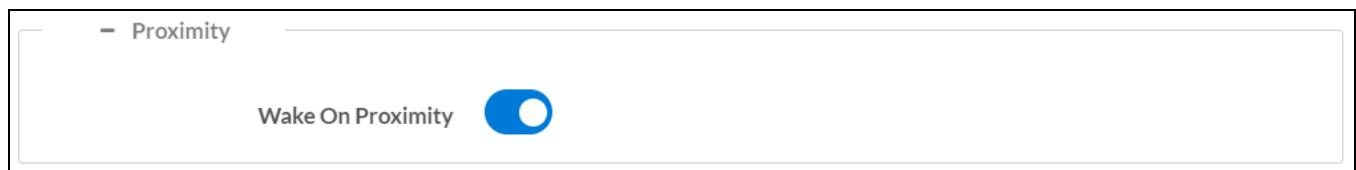
- **Standby Timeout:** Enter a standby timeout duration (1–120 minutes) for the touch screen.
- **Screensaver Enabled:** Turn on the toggle to display a screensaver on the touch screen during standby timeout.
- **24 Hour Digital Clock Enabled:** Turn on the toggle to display a 24-hour digital clock on the touch screen during standby timeout.
- **Outdoor Temperature Enabled:** Turn on the toggle to display the outdoor temperature on the touch screen during standby timeout via a join from a control system.
- **Indoor Temperature Enabled:** Turn on the toggle to display the indoor temperature on the touch screen during standby timeout via a join from a control system.
- **Date Enabled:** Turn on the toggle to display the date on the touch screen during standby timeout.
- **Date Format:** Use the drop-down menu to select a format for displaying the date on the touch screen.
- **Brightness:** Enter a brightness value (1–100%) for the screensaver.
- **Text Color:** Select the color icon to the right of this field to display a pop-up window for selecting the text color of the screensaver, or enter a hex value for a specific color.
- **Text Outline Color:** Select the color icon to the right of this field to display a pop-up window for selecting the text outline color of the screensaver, or enter a hex value for a specific color.
- **Text Font Face:** Use the drop-down menu to select a font for the screensaver text.
- **Header Text Line 1:** Enter text to be displayed on the first header text line of touch screen screensaver.
- **Header Text Line 2:** Enter text to be displayed on the second header text line of touch screen screensaver.
- **Header Text Justification:** Select one of the radio buttons (**Left**, **Center**, or **Right**) to select how the header text is justified on the touch screen screensaver.

- **Header Text Bidirectional Text Direction:** Select one of the radio buttons (**Left-To-Right** or **Right-To-Left**) to determine the language text direction on the touch screen screensaver.
- **Background Image URL:** Enter a URL of a background image to be used by the touch screen screensaver.
- **Video URL:** Enter a URL of video to be used by the touch screen screensaver.
- **Logo Setting:** Select one of the radio buttons (**None**, **Crestron**, and **Custom**) to select a logo type to use on the touch screen screensaver.
- **Logo URL:** If **Logo Setting** is set to **Custom**, enter a URL of a custom logo to be used by the touch screen screensaver.

Proximity

Select the + (plus) icon next to **Proximity** to display the following proximity settings.

Settings Tab - System Setup (Proximity)

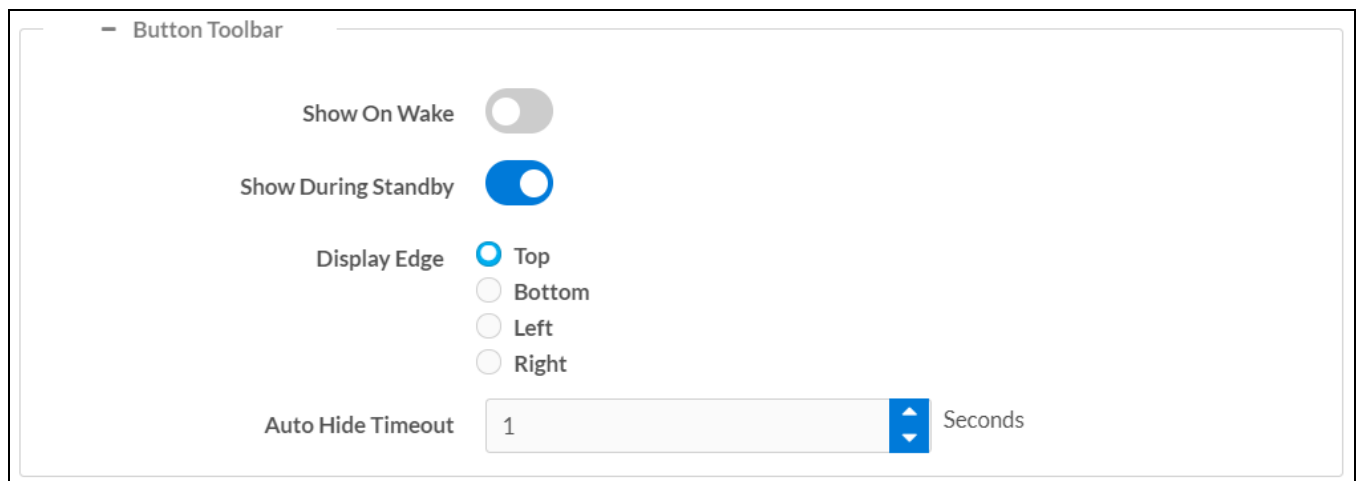


Turn on the **Wake On Proximity** toggle to wake the touch screen automatically when a user enters the touch screen proximity field.

Button Toolbar

Select the + (plus) icon next to **Button Toolbar** to display the following virtual toolbar button settings.

Settings Tab - System Setup (Button Toolbar)



- **Show On Wake:** Turn on the toggle to show the virtual toolbar when the touch screen wakes from standby timeout.
- **Show During Standby:** Turn on the toggle to show the virtual toolbar during standby timeout.
- **Display Edge:** Select a radio button (**Top**, **Bottom**, **Left**, or **Right**) to select the position on the touch screen where the virtual toolbar is displayed

- **Auto Hide Timeout:** Select a duration (in seconds) that must elapse before the virtual toolbar is hidden automatically.

PinPoint Beacon

Select the + (plus) icon next to **PinPoint Beacon** to display the following Bluetooth® beacon settings.

Settings Tab - System Setup (PinPoint Beacon)



- **BT Enabled:** Turn on the toggle to use the Bluetooth beacon.
- **BT Mode:** Use the drop-down menu to select the mode (**Advertise** or **Config**) of the Bluetooth beacon.
 - Select **Advertise** to make the Bluetooth beacon available to Crestron devices that support this functionality.
 - Select **Config** to put the Bluetooth beacon into configuration mode.


Network

Select **Network** to configure network settings for the touch screen.

Settings Tab - System Setup (Network)

▼ Network

Hostname * TSW-1070-001

IPv6 Enabled 

IPv6

Primary Static DNS

Secondary Static DNS

IPv4

Primary Static DNS

Secondary Static DNS

— Primary LAN

Adapter Enabled 

Domain * localdomain

IPv4

DHCP 

IP Address * 10.0.1.0

Subnet Mask * 255.255.255.0


Default Gateway * 10.0.1.1

IPv6

Default Gateway ::


<input type="checkbox"/>	IPv6 Address with Prefix
<input type="checkbox"/>	<div>Enter IPv6 Address  / </div>
	

— WIFI

Adapter Enabled 

Domain * localdomain

IPv4

DHCP Enabled 

IP Address * 0.0.0.0


Subnet Mask * 0.0.0.0

Default Gateway * 0.0.0.0





WiFi Access Points

 Scan WiFi Access Points

Select Discovered Access Points

 Add Access Points

The maximum configurable access points are limited to 4

<input type="checkbox"/>	SSID	Encryption Key	Password	Active Access Point
<input type="checkbox"/>	Hammons1	WPA2	<input type="radio"/>
				

NOTE: The **IP Address**, **Subnet Mask**, and **Default Gateway** fields are required only if DHCP is turned off for Ethernet and Wi-Fi network connections.


- **Hostname:** Enter the touch screen host name.
- **IPv6 Enabled:** Turn on the toggle to use IPv6 addressing for the touch screen.
- **Primary Static DNS (IPv6):** If **IPv6 Enabled** is turned on, enter the primary DNS address used to resolve the touch screen domain to an IPv6 address.
- **Secondary Static DNS (IPv6):** If **IPv6 Enabled** is turned on, enter the secondary DNS address used to resolve the touch screen domain to an IPv6 address.
- **Primary Static DNS (IPv4):** Enter the primary DNS address used to resolve the touch screen domain to an IPv4 address.
- **Secondary Static DNS (IPv4):** Enter the secondary DNS address used to resolve the touch screen domain to an IPv4 address.

Select the + (plus) icon next to **Primary LAN** to display the following Ethernet settings:

- **Adapter Enabled:** Turn on the toggle to use the touch screen Ethernet adapter, which allows the touch screen to make an Ethernet connection.
- **Domain:** Enter the fully qualified domain name on the network.
- **IPv4:** Use these settings to configure IPv4 Ethernet addressing on the network.
 - **DHCP:** Turn on the toggle to use DHCP for the IPv4 Ethernet connection.

NOTE: If DHCP is turned on, IP does not function until a reply has been received from the server. The touch screen broadcasts requests for an IP address periodically.

- **IP Address:** Enter the touch screen IPv4 Ethernet address on the network.
- **Subnet Mask:** Enter the touch screen subnet mask address on the network.
- **Default Gateway:** Enter the gateway router address on the network.

- **IPv6:** Use these settings to configure IPv6 Ethernet addressing on the network.
 - **Default Gateway:** Enter the gateway router address on the network.
 - **IPv6 Address with Prefix:** With **IPv6 Enabled** turned on, use the provided table to add IPv6 Ethernet addresses to the touch screen.
 - Select **Add** to add a new IPv6 Ethernet address to the touch screen.
 - Enter the following information for each entry:
 - Enter the IPv6 Ethernet address into the **Enter IPv6 Address** text field.
 - Enter the prefix for the IPv6 Ethernet address into the text field following the address.
 - If desired, use the copy button  to copy the IPv6 Ethernet address to the clipboard.
 - To remove an entry, fill the checkbox to the left of the table entry, and then select **Remove**.

NOTE: An "x" icon is shown to the right of the IPv6 Ethernet address prefix in a table row if the IPv6 address format is invalid or is missing a prefix. Hover over the icon to view a message explaining the issue.

Select the + (plus) icon next to **Wi-Fi** to display the following Wi-Fi network settings:

- **Adapter Enabled:** Turn on the toggle to use the touch screen Wi-Fi adapter, which allows the touch screen to make a Wi-Fi network connection.
- **Domain:** Enter the fully qualified domain name on the network.
- **IPv4:** Use these settings to configure IPv4 Wi-Fi network addressing on the network.
 - **DHCP:** Turn on the toggle to use DHCP for the IPv4 Wi-Fi network connection.

NOTE: If DHCP is turned on, IP does not function until a reply has been received from the server. The touch screen broadcasts requests for an IP address periodically.

- **IP Address:** Enter the touch screen IPv4 Wi-Fi network address on the network.
- **Subnet Mask:** Enter the touch screen subnet mask address on the network.
- **Default Gateway:** Enter the gateway router address on the network.
- **Wi-Fi Access Points**
 - **Scan Wi-Fi Access Points:** Scans the network for any open Wi-Fi access points. All discovered access points are displayed in the **Select Discovered Access Points** menu.
 - **Select Discovered Access Points:** Select an access point after completing a scan. Enter text in the search field to search for a specific Wi-Fi access point name.
 - **Add Access Points:** Adds the chosen access point entry from the **Select Discovered Access Points** field to the table below.

Each added Wi-Fi access point is displayed in a table that contains the following information.

- **SSID:** Enter or modify the SSID (name) of the Wi-Fi access point.
- **Encryption Key:** Select the security/encryption type used by the Wi-Fi access point.

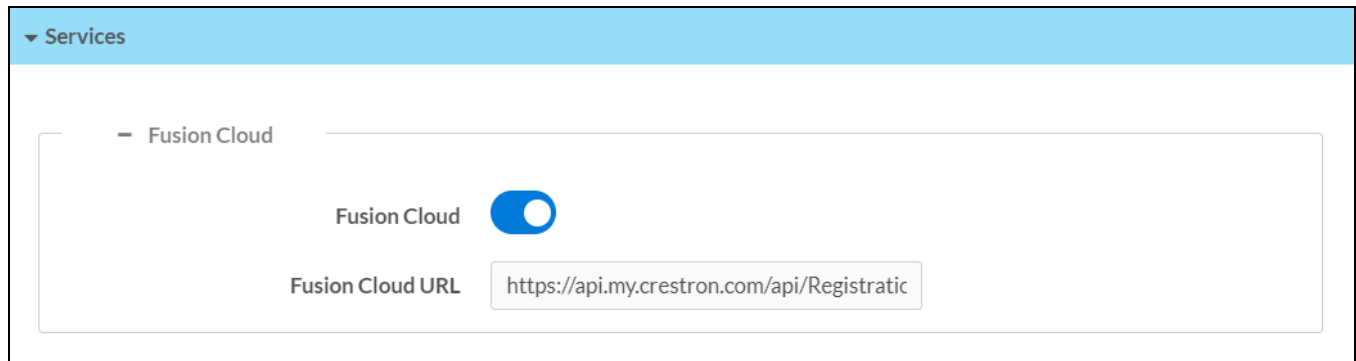
- **Password:** Enter the password used to connect to the Wi-Fi access point.
- **Active Access Point:** Indicates whether a connection to the Wi-Fi access point is active

Select **Add** to add a new entry to the Wi-Fi access point table. After selecting one more entries in the Wi-Fi access point table, select **Remove** to delete the selected entries.

Services

Select **Services** to configure Crestron Fusion® software settings.

Settings Tab - Services



▼ Services

— Fusion Cloud

Fusion Cloud ☒

Fusion Cloud URL

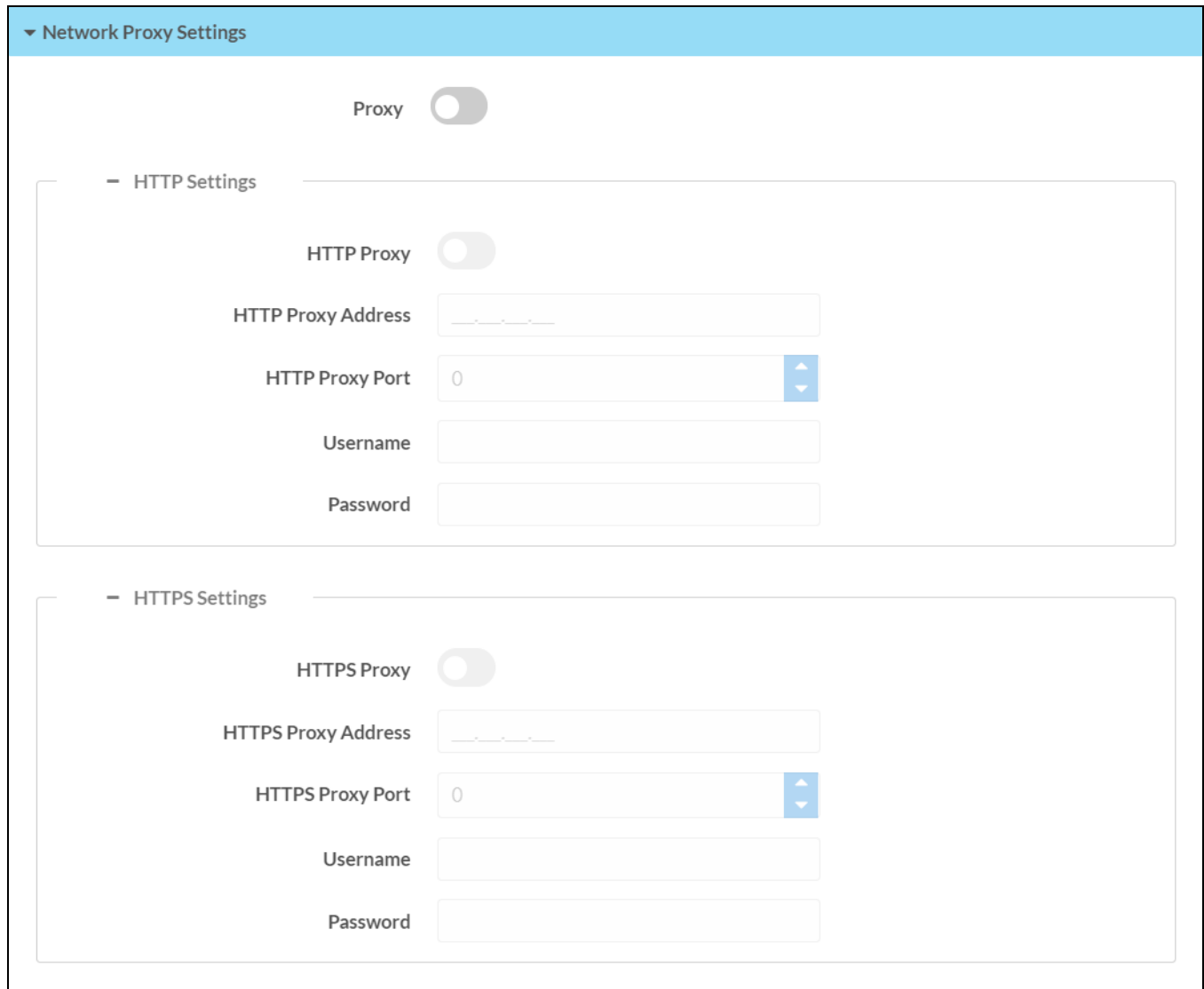
NOTE: If connecting to a Crestron Fusion software on-premises server, connections are made using either traditional (outbound) or inbound communications. For more information, refer to the [Crestron Fusion 10 On-Premises Software Getting Started Guide](#).

- **Crestron Fusion Cloud:** Turn on the toggle to allow a connection to a Crestron Fusion Cloud server. This connection is only applicable when the scheduling mode is set to Crestron Default or User Project.
- **Crestron Fusion Cloud URL:** Enter the URL used to connect the touch screen to the desired Crestron Fusion Cloud server.

Network Proxy Settings

Select **Network Proxy Settings** to configure network proxy settings for the touch screen.

Settings Tab – Network Proxy Settings



▼ Network Proxy Settings

Proxy ☐

— HTTP Settings

HTTP Proxy ☐

HTTP Proxy Address

HTTP Proxy Port

Username

Password

— HTTPS Settings

HTTPS Proxy ☐

HTTPS Proxy Address

HTTPS Proxy Port

Username

Password

- **Proxy:** Turn on the toggle to configure the touch screen for use with a proxy server.
- **HTTP Settings**
 - **HTTP Proxy:** Turn on the toggle to use an HTTP proxy server.
 - **HTTP Proxy Address:** Enter the IP address of the HTTP proxy server.
 - **HTTP Proxy Port:** Enter the port number of the HTTP proxy server.
 - **Username:** Enter the username required for the HTTP proxy server.
 - **Password:** Enter the password required for the HTTP proxy server.

- **HTTPS Settings**

- **HTTPS Proxy:** Turn on the toggle to use an HTTPS proxy server.
- **HTTPS Proxy Address:** Enter the IP address of the HTTPS proxy server.
- **HTTPS Proxy Port:** Enter the port number of the HTTPS proxy server.
- **Username:** Enter the username required for the HTTPS proxy server.
- **Password:** Enter the password required for the HTTPS proxy server.

Device Pairing

Select **Device Pairing** to configure settings for pairing the touch screen to a CEN-ODT-C-POE. The CEN-ODT-C-POE provides local occupancy reporting for supported room scheduling apps.

NOTE: For more information on the occupancy sensor, refer to the [CEN-ODT-C-POE Supplemental Guide](#). For more information on configuring the occupancy source in the scheduling application, refer to [Room on page 63](#).

Settings Tab – Device Pairing

The screenshot shows the 'Device Pairing' settings tab. At the top, there is a blue header bar with a dropdown arrow and the text 'Device Pairing'. Below this, the settings are organized into several sections. The first section contains four fields: 'Device Model' (a dropdown menu showing 'POE Occ Sensor'), 'Pairing Retry Time (Mins)' (a text input field with '1'), 'Pairing Status' (displaying 'Offline'), and 'Device IP Address/FQDN' (a text input field with a red border and a red error message 'Device IP Address/FQDN is invalid' to its right). Below this section is a collapsible section titled 'Device Authentication' with a minus sign icon. This section contains two text input fields: 'Device Username' and 'Device Password'.

- **Device Model:** Use the drop-down menu to select **POE Occ Sensor**.
- **Pairing Retry Time (Min):** Enter a duration (in minutes) that must elapse before the CEN-ODT-C-POE reattempts to pair to the touch screen.
- **Pairing Status:** Reports whether the CEN-ODT-C-POE is paired to the touch screen (**Online**) or not (**Offline**).
- **Device IP Address/FQDN:** Enter the IP address or fully qualified domain name of the CEN-ODT-C-POE. This is required for device pairing.

Device Authentication: Enter authentication credentials for the CEN-ODT-C-POE (if required):

- **Device Username:** Enter a valid username used to access the device.
- **Device Password:** Enter a valid password used to access the device.

Audio

Select **Audio** to configure various audio settings for the touch screen.

Settings Tab – Audio

The screenshot shows the 'Audio' settings tab. At the top, there is a blue header bar with a downward arrow and the text 'Audio'. Below this, there is a section titled 'Device Audio' with a minus sign icon. Inside this section, there are six settings: 'Panel Mute' (a toggle switch currently turned off), 'Panel Volume' (a slider set to 75 with a percentage sign), 'Media Mute' (a toggle switch currently turned off), 'Media Volume' (a slider set to 100 with a percentage sign), 'Beep Enabled' (a toggle switch currently turned on), and 'Beep Volume' (a slider set to 75 with a percentage sign). Each slider has a blue handle and a percentage sign at the end.

NOTE: The **Media Volume** setting adjusts the H.264 streaming media level in relation to the **Panel Volume** setting.

- **Panel Mute:** Turn on the toggle to mute the touch screen volume.
- **Panel Volume:** Enter a value (1–100) for the touch screen main volume level.
- **Media Mute:** Turn on the toggle to mute the touch screen media volume.
- **Media Volume:** Enter a value (1–100) for the touch screen media volume level.
- **Beep Enabled:** Turn on the toggle to mute the touch screen beep volume.
- **Beep Volume:** Enter a value (1–100) for the touch screen beep volume.

Reservation

Select **Reservation** to configure the behavior of reservation functions for the scheduling application.

Settings Tab - Reservation

▼ Reservation

— General

Max Reservation Length

120

Minutes

Min Reservation Length

15

Minutes

Reserve Now Even End Time

☐

Reservation Enabled

☒

— End Early

End Early

Minutes

Minutes Before End Early

10

Minutes

Percent Before End Early

5

%

— Extend Reservation

Extend Reservation

Minutes

Show Extend Meeting Minutes

15

Minutes

Show Extend Meeting Percent

25

%

Expand **General** to configure general settings for scheduling application reservations.

- **Max Reservation Length:** Enter the maximum length (in minutes) of a meeting that may be reserved from the touch screen using the **Reserve Now** feature. This value must be between 30 and 480 minutes.
- **Min Reservation Length:** Enter the minimum length (in minutes) of a meeting that may be reserved from the touch screen using the **Reserve Now** feature. This value must be between 5 and 60 minutes in 5-minute increments.

- **Reserve Now Even End Time:** Turn on the toggle to allow meetings reserved from the touch screen to be set to end on even time intervals based on the value entered for **Min Reservation Length**.
 - If **Reserve Now Even End Time** is turned off and **Min Reservation Length** is set to "10", a meeting booked at 10:13 may be set to end at 10:23, 10:33, and so forth.
 - If **Reserve Now Even End Time** is turned on and **Min Reservation Length** is set to "10", a meeting booked at 10:13 may be set to end at 10:20, 10:30, and so forth.
 - These options are available provided that another meeting is not already booked during the next time period. If another meeting is booked, the last selectable end time will be the start time of the next meeting.
- **Reservation Enabled:** Turn on the toggle to allow meetings to be reserved from the touch screen using the **Reserve Now** feature.

Expand **End Early** to configure settings for the end early functionality.

- **End Early:** Use the drop-down menu to select whether an **End** button appears on the touch screen user interface that allows the meeting to be ended early.

NOTE: Select **Minutes** to have the **End** button appear on the touch screen after a specified number of minutes have elapsed. Select **Percentage** to have the **End** button appear on the touch screen after a specified percentage of the meeting has passed.

- **Minutes Before End Early:** If **Minutes** is selected for **End Early**, enter the number of minutes that must elapse in a meeting before the **End** button appears on the touch screen.
- **Percent Before End Early:** If **Percentage** is selected for **End Early**, enter the percentage of a meeting that must pass before the **End** button appears on the touch screen.

Expand **Extend Reservation** to configure settings for the extend reservation functionality.

NOTE: The extend reservation function is available only if a meeting has not been booked directly after the current meeting.

- **Extend Reservation:** Use the drop-down menu to select whether an **Extend** button appears on the touch screen user interface that allows the meeting to be extended.

NOTE: Select **Minutes** to have the **Extend** button appear on the touch screen after a specified number of minutes have elapsed. Select **Percentage** to have the **Extend** button appear on the touch screen after a specified percentage of the meeting has passed.

- **Show Extend Meeting Minutes:** If **Minutes** is selected for **Extend Reservation**, enter the number of minutes that must elapse in a meeting before the **Extend** button appears on the touch screen.
- **Show Extend Meeting Percent:** If **Percentage** is selected for **Extend Reservation**, enter the percentage of a meeting that must pass before the **Extend** button appears on the touch screen.

Auto Update

Select **Auto Update** to configure automatic firmware updates for the touch screen.

NOTE: The **Auto Update** accordion can be used to configure auto update settings for firmware only. Automatic application updates are not affected by these settings.

Settings Tab - Auto Update

▼ Auto Update

Auto Update ☒

Custom URL ☒

Custom URL Path

— Schedule

Day of Week

Time of Day

Poll Interval Minutes

Update Now

- **Auto Update:** Turn on the toggle to use automatic firmware updates.
- **Custom URL:** Turn on the toggle use a custom update server URL. If turned off, the server URL will default to the standard Crestron update sever.
- **Custom URL Path:** If **Custom URL Path** is turned on, enter the custom URL path for the update server.
- **Day of Week:** Select the day of week when the touch screen will check for updates. Select Daily to have the touch screen check for updates every day.
- **Time of Day:** Enter a time of day (in 24-hour format) when the touch screen will check updates on the scheduled day.
- **Poll Interval:** Enter the polling interval (in hours) for when the touch screen will poll the server for updates.
- Select **Update Now** to check the update server for new firmware and to update the touch screen immediately if new firmware is available.

Schedule

Select **Schedule** to choose the scheduling calendar provider and to configure scheduling integration settings.

Settings Tab - Schedule

The screenshot shows the 'Schedule' settings tab. At the top, there's a blue header with a dropdown arrow and the text 'Schedule'. Below this, the settings are organized into sections. The first section contains 'Polling Interval' with a numeric input set to '5' and a 'Minutes' label, and 'Custom Reserve Time' with a disabled toggle switch. The second section contains 'Schedule Source' with a dropdown menu showing 'Fusion'. Below these is a section titled 'Fusion' with a minus sign icon, containing two toggle switches: 'Enable Push Registration' and 'Enable Find Button', both of which are currently turned on.

- **Polling Interval:** Enter the interval (in minutes) that the scheduling application waits to poll the network for scheduling calendar data if changes are not pushed to the application.
- **Custom Reserve Time:** Turn on the toggle to allow the room to be reserved for a custom duration.

NOTE: If **Custom Reserve Time** is disabled, available reservation end times are limited to times that end on the next half hour, the next hour, or the next hour and a half.

- **Schedule Source:** Select the scheduling calendar source from the drop-down menu that provides scheduling information to the application (**Google Calendar**, **Crestron Fusion**, **Microsoft Exchange**, **Ad Astra**, **CollegeNet 25Live**, or **Demo Mode**).

Depending on the scheduling calendar source that is selected for **Schedule source**, the following subsections are displayed.

Exchange EWS

Select **Exchange EWS** under **Schedule Source** to display options for integrating a Microsoft Exchange account with the scheduling application using EWS (Exchange Web Services).

For more information on connecting to a Microsoft Exchange account, refer to [Connect to Microsoft Exchange Using EWS on page 7](#).

Settings Tab - Schedule (Exchange EWS)

The screenshot shows the 'Schedule' settings tab for 'Exchange EWS'. At the top, there is a 'Polling Interval' set to 5 minutes, a 'Custom Reserve Time' toggle switch, and a 'Schedule Source' dropdown menu set to 'Exchange EWS'. Below this, there is a section titled 'Exchange' containing several configuration options: 'Enable Modern Authentication' (toggle switch), 'Exchange Calendar Email Address' (text field), 'Exchange Account Username' (text field), 'Exchange Account Password' (text field), 'Exchange Domain' (text field), and 'Exchange Web Services URL' (text field). The 'Exchange Calendar Email Address' and 'Exchange Account Username' fields have a red asterisk next to them, indicating they are required.

- Turn on the **Enable Modern Authentication** toggle to use Modern Authentication for the EWS (Exchange Web Services) account. For instructions on configuring Modern Authentication for use with the Crestron Room Scheduling application, refer to [Appendix A: Configure Modern Authentication for EWS on page 93](#).
- Enter the email address associated with the Microsoft Exchange scheduling calendar in the **Exchange Calendar Email Address** text field.
- Enter the username for the Microsoft Exchange account in the **Exchange Account Username** text field.

NOTE: The username must include the ".com" suffix similar to the email address entered in the **Exchange Calendar Email Address** text field.

- Enter the password for the Microsoft Exchange account in the **Exchange Account Password** text field.
- Enter the domain name associated with the Microsoft Exchange account in the **Exchange Domain** text field.

NOTE: The **Exchange Domain** text field must be left blank if using Office 365® software.

- Enter the Microsoft EWS (Exchange Web Services) server URL that the scheduling calendar uses to access Microsoft Exchange scheduling data in the **Exchange Web Services URL** text field.

O365

Select **O365** under **Schedule Source** to display options for integrating an Office 365 account with the scheduling application using Microsoft Graph.

For more information on connecting to a Microsoft Exchange account, refer to [Connect to Office 365 Using Microsoft Graph on page 9](#).

Settings Tab - Schedule (O365)

The screenshot shows the 'Schedule' settings for an O365 account. The 'Polling Interval' is set to 5 minutes. The 'Custom Reserve Time' toggle is disabled. The 'Schedule Source' is set to 'O365'. Under the 'Exchange' section, there are four text input fields for configuration: 'Exchange Calendar Email Address', 'Client ID (Application ID)', 'O365 Tenant ID', and 'Client Secret'.

NOTE: The **Client ID (Application ID)**, **O365 Tenant ID**, and **Client Secret** values are generated within the Microsoft Entra portal for the Microsoft Entra app. For more information, refer to [Appendix B: Configure Microsoft Graph for Crestron Room Scheduling on page 108](#).

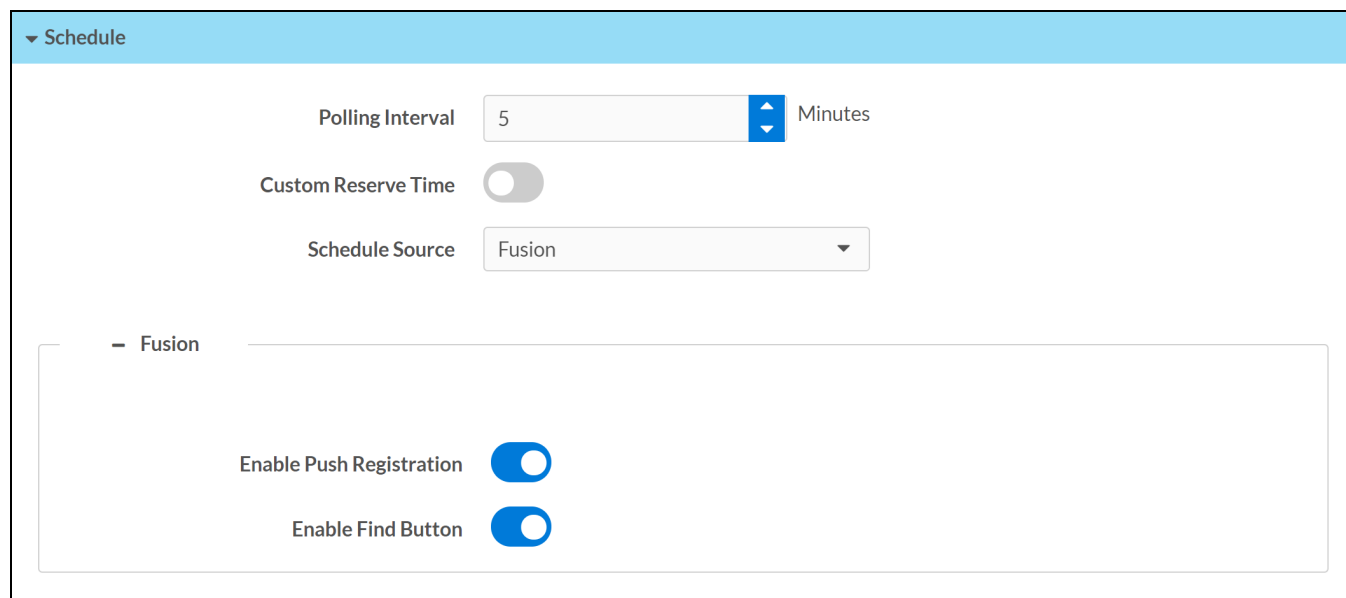
- Enter the email address associated with the Office 365 scheduling calendar in the **Exchange Calendar Email Address** text field.
- Enter the client (application) ID generated for the Microsoft Entra app in the **Client ID (Application ID)** text field.
- Enter the directory (tenant) ID generated for the Microsoft Entra app in the **O365 Tenant ID** text field.
- Enter the client secret generated for the Microsoft Entra app in the **Client Secret** text field.

Crestron Fusion

Select **Crestron Fusion** under **Schedule Source** to display options for integrating a Crestron Fusion account with the scheduling application.

For more information on connecting to a Crestron Fusion account, refer to [Connect to Crestron Fusion on page 6](#).

Settings Tab - Schedule (Crestron Fusion)



The screenshot shows the 'Schedule' settings tab for Crestron Fusion. It features a light blue header bar with a dropdown arrow and the text 'Schedule'. Below the header, there are three settings: 'Polling Interval' set to 5 with a 'Minutes' label and a blue up/down arrow; 'Custom Reserve Time' which is a disabled toggle switch; and 'Schedule Source' set to 'Fusion' with a dropdown arrow. A section titled '- Fusion' contains two active toggle switches: 'Enable Push Registration' and 'Enable Find Button'.

- Turn on the **Enable Push Registration** toggle to allow Crestron Fusion to push scheduling calendar data to the scheduling application.
- Turn on the **Enable Find Button** toggle to display a find button on the scheduling application so that a user may look up nearby rooms that are available for meetings.

Google

Select **Google** under **Schedule Source** to display options for integrating a Google account with the scheduling application.

For more information on connecting to a Google account, refer to [Connect to Google Calendar on page 10](#).

Settings Tab - Schedule (Google)

▼ Schedule

Polling Interval Minutes

Custom Reserve Time ☐

Schedule Source

— Google

Google Calendar

Enter the calendar account name or ID in the **Google Calendar** text field if more than one calendar is available for the Google account. If this field is left empty, the scheduling application uses the primary calendar set for the account.

NOTE: To switch to a different calendar on the same Google account, enter the new calendar account name or ID in the **Google Calendar** text field.

Ad Astra

Select **Ad Astra** under **Schedule Source** to display options for integrating an Ad Astra account with the scheduling application.

For more information on connecting to an Ad Astra account, refer to [Connect to Ad Astra on page 12](#).

Settings Tab - Schedule (Ad Astra)

▼ Schedule

Polling Interval Minutes

Custom Reserve Time ☐

Schedule Source

— Ad Astra

Username Username is invalid

Password Password is invalid

Room ID Room ID is invalid

Server URL Server URL is invalid

- Enter the username for the Ad Astra account in the **Username** text field.
- Enter the password for the Ad Astra account in the **Password** text field.
- Enter the room ID associated with the Ad Astra scheduling calendar in the **Room ID** text field.
- Enter the URL of the Ad Astra scheduling calendar server in the **Server URL** text field.

CollegeNet 25Live

Select **25Live** under **Schedule Source** to display options for integrating a CollegeNet 25Live account with the scheduling application.

For more information on connecting to a CollegeNet 25Live account, refer to [Connect to CollegeNet 25 Live on page 13](#).

Settings Tab - Schedule (25Live)

▼ Schedule

Polling Interval Minutes

Custom Reserve Time ☐

Schedule Source

— Ad Astra

Username Username is invalid

Password Password is invalid

Room ID Room ID is invalid

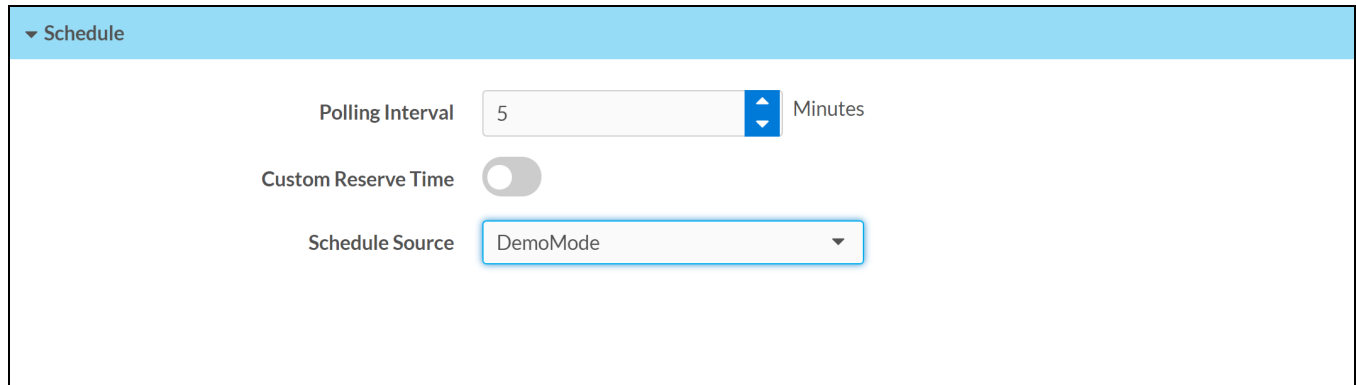
Server URL Server URL is invalid

- Enter the username for the CollegeNet 25Live account in the **Username** text field.
- Enter the password for the CollegeNet 25Live account in the **Password** text field.
- Enter the space ID associated with the CollegeNet 25Live scheduling calendar in the **Space ID** text field.
- Enter the URL of the CollegeNet 25Live scheduling calendar server in the **Server URL** text field.

Demo Mode

Select **Demo Mode** under **Schedule Source** to turn on demo mode for the scheduling application. When demo mode is turned on, the scheduling application cycles through demonstrations of various application features.

Settings Tab - Schedule (Demo Mode)

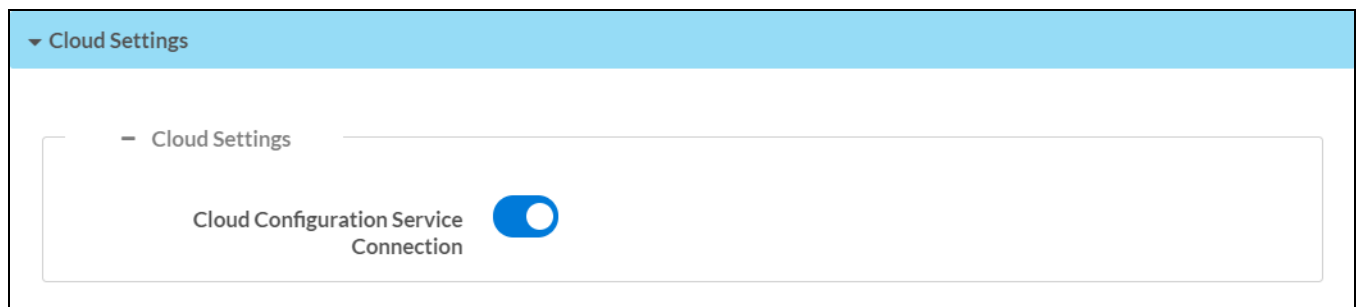


The screenshot shows the 'Schedule' settings tab. It features three controls: a 'Polling Interval' spinner set to 5 minutes, a 'Custom Reserve Time' toggle switch that is currently off, and a 'Schedule Source' dropdown menu with 'DemoMode' selected.

Cloud Settings

Select **Cloud Settings** to turn on or off a connection between the touch screen and an XiO Cloud® service account. A connection to the XiO Cloud service is turned on by default.

Settings Tab – Cloud Settings



The screenshot shows the 'Cloud Settings' tab. It contains a section titled 'Cloud Settings' with a single toggle switch labeled 'Cloud Configuration Service Connection', which is currently turned on.

Turn on the **Cloud Configuration Service Connection** toggle to allow a connection between the touch screen and an XiO Cloud account. This setting is turned on by default.

For more information on connecting to the XiO Cloud service, refer to the [TSW-70 Series Product Manual](#).

UI Settings

Select **Reservation** to configure various settings for the scheduling application UI (user interface).

Settings Tab - UI Settings

UI Settings

Minutes Before 5 Minutes

Minutes After 5 Minutes

Theme/Style Override URL

Bidirectional Language Flow Default

Work Hours Idle Timeout 5 Minutes

Screen Layout Horizontal

Project Theme Dark

Logo Image

Occupied/Unscheduled Status ☒

Enable Reserved Color for Check-in ☐

Disable Idle Screen ☐

- **Minutes Before:** Enter the duration (in minutes) that the active screen remains on the display before a meeting begins, even if the idle timeout has elapsed.
- **Minutes After:** Enter the duration (in minutes) that the active screen remains on the display after a meeting begins, even if the idle timeout has elapsed.
- **Theme/Style Override URL:** Enter the URL of a custom CSS (Cascading Style Sheets) file to override the default application themes.

NOTE: For more information on programming a custom scheduling application CSS file, refer to the [Crestron Room Scheduling Panels Programming Guide](#).

- **Bidirectional Language Flow:** Use the drop-down menu to select the direction that scheduling application text displays on the scheduling application. Select **Default** to use the default direction for the chosen primary language.
- **Work Hours Idle Timeout:** Enter the duration (in minutes) that the touch screen must remain idle before the scheduling application enters the idle screen during work hours.

- **Screen Layout:** Use the drop-down menu to select the direction of the scheduling application layout and timeline (**Horizontal** or **Vertical**).

NOTES:

- Horizontal right-to-left layout and horizontal left-to-right layout is determined by the chosen primary language.
 - The TSW-570P only supports the **Vertical** layout.
- **Project Theme:** Use the drop-down menu to select the application theme from the available options (**Light** or **Dark**).
 - **Logo Image:** Enter the URL of a custom logo image to replace the default scheduling application logo image on the touch screen. Supported file types for the custom logo are PNG, JPG, and SVG.
 - **Occupied/Unscheduled Status:** Turn on the toggle to have scheduling app report when occupancy is detected in the room when no meeting is scheduled. The room must contain occupancy-sensing equipment to use this feature.
 - **Enable Reserved Color for Check-in:** Turn on the toggle to have the scheduling app show as reserved during the specified check-in period. For more information on the check-in functionality, refer to [Automation on page 65](#).
 - **Disable Idle Screen:** Turn on the toggle to prevent the idle screen from displaying after the specified idle timeout duration elapses.

Display

Select **Display** to customize the background of the scheduling application with supported image or video files.

Settings Tab - Display

▼ Display

— Backgrounds

Active Screen When Reserved

Reserved/Active Background URL Enabled

Reserved/Active Background URL

Reserved/Active Background Media Type

Reserved/Active Background Media Sub Type

Idle Screen When Reserved

Reserved/Idle Background URL Enabled

Reserved/Idle Background URL

Reserved/Idle Background Media Type

Reserved/Idle Background Media Sub Type

Active Screen When Available

Available/Active Background URL Enabled

Available/Active Background URL

Available/Active Background Media Type

Available/Active Background Media Sub Type

Idle Screen When Available

Available/Idle Background URL Enabled

Available/Idle Background URL

Available/Idle Background Media Type

Available/Idle Background Media Sub Type

(Continued on following page)

Settings Tab - Display (continued)

Active Screen When Available and Occupied

Available/Active Background URL Enabled ☐

Available/Active Background URL

Available/Active Background Media Type

Available/Active Background Media Sub Type

Idle Screen When Available and Occupied

Available/Idle Background URL Enabled ☐

Available/Idle Background URL

Available/Idle Background Media Type

Available/Idle Background Media Sub Type

Background media may be set for various application states, including **Active Screen When Reserved**, **Idle Screen When Reserved**, **Active Screen When Available**, **Idle Screen When Available**, **Active Screen When Available and Occupied**, and **Idle Screen When Available and Occupied**.

The settings below may be configured for each application state:

- **Background URL Enabled:** Turn on the toggle to use background media for the chosen application state.
- **Background URL:** If **Background URL Enabled** is turned on, enter the URL of the background media file for the chosen application state.
- **Background Media Type:** If **Background URL Enabled** is turned on, use the drop-down menu to set the media type of background media file (image or video) for the chosen application state.
- **Background Media Sub Type:** If **Background URL Enabled** is turned on, select the media subtype of the background media file for the chosen application state.

NOTES:

- Supported image file types are JPEG, GIF, and PNG. For optimal image quality, images should be sized to 960 x 540 pixels for a TSW-570, 540 x 960 pixels for a TSW-570P, 1024 x 600 pixels for a TSW-770/TS-770/TSS-770 and 1280 x 800 pixels for a TSW-1070/TS-1070/TSS-1070.
- The supported video file type is WEBM (compressed with a VP8 codec). The first and last seconds of the video should display the same still image to avoid flickering on the loop playback.

LED Accessory

Select **LED Accessory** to customize the LED colors of supported room scheduling accessories (such as light bars and room status indicators).

Settings Tab - LED Accessory

▼ LED Accessory

Enable LEDs ☒

Custom LED colors ☒

— Custom Color Values

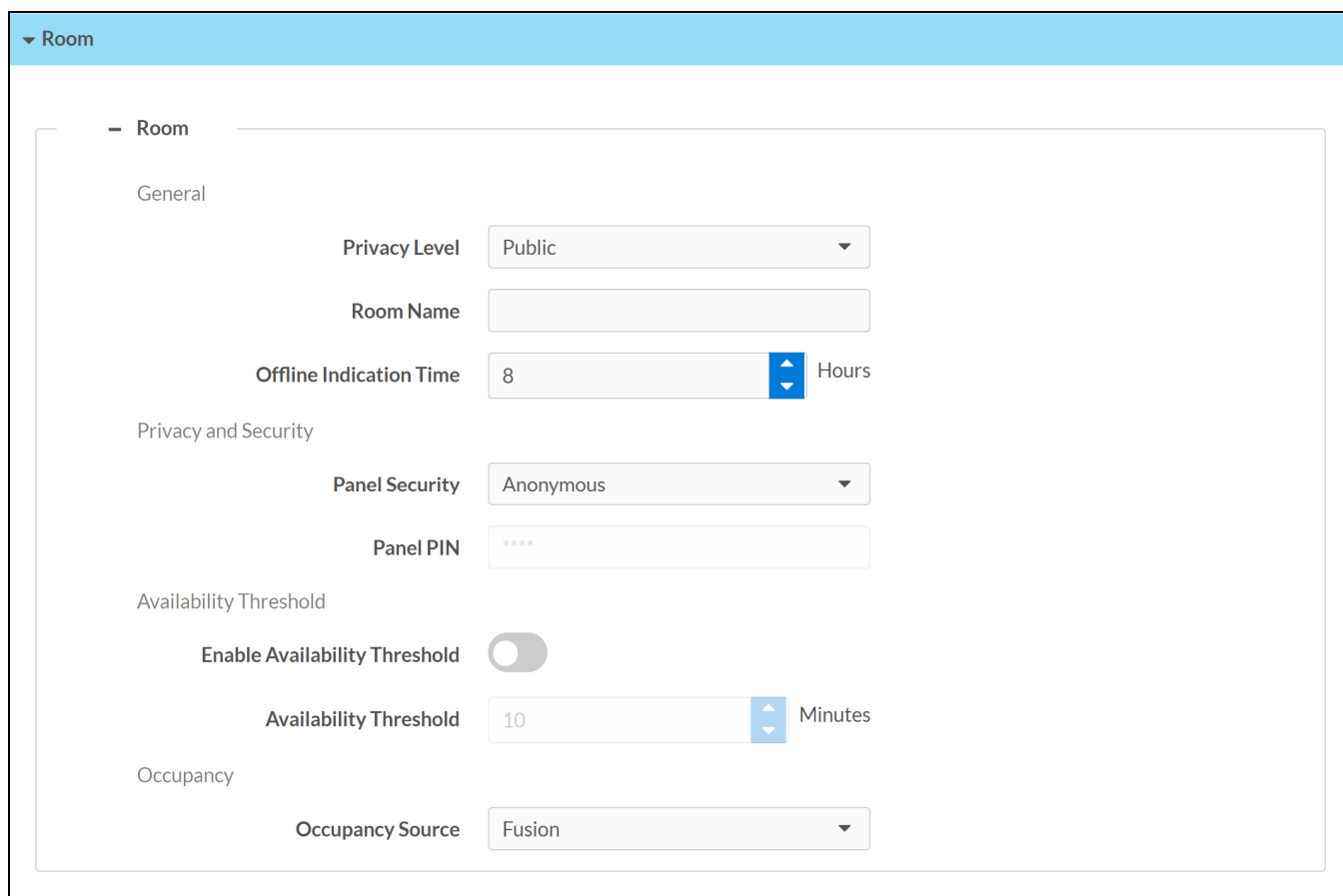
Available Red LED Brightness	<input type="range"/>	0%
Available Green LED Brightness	<input type="range"/>	100%
Available Blue LED Brightness	<input type="range"/>	0%
Reserved Red LED Brightness	<input type="range"/>	100%
Reserved Green LED Brightness	<input type="range"/>	0%
Reserved Blue LED Brightness	<input type="range"/>	0%
Available Occupied Red LED Brightness	<input type="range"/>	0%
Available Occupied Green LED Brightness	<input type="range"/>	0%
Available Occupied Blue LED Brightness	<input type="range"/>	100%

- **Enable LEDs:** Turn on the toggle to use LEDs with the room scheduling accessory.
- **Custom LED colors:** Turn on the toggle to allow custom color mixing for the accessory LEDs.
- Expand **Custom Color Values** to configure custom colors for the accessory LEDs (if **Custom LED colors** is turned on). Use the sliders to set color values (from 0–100%) for different occupancy states (**Available**, **Reserved**, and **Available Occupied**).

Room

Select **Room** to configure display and functionality settings for the room connected to the scheduling application.

Settings Tab - Room



▼ Room

Room

General

Privacy Level: Public

Room Name:

Offline Indication Time: 8 Hours

Privacy and Security

Panel Security: Anonymous

Panel PIN: ****

Availability Threshold

Enable Availability Threshold: ☐

Availability Threshold: 10 Minutes

Occupancy

Occupancy Source: Fusion

- Expand **General** to configure general settings for the meeting room.
 - **Privacy Level:** Use the drop-down menu to select the privacy level used by the scheduling application for the room.

NOTE: The selections for **Privacy Level** control how much information is displayed about each meeting on the scheduling application. Select **Public** to show the meeting subject, organizer, and attendees. Select **Semi-Private** to show the meeting organizer but not the subject or attendees. Select **Private** to not show any meeting information except for whether the room is free or reserved.

- **Room Name:** Enter a custom room name that overwrites the calendar name.
- **Offline indication time:** Enter the duration (in hours) that the connected scheduling calendar must be offline before the scheduling application displays an offline notification.

- Expand **Privacy And Security** to configure privacy and security settings for the meeting room.
 - **Panel Security:** Use the drop-down menu to select the security level used by the scheduling application for the room.

NOTE: If **Anonymous** is selected, a user may access scheduling application functions from the touch screen without entering a PIN. If **Touch Screen PIN** is selected, a user must first enter a PIN before accessing scheduling application functions.

- **Panel PIN:** If **Touch Screen PIN** is selected for **Panel Security**, enter a four-digit PIN that must be entered to gain access to scheduling application functions.
- Expand **Availability Threshold** to configure availability threshold behavior for the room.
 - **Enable Availability Threshold:** Turn on the toggle to use availability threshold behavior for the meeting room.
 - **Availability Threshold:** Enter the duration (in minutes) that a meeting cannot be booked from the touch screen before a scheduled meeting begins.
- Expand **Occupancy** to configure occupancy settings for the meeting room.
 - **Occupancy Source:** Use the drop-down menu to select whether occupancy is reported to the scheduling application via Crestron Fusion or via a local CEN-ODT-C-POE occupancy sensor (if the room includes occupancy-detecting equipment).

NOTES:

- A CEN-ODT-C-POE must be paired to the touch screen prior to selecting **Local** occupancy. For more information, refer to [Web Configuration on page 14](#).
- **Local** occupancy is supported by Crestron Fusion, Microsoft Exchange, and Google scheduling calendars at this time.

Automation

Select **Automation** to configure the behavior of automated settings for the scheduling application.

Settings Tab - Automation

Automation

Check-in and Decline for No Show

Decline for No Show

Decline for No Show

Decline reservations up to (min)

120

Minutes

Expiration Time (min)

15

Minutes

Decline at Exact Minute

Check-in

Require Check-in

Check-in Time

5

Minutes

Check-in End

5

Minutes

- **Decline for No Show**

- **Decline for No Show:** Turn on the toggle to allow meetings to be declined automatically in the event of a no show.

NOTE: When **Decline for No Show** is enabled, a user must tap a check-in button on the touch screen or occupancy must be detected in the room during the specified check-in period, otherwise the meeting is removed from the scheduling calendar. For recurring meetings, if a no show event is detected for the third consecutive time, the room will be freed from the recurrence.

- **Decline reservations up to (min):** If **Decline for No Show** is turned on, enter the maximum meeting duration (in minutes) that is affected by the **Decline for No Show** feature. All meetings that are longer than the set duration are not affected by this feature.
- **Expiration time (min):** If **Decline for No Show** is turned on, enter a duration (in minutes) that must elapse without any occupancy being detected before a meeting is declined.

- **Decline at Exact Minute:** If **Decline for No Show** is turned on, turn on the toggle to have the room check for occupancy at the exact time the duration set for **Expiration time (min)** elapses.

For example, if **Expiration time (min)** is set to 10 minutes and a meeting is scheduled to start at 10:00AM, the room will check for occupancy at 10:10AM and will decline the meeting if no occupancy is detected at this time. This helps to prevent a false positive if occupancy is detected prior to the expiration timeout.

- **Check-in**

- **Require Check-In:** Turn on the toggle to require an attendee to check in to the meeting from the touch screen during a specified period.
- **Check-In Time:** Enter the duration (in minutes) that a **Check In** button is available on the touch screen before a meeting begins.

NOTE: If the **Check In** button from the prior meeting is still active and has not been pressed, the **Check In** button from the next meeting does not appear until the previous button expires.

- **Check-In End:** Enter the duration (in minutes) that a **Check In** button is available on the touch screen after a meeting begins.

NOTE: If the length of a meeting is shorter than the set **Check-In End** value, the **Check-In End** time is limited to the length of the meeting.

Broadcast Messages

Select **Broadcast Messages** to configure broadcast message behavior on the scheduling application.

Settings Tab - Broadcast Messages

- **Broadcast Enable:** Turn on the toggle to show broadcast messages on the scheduling application.
- **Broadcast Timeout:** Enter the duration (in minutes) that a broadcast message is displayed before timing out. Enter "0" for no timeout.

Applications

Select **Applications** to select an application to run on the touch screen.

Settings Tab - Applications

▼ Applications

Application Mode

User Project

User Project

Language

en-US

Use the **Application Mode** drop-down menu to select a touch screen application from the available selections.








Once a new application is selected, select **Save Changes** from the **Actions** menu. A pop-up dialog box is displayed stating that the touch screen must be rebooted for the new application to take effect. Select **Yes** to restart the touch screen now or **No** to restart the touch screen later. The touch screen restarts with the new application running.

For more information on configuring the provided third party scheduling applications, refer to the [TSW-70 Series Product Manual](#).

Work Hours

Select **Work Hours** to configure the auto on settings for the connected touch screen, which are triggered and controlled by a time range.

Settings Tab - Work Hours

▼ Work Hours			
Enable	Day	On Time	Off Time
	Monday	08:00	17:00
	Tuesday	08:00	17:00
	Wednesday	08:00	17:00
	Thursday	08:00	17:00
	Friday	08:00	17:00
	Saturday	08:00	17:00
	Sunday	08:00	17:00

During the set date and time range, the touch screen display remains on regardless of whether meetings are scheduled.

NOTE: All other standby configuration options are disabled when the touch screen is in scheduling mode. The options set through the **Work Hours** selection always dictate when the connected display turns on or off.

The following settings may be configured for each day of the week listed in the adjacent **Day** column:

- **Enable:** Turn on the toggle to use auto on controls for the chosen day of the week.
- **On Time:** Enter the time (in 24-hour format) that the connected touch screen display is turned on automatically for the chosen day of the week.
- **Off Time:** Enter the time (in 24-hour format) that the connected touch screen display is turned off automatically for the chosen day of the week.

SNMP Configuration

Select **SNMP Configuration** to configure SNMP (Simple Network Management Protocol) settings on the touch screen.

Settings Tab - SNMP Configuration

SNMP Configuration

SNMP Enabled

SNMP Allow All

Trap Enabled

Delete All

Add User

User Name	Manager Name	Version	Write Access Level	Address	Authentication Protocol	Privacy Protocol	Actions
commV3	managerV3	AuthNoPrivacyV3	true	172.17.219.45	SHA		<div></div>

- **SNMP Enabled:** Turn on the toggle to turn on SNMP for the touch screen.
- **SNMP Allow All:** Turn on the toggle to all the touch screen to receive SNMP requests from all managers.
- **Trap Enabled:** Turn on the toggle to turn on SNMP trap notifications.

Each added SNMP user is displayed in a table that contains the following information.

- **User Name:** The name of the SNMP user
- **Manager Name:** The SNMP manager for the user
- **Version:** The SNMP version set for the user
- **Write Access Level:** Indicates whether the user has write level permissions (**true**) or read-only permissions (**false**)
- **Address:** The IP address of the SNMP manager
- **Authentication Protocol:** The authentication protocol used by the SNMP manager

- **Privacy Protocol:** The privacy protocol used by the SNMP manager
- **Actions:** Controls for editing and deleting the SNMP user

Select **Delete All** to delete all existing SNMP users. When a dialog box is shown asking whether all SNMP users should be deleted, select **Yes**.

Select **Add User** to add a new SNMP user. The **Add SNMP Configuration** dialog box is displayed.

Add SNMP Configuration Dialog Box

Enter the following information for the SNMP user:

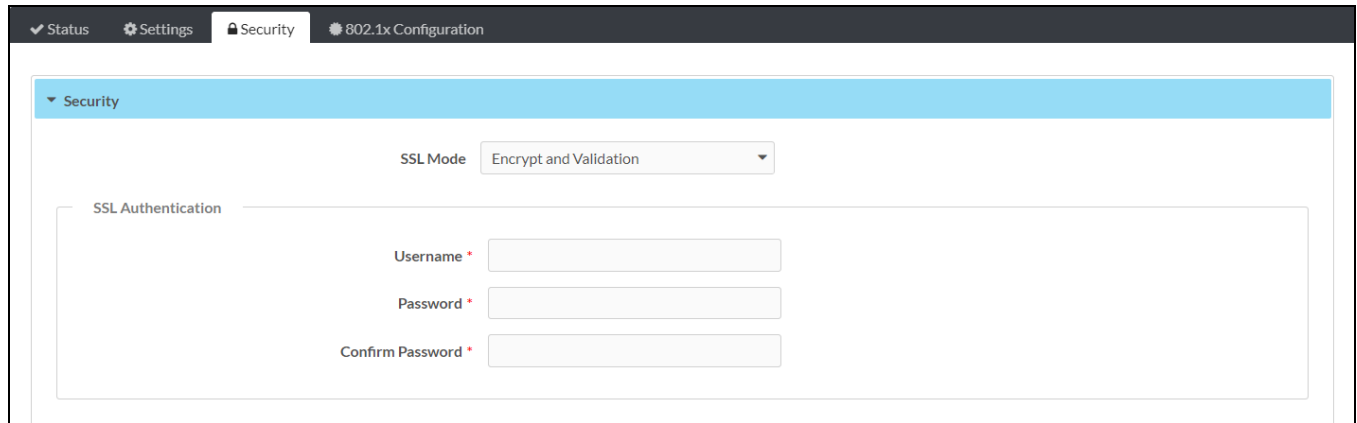
- **Manager Name:** Enter the SNMP manager name for the user.
- **IP Address/Host Name:** Enter the IP address or host name of the SNMP manager.
- **Community Name:** Enter the SNMP community (user) name.
- **Write Access Level:** Use the drop-down menu to select whether the user has write level access (**True**) or read-only access (**False**).
- **SNMP Version:** Use the drop-down menu to select the SNMP version used by the manager.
- **SNMP Authorization Protocol:** If required, use the drop-down menu to select the authorization protocol used by the SNMP manager.
- **SNMP Privacy Protocol:** If required, use the drop-down menu to select the privacy protocol used by the SNMP manager.
- **SNMP Security Password:** If required, enter the security password for the SNMP manager.
- **SNMP Privacy Password:** If required, use the privacy password for the SNMP manager.

Select **OK** to create the new user. The user is added to the table within the **SNMP Configuration** accordion.

Security

Select the **Security** tab on the top left of the configuration interface to display selections for configuring security and authentication settings for the touch screen.

Security Tab Selections



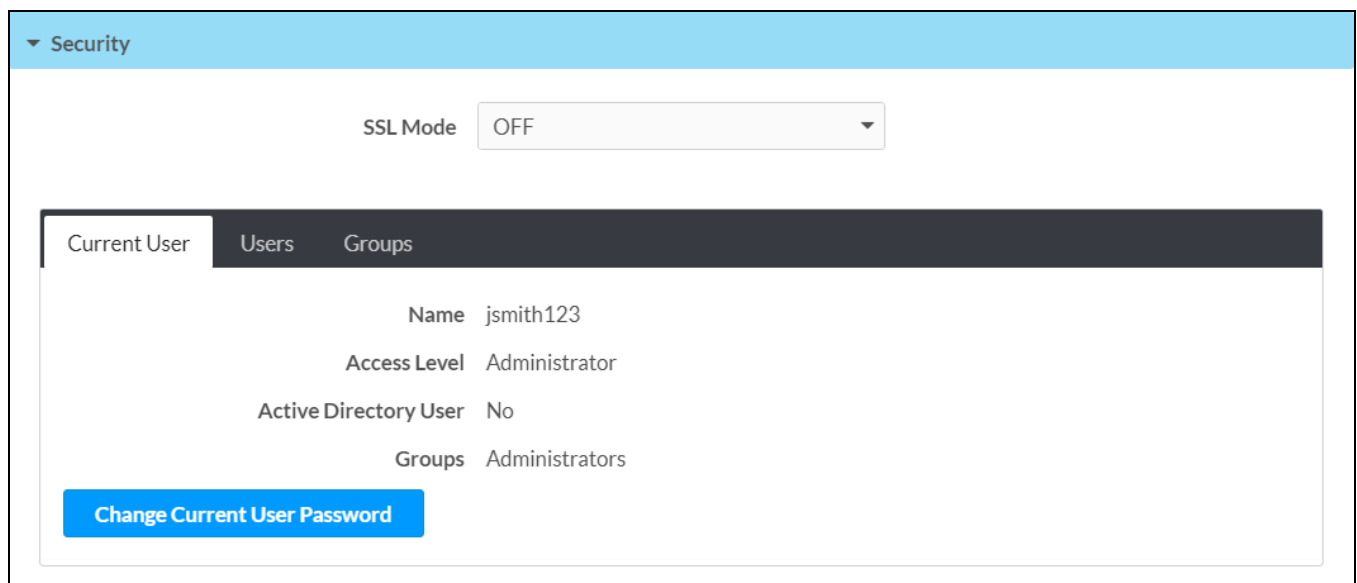
The screenshot shows the 'Security' tab selected in the configuration interface. The top navigation bar includes 'Status', 'Settings', 'Security', and '802.1x Configuration'. The 'Security' section is expanded, showing the 'SSL Mode' dropdown set to 'Encrypt and Validation'. Below this, the 'SSL Authentication' section is visible, containing three input fields: 'Username *', 'Password *', and 'Confirm Password *'.

Expand the **Security** accordion to configure the following settings:

- **SSL Mode:** Select an SSL (Secure Sockets Layer) mode to use for establishing a secure connection to the touch screen:
 - **Encrypt and Validation:** The touch screen will require a username and password to validate an encrypted SSL connection. Enter a username and password in the appropriate fields that are displayed.
 - **Encrypt:** The touch screen will use an encrypted SSL connection
 - **OFF:** The touch screen will not use an SSL connection.

User and group settings are also displayed within the **Security** accordion.

Authentication Settings



The screenshot shows the 'Security' tab with the 'SSL Mode' dropdown set to 'OFF'. Below this, the 'Current User' section is expanded, displaying user and group settings. The settings are as follows:

Property	Value
Name	jsmith123
Access Level	Administrator
Active Directory User	No
Groups	Administrators

At the bottom of the 'Current User' section, there is a blue button labeled 'Change Current User Password'.

The web configuration interface prompts the user to enter a new administrator username and password. After restarting the touch screen, this username and password must be entered to access the web configuration utility or to connect to the touch screen through Crestron Toolbox™ software.

CAUTION: Do not lose the administrator username and password, as the touch screen settings must be restored to factory defaults to reset the username and password.

Use the following settings to add, delete, and edit touch screen users and groups.

Current User

Select the **Current User** tab to view and edit information for the current touch screen user.

Authentication Management - Current User Tab

Current User	Users	Groups
Name jsmith123		
Access Level Administrator		
Active Directory User No		
Groups Administrators		
<button>Change Current User Password</button>		

The following settings are displayed for the current user:

- **Name:** The chosen username
- **Access Level:** The access level granted to the user (Administrator, Programmer, Operator, User, or Connect)
- **Active Directory User:** Reports whether the current user is (Yes) or is not (No) authenticated through Active Directory® software

NOTE: A user must be added to an Active Directory group before the user may be selected as an active directory user. For more information, refer to [Groups on page 76](#).

- **Groups:** Any groups of which the current user is a member

Select **Change Current User Password** to change the password for the current user. The **Change Password** dialog box is displayed.

Change Password Dialog Box

Change Password

Current Password

Current Password cannot be empty

Password

Password cannot be less than 6 characters

Confirm Password

OK

Cancel

Enter the existing password in the **Current Password** field. Then, enter a new password in the **Password** field, and reenter the password in the **Confirm Password** field.

Select **OK** to save the new password, or select **Cancel** to cancel the change.

Users

Select the **Users** tab to view and edit information for the touch screen users.

Authentication Management - Users Tab

Current UserUsersGroups

Search...

Username	AD User	Actions
jsmith123	No	<div><div></div><div></div><div></div></div>

1

10

Create User

Enter text into the **Search Users** field to find and display users that match the search term(s).

Touch screen users are listed in table format. The following information is displayed for each touch screen user:

- **Username:** The chosen username
- **AD User:** Reports whether the user is (**Yes**) or is not (**No**) authenticated through Active Directory

NOTE: A user must be added to an Active Directory group before the user may be selected as an active directory user. For more information, refer to [Groups on page 76](#).

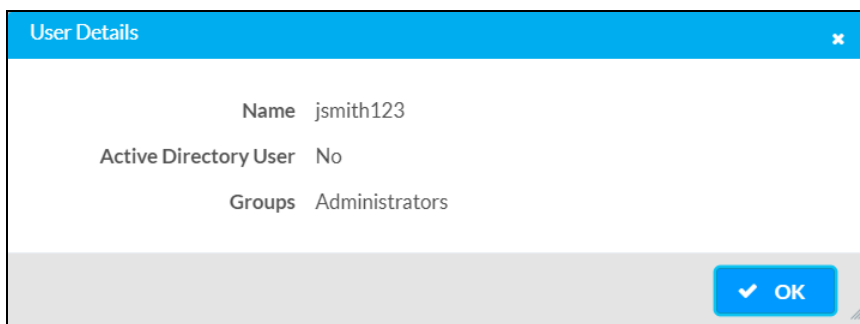
If the touch screen users span multiple pages, use the navigation arrows on the bottom of the page to move forward or backward through the pages, or select a page number to navigate to that page. Additionally, the number of users displayed on each page may be set to 5, 10, or 20 users.

An **Actions** column is also provided for each user that allows various actions to be performed. The following selections may be selected from the **Actions** column.

User Details

Select the information button  in the **Actions** column to view information for the selected user. The **User Details** pop-up dialog box is displayed.

User Details Dialog Box



The image shows a 'User Details' dialog box with a blue header bar containing the title 'User Details' and a close button (X). The main content area is white and displays the following information: 'Name' followed by 'jsmith123', 'Active Directory User' followed by 'No', and 'Groups' followed by 'Administrators'. At the bottom right, there is a blue button with a white checkmark and the text 'OK'.

Name	jsmith123
Active Directory User	No
Groups	Administrators


✓ OK

The following settings are displayed for the current user:

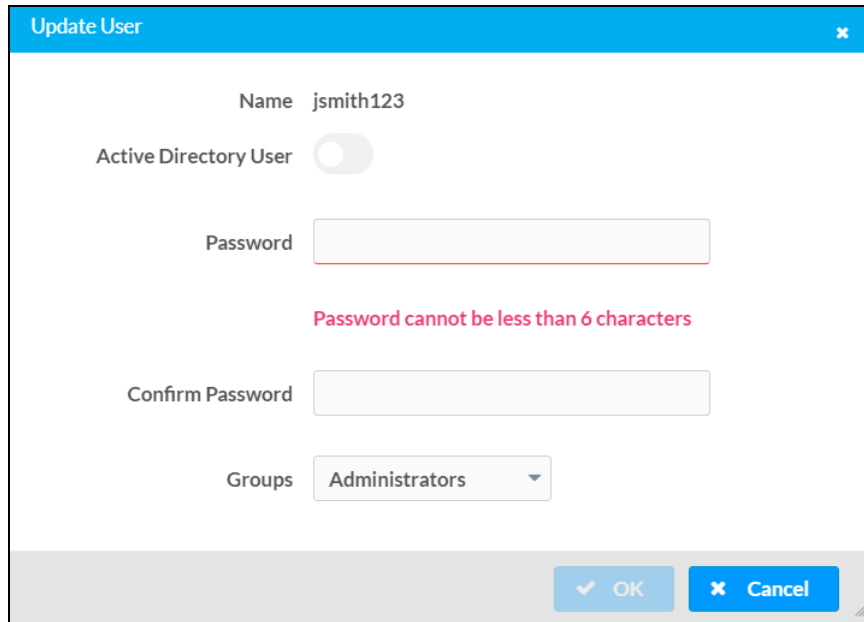
- **Name:** The chosen username
- **Active Directory User:** Reports whether the user is (**Yes**) or is not (**No**) authenticated through Active Directory
- **Groups:** Lists any groups that contain the user

Select **OK** to return to the **Authentication Management > Users** page.

Update User

Select the editing button  in the **Actions** column to edit settings for the selected user. The **Update User** dialog box is displayed.

Update User Dialog Box



The dialog box is titled "Update User" and contains the following fields and controls:

- Name:** A text field containing "jsmith123".
- Active Directory User:** A toggle switch currently turned off.
- Password:** A text field with a red border and a red error message below it: "Password cannot be less than 6 characters".
- Confirm Password:** A text field.
- Groups:** A dropdown menu currently showing "Administrators".
- Buttons:** "OK" (with a checkmark icon) and "Cancel" (with an X icon) buttons at the bottom right.

The following **Update User** settings may be viewed or configured:

- **Name:** The chosen username
- **Active Directory User:** Turn on the toggle to use authentication via Active Directory for the selected user.
- **Password:** Enter a new password for the selected user.
- **Confirm Password:** Reenter the password provided in the **Password** field.
- **Groups:** Add the user to one or more groups. For more information, refer to [Groups on page 76](#).

NOTE: A user must be added to an Active Directory group to be selected as an Active Directory user.

Select **OK** to save any changes and to return to the **Authentication Management > Users** page. Select **Cancel** to cancel any changes.

Delete User

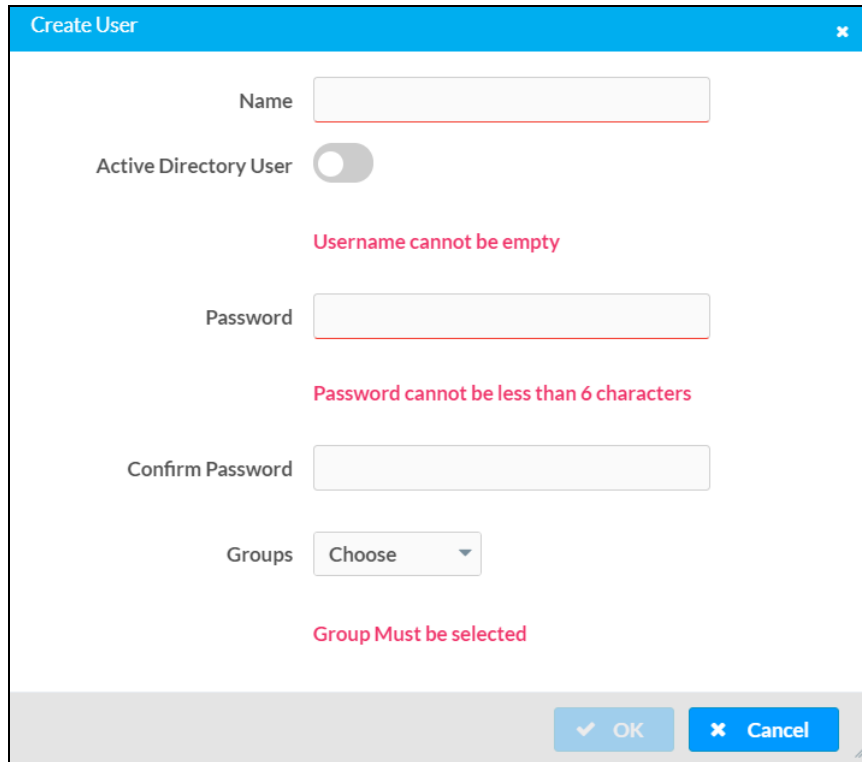
Select the trashcan icon  in the **Actions** column to delete the user.

A pop-up dialog box is displayed asking whether the user should be deleted. Select **Yes** to delete the user or **No** to cancel deleting the user.

Create User

Select **Create User** at the bottom of the page to create a new touch screen user. The **Create User** dialog box is displayed.

Create User Dialog Box

The image shows a 'Create User' dialog box with a blue header and a close button. It contains several input fields: 'Name' (empty), 'Active Directory User' (toggle switch), 'Password' (empty), 'Confirm Password' (empty), and 'Groups' (dropdown menu showing 'Choose'). Below the 'Name' field is a red error message 'Username cannot be empty'. Below the 'Password' field is a red error message 'Password cannot be less than 6 characters'. Below the 'Groups' dropdown is a red error message 'Group Must be selected'. At the bottom right are 'OK' and 'Cancel' buttons.

Use the following settings to create a new user:

- **Name:** Enter a username.
- **Active Directory User:** Turn on the toggle to use authentication via Active Directory for the user.
- **Password:** Enter a password for the user.
- **Confirm Password:** Reenter the password provided in the Password field.
- **Groups:** Add the user to one or more groups. For more information, refer to [Groups on page 76](#).

NOTE: A user must be added to an Active Directory group to be selected as an Active Directory user.

Select **OK** to save any changes and to return to the **Authentication Management > Users** page. Select **Cancel** to cancel creating a new user.











Groups

Select the **Groups** tab to view and edit settings for touch screen groups. Touch screen groups are used to group users by access level and Active Directory authentication settings.

Authentication Management - Groups Tab

Current UserUsersGroups

Q Search...

Group Name	AD Group	Access Level	Actions
Administrators	No	Administrator	 
Connects	No	Connect	 
Operators	No	Operator	 
Programmers	No	Programmer	 
Users	No	User	 

1

10

Create Group

Enter text in to the **Search Groups** field to find and display groups that match the search term(s).

Touch screen groups are listed in table format. The following information is displayed for each touch screen group:

- **Group Name:** The chosen group name
- **AD Group:** Reports whether the group is (**Yes**) or is not (**No**) authenticated through Active Directory


NOTE: Active Directory provides an additional layer of authentication for touch screen groups and users. Active directory group and user names are stored in the touch screen console along with a unique SID (security identifier). When an Active Directory user attempts to authenticate against the console, the console first checks the user credentials. If the Active Directory authentication is successful, Active Directory queries the console for the user or group's SID. The user is granted access to the touch screen only if at least one SID match is found.

- **Access Level:** The access level for the selected group (**Administrator, Programmer, Operator, User,** or **Connect**)

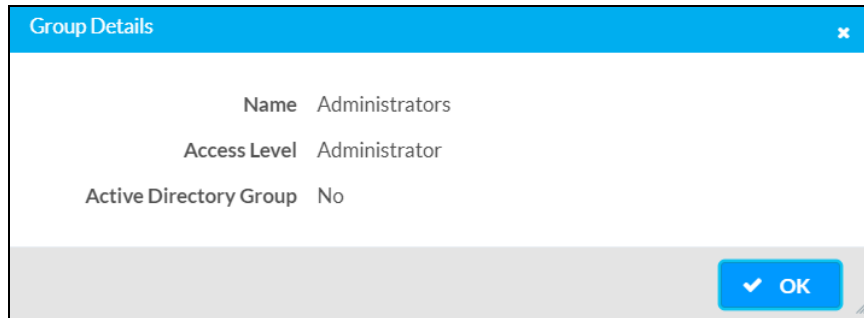
If the touch screen groups span multiple pages, use the navigation arrows on the bottom of the page to move forward or backward through the pages, or select a page number to navigate to that page. Additionally, the number of groups displayed on each page may be set to 5, 10, or 20 users.

An **Actions** column is also provided for each group that allows various actions to be performed. The following selections may be selected from the **Actions** column.

Group Details

Select the information button  in the **Actions** column to view information for the selected group. The **Group Details** dialog box is displayed.

Group Details Dialog Box



The dialog box titled "Group Details" displays the following information:

Name	Administrators
Access Level	Administrator
Active Directory Group	No

At the bottom right, there is a blue button with a checkmark and the text "OK".

The following settings are displayed for the current group:

- **Name:** The chosen group name

NOTE: If authenticating with Active Directory, do not enter the domain name for the Active Directory group in the **Name** field. If this information is being entered via console commands, omit `domain\local` from the command (for example, `adddomaing -n:crestron -L:A` instead of `adddomaing -n:domain.local\crestron -L:A`).

- **Access Level:** The access level of the group and its users
- **Active Directory User:** Reports whether the group is (**Yes**) or is not (**No**) authenticated through Active Directory

Select **OK** to return to the **Authentication Management > Groups** page.

Delete Group

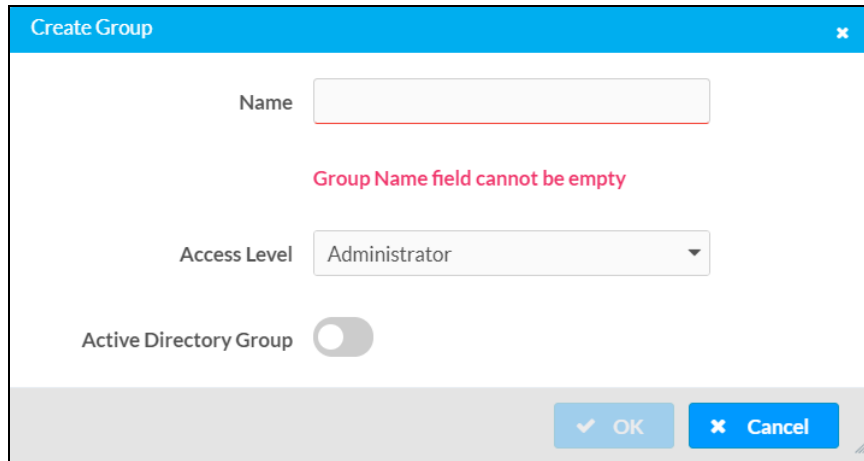
Select the trashcan icon  in the **Actions** column to delete the group.

A pop-up dialog box is displayed asking whether the group should be deleted. Select **Yes** to delete the group or **No** to cancel deleting the group.

Create Group

Select **Create Group** at the bottom of the page to create a new touch screen group. The **Create Group** dialog box is displayed.

Create Group Dialog Box

The image shows a 'Create Group' dialog box with a blue header bar containing the title and a close button. The main area is white and contains three fields: a 'Name' text input field with a red border and a red error message 'Group Name field cannot be empty' below it; an 'Access Level' dropdown menu currently set to 'Administrator'; and an 'Active Directory Group' toggle switch which is currently turned off. At the bottom right, there are two buttons: 'OK' with a checkmark icon and 'Cancel' with an 'X' icon.

Create Group

Name

Group Name field cannot be empty

Access Level Administrator

Active Directory Group ☐

✓ OK ✕ Cancel

Use the following settings to create a new group:

- **Name:** Enter a group name.
- **Access Level:** Select an access level for the group and its users from the drop-down menu.
- **Active Directory Group:** Turn on the toggle to turn authentication on via Active Directory for the group.

Select **OK** to save any changes and to return to the **Authentication Management > Groups** page. Select **Cancel** to cancel creating a new group.

802.1x Configuration

Select the **Security** tab on the top left of the configuration interface to display selections for configuring IEEE 802.1X network authentication for touch screen security.

802.1x Configuration Tab Selections

✓ Status

⚙ Settings

🔒 Security

802.1x Configuration

▼ 802.1x Configuration

IEEE 802.1x Authentication

Authentication Method

EAP MSCHAP V2- password

Domain

Username

Password

•••••

Enable Authentication Server Validation

Select Trusted Certificate Authoritie(s)

☐

Q

☐ AAA Certificate Services

☐ AC RAIZ FNMT-RCM

☐ ACCVRAIZ1

☐ Actalis Authentication Root CA

☐ AffirmTrust Commercial

☐ AffirmTrust Networking

☐ AffirmTrust Premium ECC

☐ AffirmTrust Premium

☐ Amazon Root CA 1

☐ Amazon Root CA 2

☐ Amazon Root CA 3

☐ Amazon Root CA 4

☐ Atos TrustedRoot 2011

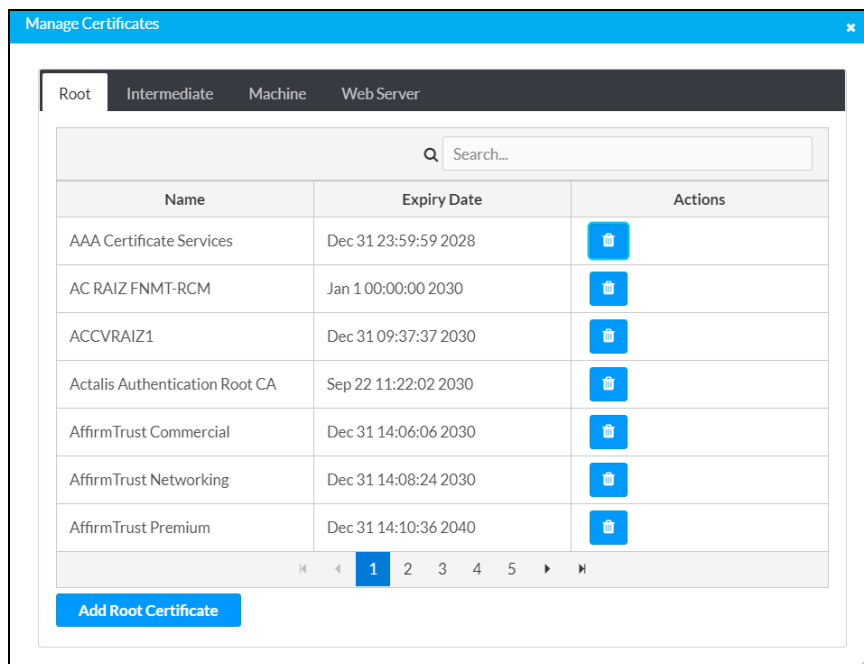
☐ Autoridad de Certificacion Firmaprofesional CIF A62634068

Expand the **802.1x Configuration** accordion to configure the following settings:

- **IEEE 802.1x Authentication:** Turn on the toggle to use 802.1X authentication for the touch screen.
- **Authentication Method:** Select an 802.1X authentication method (**EAP-TLS Certificate** or **EAP MSCHAP V2- password**) from the drop-down menu.
- **Domain:** If **EAP MSCHAP V2- password** is selected for **Authentication Method**, enter a domain name that is required for authentication.
- **Username:** If **EAP MSCHAP V2- password** is selected for **Authentication Method**, enter a username that is required for authentication.
- **Password:** If **EAP MSCHAP V2- password** is selected for **Authentication Method**, enter a password that is required for authentication.
- **Enable Authentication Server Validation:** Turn on the toggle to use server validation for increased security.
- **Select Trusted Certificate Authorities:** Select trusted CAs (Certificate Authorities) from the provided CAs to be used for server validation:
 - Select the check box to the left of a CA to select it as a trusted CA.
 - Enter a search term into the text field at the top of the CA menu to search for and display CAs that match the search term.
 - Select the check box to the left of the search field at the top of the CA menu to select all CAs as trusted CAs.

Select **Manage Certificates** from the **Action** menu to add or remove CAs from the list. The **Manage Certificates** dialog box is displayed with the **Root** tab selected.

Manage Certificates Dialog Box - Root Tab




Select the tabs near the top of the page to switch between the different types of CAs (**Root**, **Intermediate**, **Machine**, or **Web Server**). The same settings are provided for each type of CA.

Type a search term into the **Search...** text field to search for and display CAs that match the search term.

The following information is provided for each type of CA:

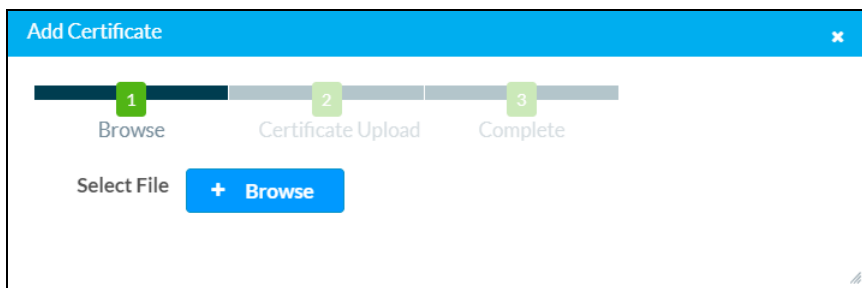
- **Name:** The CA name
- **Expiry Date:** The date and time that the CA is set to expire

If the CAs span multiple pages, use the navigation arrows on the bottom of the page to move forward or backward through the pages, or select a page number to navigate to that page.

Select the trashcan button  in the **Actions** column for a CA to delete it. A pop-up dialog box is displayed asking if the CA should be deleted. Select **Yes** to delete the certificate or **No** to cancel.

Select **Add [Type] Certificate** to add a CA of one of the four available types (**Root**, **Intermediate**, **Machine**, or **Web Server**) to the list of CAs. The **Add Certificate** pop-up dialog box is displayed.

Add Certificate Dialog Box



To add a new certificate:

1. Select **Browse**.
2. Navigate to the CA file on the host computer.
3. Select the CA file, and then select **Open**.
4. Select **Load** to load the CA file to the touch screen. The upload progress is shown in the dialog box.
5. Once the touch screen has completed the upload, select **OK**.

Select the **x** button to close the **Add Certificate** dialog box at any time during the upload process. Selecting the **x** button before the CA file is uploaded to the touch screen cancels the upload.

Select the **x** button to close the **Manage Certificates** dialog box and to return to the **802.1x Authentication** page.

Crestron Fusion Configuration

Once the scheduling application is connected to Crestron Fusion, scheduling application settings may be configured through Crestron Fusion by using custom properties.

Custom properties expand the functionality of the scheduling application, such as passing properties for the touch screen to display and announcing an emergency alert generated by Crestron Fusion. Custom properties provide information that is important to the user and that can be included in the description of the room. Custom properties that communicate settings to the device are defined for each room and are set through the Crestron Fusion Setup web client.

NOTE: Custom properties set in Crestron Fusion have precedence over settings configured using the web browser interface.

For more information on setting up rooms and adding devices to rooms in Crestron Fusion Cloud, refer to the [Getting Started Guide for Adding Devices to Crestron Fusion Software](#).

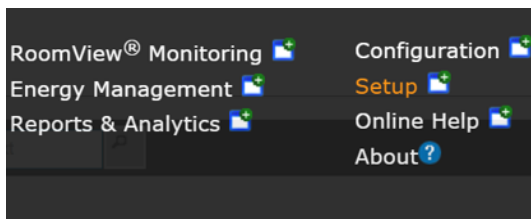
Add Custom Properties to a Room

Before attempting the procedure below, ensure that the scheduling application has been selected on the touch screen and that a connection to Crestron Fusion has been established. The touch screen must also have already been added to the appropriate room in the Crestron Fusion server.

To add custom properties to a room in Crestron Fusion:

1. Log in to the Crestron Fusion server.
2. Select **Open > Setup** from the Crestron Fusion header.

Crestron Fusion Page - Header



3. Select the **Objects** tab on the bottom of the **Rooms** tree on the left side of the page.

Crestron Fusion Page - Objects Tab



4. Select **Custom Properties > Rooms** from the **Objects** tree, and then select **Add**.
5. Enter the following information for each custom property that is being added:
 - **ID:** Enter the ID of the custom property exactly as it appears in this document.
 - **Name:** Enter any descriptive name for the property.

- **Type:** Enter the custom property type (integer, string, Boolean, and so forth).
- **Searchable:** Check this box to make the custom property searchable (optional).

Add - Custom Property (Room) Dialog Box

The dialog box is titled "Add - Custom Property (Room)". It contains the following fields:

- ID:** A text input field with a red asterisk indicating it is required.
- Name:** A text input field with a red asterisk indicating it is required.
- Type:** A dropdown menu with a red asterisk indicating it is required.
- Searchable:** A checkbox.

Below the fields, a legend states: "*denotes a required field". At the bottom of the dialog, there are two buttons: "Save & Close" and "Close".

6. Select **Save & Close** to save any changes. Select **Close** to cancel the addition.

Set Custom Properties for the Scheduling Application

After adding custom properties to the room as described in [Add Custom Properties to a Room on page 82](#), use the **Custom Property** tab to configure the custom properties for the scheduling application.

To set custom properties for the scheduling application in Crestron Fusion:

1. Navigate to the **Rooms** tree as described in the first three steps of the [Add Custom Properties to a Room on page 82](#).
2. Select the **Rooms** tab if it is not already selected.
3. Select the **+** (plus) sign next to the root directory to expand the directory tree.
4. Double-click on the desired room to open the **Edit - Room** dialog box.
5. Select the **Custom Properties** tab to view the available custom properties for that room.
6. To enable a custom property, either add a valid value to the appropriate text box or check the appropriate check box.
7. Select **Save & Close** to apply the selected properties. Select **Close** to cancel any changes.

Scheduling Application Custom Properties

The following tables list the Crestron Fusion custom properties that may be configured for the scheduling application. These custom properties correlate with the settings that are configurable via the web configuration interface.

For a complete list of custom properties for the scheduling application in the order that they appear in Crestron Fusion, refer to [All Scheduling Application Custom Properties on page 91](#).

Work Hours Settings

Custom Properties - Work Hours Settings

Custom Property	Types and Supported Value(s)	Description	Default Value	Notes
WorkHoursEn[Mon-Sun] ¹	Boolean TRUE = enabled, FALSE = disabled	Sets the days of the week that the display's auto-on settings are in effect	enabled [Mon-Fri], disabled [Sat-Sun]	Disabling a day turns the display off for that entire day
WorkHoursStart[Mon-Sun] ¹	String [00:00-23:59]	Sets when the display turns on automatically for a given day (in 24-hour format)	08:00	Time must be earlier than the WorkHoursStop time
WorkHoursStop[Mon-Sun] ¹	String [00:00-23:59]	Sets when the display turns off automatically for a given day (in 24-hour format)	18:00	Time must be later than the WorkHoursStop time

¹ The table below correlates the abbreviation following each of the above properties with a day of the week.

Abbreviation	Day of Week
Mon	Monday
Tue	Tuesday
Wed	Wednesday
Thu	Thursday
Fri	Friday
Sat	Saturday
Sun	Sunday

Display Settings

Custom Properties - Display Settings

Custom Property	Types and Supported Value(s)	Description	Default Value	Notes
BackgroundAvailable	String [URL of background source file]	Sets the background source file URL for the available screens	empty	
BackgroundReserved	String [URL of background source file]	Sets the background source file URL for the reserved screens	empty	

Broadcast Message Settings

Custom Properties - Broadcast Message Settings

Custom Property	Types and Supported Value(s)	Description	Default Value	Notes
BroadcastEmgTimeOut	Integer [0–90 minutes]	Sets the number of minutes before an emergency broadcast times out	90	BroadcastTimeOutEnable must be enabled; 0 = no timeout
BroadcastTimeOutEnable	Boolean TRUE = enabled, FALSE = disabled	Sets whether a timeout for broadcast messages is enabled or disabled	TRUE	Time must be earlier than the WorkHoursStop time
EnBroadcastMessage	Boolean TRUE = enabled, FALSE = disabled	Sets whether the scheduling application shows broadcast messages	TRUE	

UI Settings

Custom Properties - UI Settings

Custom Property	Types and Supported Value(s)	Description	Default Value	Notes
DisableIdleScreen	Boolean TRUE = enabled, FALSE = disabled	Sets whether the idle screen will be displayed after the specified idle timeout duration elapses.	FALSE	
ForceActiveAfterResStart	Integer [0–15 minutes]	Sets the time that the active screen remains on the display after a meeting begins (even if the idle timeout has elapsed)	5	0 = disable this behavior
ForceActiveBeforeResStart	Integer [0–15 minutes]	Sets the time that the active screen remains on the display before a meeting begins (even if the idle timeout has elapsed)	5	0 = disable this behavior
IdleTimeout	Integer [1–20 minutes]	Sets the time that the application must be idle before displaying the idle screen	5	
LEDReservedColorForCheckIn	Boolean TRUE = enabled, FALSE = disabled	Sets whether the scheduling app will show as reserved during the specified check-in period.	FALSE	ForceOrgCheckIn must be enabled
ProjectIconUrl	String [URL of custom application icon]	Provides a URL reference to a custom application icon graphic file to replace the default application icon	empty	Supported graphic file types are PNG, JPG, and SVG
ProjectLayout	String [Horizontal, Vertical]	Sets the layout orientation for the application	Horizontal	
ProjectTheme	String [Light, Dark]	Sets the look and feel of the application theme	Dark	

Automation Settings

Custom Properties - Automation Settings

Custom Property	Types and Supported Value(s)	Description	Default Value	Notes
DeclineForNoShowAppliesDur	Integer [30–480 minutes]	If EnDeclineForNoShow is enabled, limits this feature to reservations up to and including the set number of minutes	120	
EnDeclineForNoShow	Boolean TRUE = enabled, FALSE = disabled	Sets whether a meeting is declined after a certain duration if is not checked in from the touch screen	FALSE	ForceOrgCheckIn must be enabled
ForceOrgCheckIn	Boolean TRUE = enabled, FALSE = disabled	Sets whether the reservation must be checked in from the touch screen	FALSE	
ForceOrgCheckInEndMin	Integer [0–30 minutes]	Sets how long the check-in button displays after the start of a reservation	5	Configuration limited to the length of a meeting; 0 = button is unavailable after meeting begins
ForceOrgCheckInMin	Integer [0–2880 minutes]	Sets how long the check-in button displays before the start of a reservation	5	Button does not appear if previous reservation still is not checked in; 0 = button is unavailable before meeting begins

Room Settings

Custom Properties - Room Settings

Custom Property	Types and Supported Value(s)	Description	Default Value	Notes
AvailabilityThresholdMin	Integer [1–120 minutes]	Sets the time that a room cannot be booked prior to the start of a meeting	10	Required if AvailabilityThresholdRoomState is enabled
AvailabilityThresholdRoom State	Integer 0 = Disabled, 1 = Enabled	Sets whether the availability threshold behavior is enabled or disabled	0	
DateFormat	Integer [0–9]	Sets the date format of the display	0	
OfflineExpiry	Integer [0–24 hours]	Sets the time to delay the "Display Offline" message after the display is no longer connected to the network	8	A value of 0 shows the offline screen immediately upon loss of connection.
PanelPin	String	Sets the four-digit PIN that must be entered to access scheduling application features	1234	Required if PanelSecurity is set to Touch Screen PIN

Custom Property	Types and Supported Value(s)	Description	Default Value	Notes
PanelSecurityLevel	Integer 0 = Disabled/ Anonymous, 1 = Touch Screen PIN	Sets the security level of the scheduling application	0	
RoomFriendlyName	String	Sets a custom room name that overwrites the calendar name	empty	
RoomPrivacyLevel	Integer 0 = Public, 1 = Semi-Private, 2 = Private, 3 = Custom	Sets the privacy level of the scheduling application (what meeting information is shared on the touch screen)	0	Refer to Room for more information.
TimeFormat	Boolean TRUE = 12hr, FALSE = 24hr	Sets the time format of the display	TRUE	

¹ The table below correlates the date format with the required integer.

Format	Definition	Example	Property
WMDY	Day of week, Month Day, Year	Tuesday, March 3, 2020	DateFormat=0
WDMY	Day of week, Day-Month-Year	Tuesday, 3-March-2020	DateFormat=1
WMD	Day of week, Month Day	Tuesday, March 3	DateFormat=2
WDM	Day of week, Day-Month	Tuesday, 3-March	DateFormat=3
MDY	Month Day, Year	March 3, 2020	DateFormat=4
DMY	Day-Month-Year	3-March-2020	DateFormat=5
M.DY	Month.Day Year	March.3 2020	DateFormat=6
D.MY	Day.Month Year	3.March 2020	DateFormat=7
WYMD	Day of week, Year-Month-Day (ISO format)	Tuesday, 2020-March-3	DateFormat=8
YMD	Year-Month-Day (ISO format)	2020-March-3	DateFormat=9

Reservation Settings

Custom Properties - Reservation Settings

Custom Property	Types and Supported Value(s)	Description	Default Value	Notes
EnFreeUpRoom	Boolean TRUE = enabled, FALSE = disabled	Sets whether a meeting may be ended early from the touch screen	TRUE	
ExtendReservationEnable	Boolean TRUE = enabled, FALSE = disabled	Sets whether the reservation can be extended from the touch screen	TRUE	
ExtendReservationMin	Integer [0–59 minutes]	Sets the number of minutes that must elapse before the extend reservation button is displayed	15	Extend ReservationType must be set to "0"
ExtendReservationPer	Integer [0–100%]	Sets the percentage of a meeting that must elapse before the extend reservation button is displayed	25%	Extend ReservationType must be set to "1"
ExtendReservationType	Integer 0 = Minutes, 1 = Percentage	Sets whether the extend reservation function is controlled by elapsed minutes or elapsed percentage	0	Extend ReservationEnable must be enabled
FreeUpRoomEnMin	Integer [0–59 minutes]	Sets the number of minutes that must elapse before the end early button is displayed	10	FreeUpRoomEn UseMin must be enabled
FreeUpRoomEnPer	Integer [0–100%]	Sets the percentage of a meeting that must elapse before the end early button is displayed	5%	FreeUpRoomEn UsePer must be enabled
FreeUpRoomEnUseMin	Boolean TRUE = enabled, FALSE = disabled	Sets whether the end early button displays after a set number of minutes has elapsed	TRUE	EnFreeUpRoom must be enabled
FreeUpRoomEnUsePer	Boolean TRUE = enabled, FALSE = disabled	Sets whether the end early button displays after a set percentage of the reservation has elapsed	FALSE	EnFreeUpRoom must be enabled
ReservationEnable	Boolean TRUE = enabled, FALSE = disabled	Sets whether meetings can be reserved from the touch screen	TRUE	
ReserveNowEvenEndTime	Boolean TRUE = enabled, FALSE = disabled	Sets whether the available reservation end time options end exactly on the half hour or hour	FALSE	If disabled, reservation end time options are set in 30 minute intervals from the current time; Reservation Enable must be enabled
ReserveNowMinDur	Integer [5–60 minutes, in 5-minute increments]	Sets the minimum duration of a meeting that can be reserved from the touch screen	30	Reservation Enable must be enabled

Custom Property	Types and Supported Value(s)	Description	Default Value	Notes
ReserveNowMaxDur	Integer [30–480 minutes]	Sets the maximum duration of a meeting that can be reserved from the touch screen	120	Reservation Enable must be enabled

Schedule Settings

Custom Properties - Schedule Settings

Custom Property	Types and Supported Value(s)	Description	Default Value	Notes
EnPushModel	Boolean TRUE = enabled, FALSE = disabled	Sets whether Crestron Fusion uses push registration instead of polling the network for scheduling updates	TRUE	Available only if Crestron Fusion is set to be the scheduling provider
FindBtnEnable	Boolean TRUE = enabled, FALSE = disabled	Sets whether the find button is displayed on the touch screen	TRUE	Available only if Crestron Fusion is set to be the scheduling provider
PollTime	Integer [5–60 minutes]	Sets how often the application polls the scheduling server when updates are not pushed to the application	5	
ReserveCustomEn	Boolean TRUE = enabled, FALSE = disabled	Sets whether custom reservation lengths can be selected for the room	FALSE	If disabled, reservations lengths are provided in 30 minute increments

All Scheduling Application Custom Properties

The table below lists the custom properties for the scheduling application in the order that they appear in the Crestron Fusion custom properties list.

For more information on a custom property, refer to that property's associated page number.

Scheduling Application Custom Properties

Custom Property	Grouping
AvailabilityThresholdMin	Room Settings on page 87
AvailabilityThresholdRoomState	Room Settings on page 87
BackgroundAvailable	Display Settings on page 85
BackgroundReserved	Display Settings on page 85
BroadcastEmgTimeOut	Broadcast Message Settings on page 85
BroadcastTimeOutEnable	Broadcast Message Settings on page 85
DateFormat	Room Settings on page 87
DeclineForNoShowAppliesDur	Automation Settings on page 87
DisableIdleScreen	UI Settings on page 86
EnBroadcastMessage	Broadcast Message Settings on page 85
EnDeclineForNoShow	Automation Settings on page 87
EnFreeUpRoom	Reservation Settings on page 89
EnPushModel	Schedule Settings on page 90
ExtendReservationEnable	Reservation Settings on page 89
ExtendReservationMin	Reservation Settings on page 89
ExtendReservationPer	Reservation Settings on page 89
ExtendReservationType	Reservation Settings on page 89
FindBtnEnable	Schedule Settings on page 90
ForceActiveAfterResStart	UI Settings on page 86
ForceActiveBeforeResStart	UI Settings on page 86
ForceOrgCheckIn	Automation Settings on page 87
ForceOrgCheckInEndMin	Automation Settings on page 87
ForceOrgCheckInMin	Automation Settings on page 87
FreeUpRoomEnMin	Reservation Settings on page 89
FreeUpRoomEnPer	Reservation Settings on page 89
FreeUpRoomEnUseMin	Reservation Settings on page 89
FreeUpRoomEnUsePer	Reservation Settings on page 89
IdleTimeout	UI Settings on page 86

Custom Property	Grouping
LEDReservedColorForCheckIn	UI Settings on page 86
OfflineExpiry	Room Settings on page 87
PanelPin	Room Settings on page 87
PanelSecurityLevel	Room Settings on page 87
PollTime	Schedule Settings on page 90
ProjectIconUrl	UI Settings on page 86
ProjectLayout	UI Settings on page 86
ProjectTheme	UI Settings on page 86
ReservationEnable	Reservation Settings on page 89
ReserveCustomEn	Schedule Settings on page 90
ReserveNowEvenEndTime	Reservation Settings on page 89
ReserveNowMaxDur	Reservation Settings on page 89
ReserveNowMinDur	Reservation Settings on page 89
RoomFriendlyName	Room Settings on page 87
RoomPrivacyLevel	Room Settings on page 87
TimeFormat	Room Settings on page 87
WorkHoursEn[Mon–Sun]	Work Hours Settings on page 84
WorkHoursStart[Mon–Sun]	Work Hours Settings on page 84
WorkHoursStop[Mon–Sun]	Work Hours Settings on page 84

Appendix A: Configure Modern Authentication for EWS

This appendix provides the procedures required to configure Modern Authentication (OAuth 2) support for the Crestron Room Scheduling App in the Microsoft® EWS (Exchange Web Services) service.

The Modern Authentication authorization model is provided by the Azure® Active Directory® service to integrate managed API applications with the same authentication model used by the Office 365® software REST APIs. Once Modern Authentication is configured in EWS, the Crestron Room Scheduling app uses this access method to provide heightened user authentication.

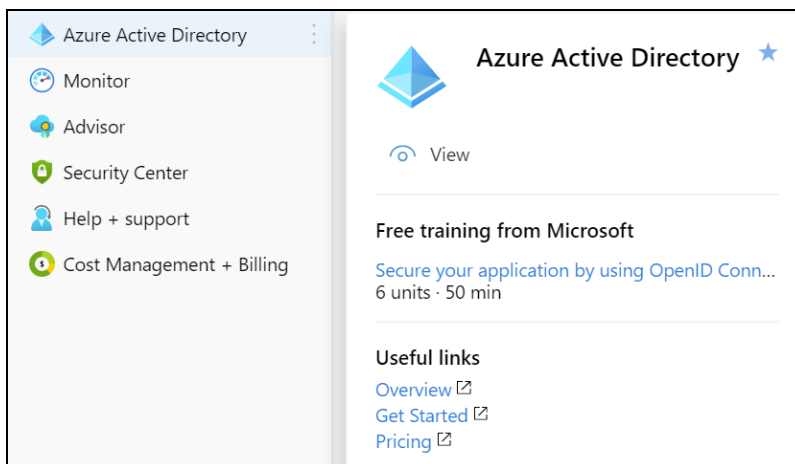
Configure the Crestron Room Scheduling EWS App

Use the following procedures to define a new application in Azure Active Directory.

Create the Crestron Room Scheduling App

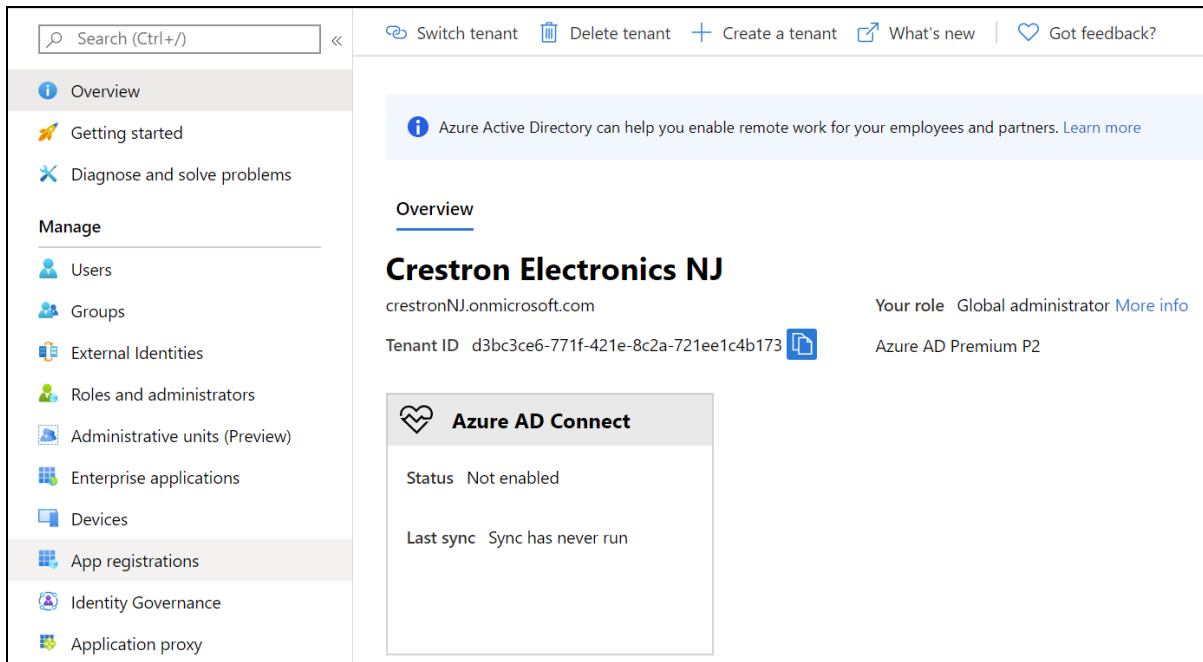
1. Sign into the Azure portal with a user ID with sufficient permissions to create an app.
2. Select **Azure Active Directory** from the left navigation menu.

Azure Active Directory Selection



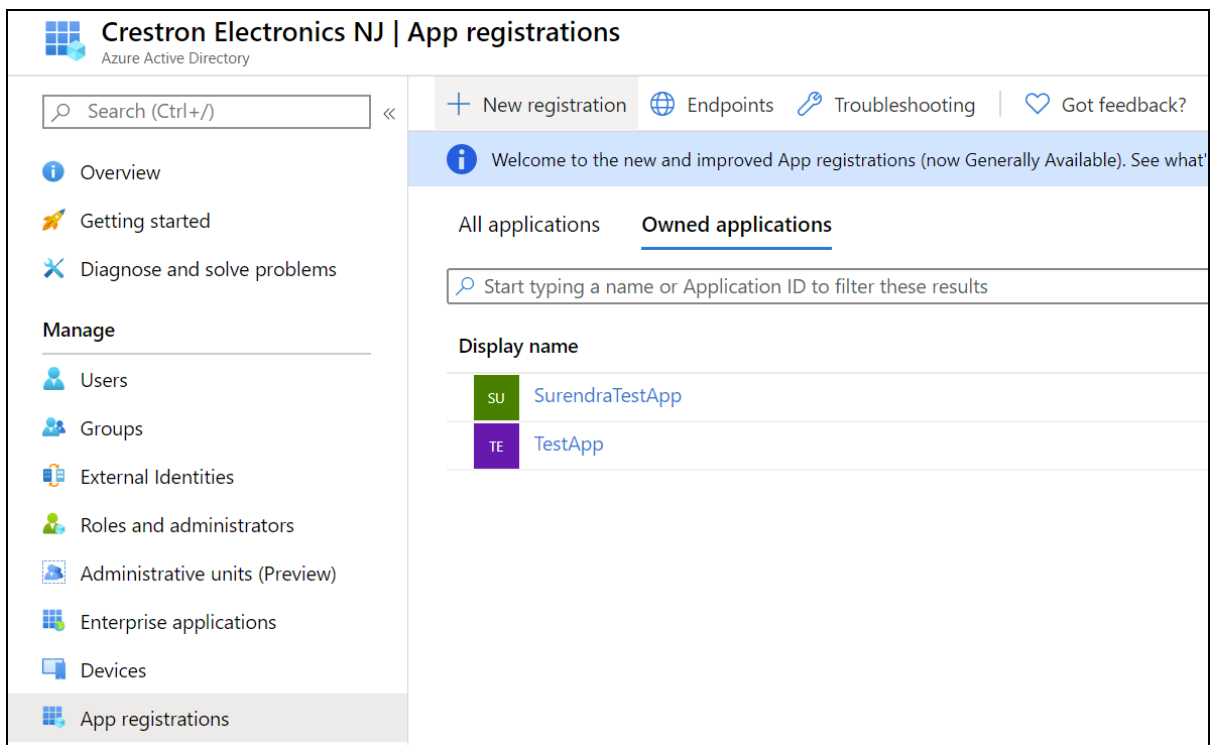
3. Select **App registrations** from the Azure widget menu.

App registrations Selection



4. Select **+ New registration**.

App registrations - New registration Screen



A dialog box for creating the app is displayed.

Register an application Dialog Box

Home > Crestron Electronics NJ | App registrations > Register an application

Register an application

*** Name**
The user-facing display name for this application (this can be changed later).

Crestron Scheduling Device ✓

Supported account types
Who can use this application or access this API?

☒ Accounts in this organizational directory only (Crestron Electronics NJ only - Single tenant)

☐ Accounts in any organizational directory (Any Azure AD directory - Multitenant)

☐ Accounts in any organizational directory (Any Azure AD directory - Multitenant) and personal Microsoft accounts (e.g. Skype, Xbox)

[Help me choose...](#)

Redirect URI (optional)
We'll return the authentication response to this URI after successfully authenticating the user. Providing this now is optional and it can be changed later, but a value is required for most authentication scenarios.

Web ▼ e.g. https://myapp.com/auth

5. Enter the following information:

- **Name:** Enter a user-facing name of the application (in the Azure environment). This can be any string 120 characters or less. It is possible to have more than one application registered with the same display name.
- **Supported account types:** Select the supported account type. Only the **Accounts in this organizational directory only** option is supported by the Crestron Room Scheduling app at this time.

NOTE: The **Redirect URI (optional)** settings are not configured for this application.

6. Select **Register**.

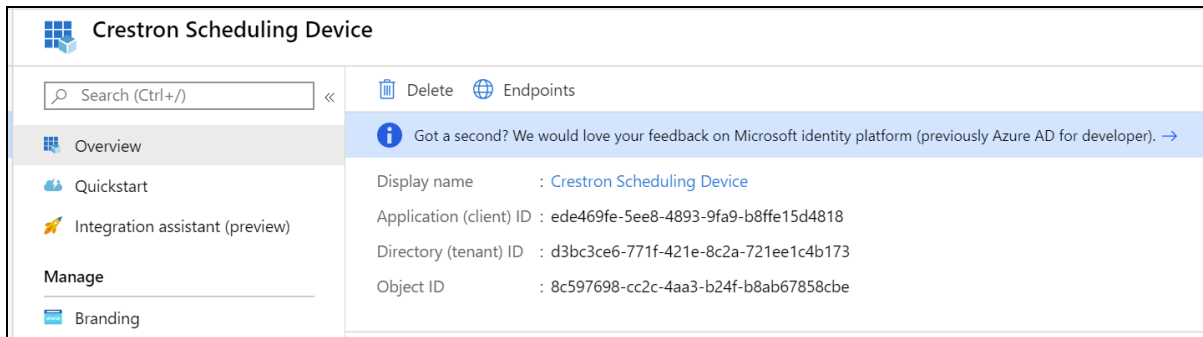
Obtain Authentication IDs

Once the app is registered, the application and directory IDs must be obtained to connect the Room Scheduling app to the Azure AD app.

1. Select **App registrations** from the Azure widget menu.
2. Select the application created for the Crestron Room Scheduling app. An application dialog box is displayed.

3. Select **Overview** from the navigation menu. Information about the Azure app is provided.

Application Overview Screen



4. Copy the following fields from the **Overview** pane to an accessible location. Use the **Copy to Clipboard** button that appears when hovering over each field to ensure accuracy.
 - **Application (client) ID:** The unique identification string for the Azure app.
 - **Directory (tenant) ID:** The unique identification string for the Azure directory.

Configure Additional Settings

The following additional settings can be configured for the Azure app. These settings define the user consent experience, authentication details, and API access scopes available to the application.

Branding

Select **Branding** under the **Manage** section of the application navigation menu to configure branding settings for the app.

Application Branding Screen

Home > Crestron Electronics NJ | App registrations > Crestron Scheduling Device | Branding

Crestron Scheduling Device | Branding

Search (Ctrl+/) Save Discard

Overview
Quickstart
Integration assistant (preview)

Manage

Branding
Authentication
Certificates & secrets
Token configuration
API permissions
Expose an API
Owners
Roles and administrators (Previ...
Manifest

Support + Troubleshooting
Troubleshooting
New support request

Name * ⓘ Crestron Scheduling Device ✓

Logo

Upload new logo ⓘ Select a file

Home page URL ⓘ https://www.crestron.com

Terms of service URL ⓘ e.g. https://myapp.com/termsofservice

Privacy statement URL ⓘ e.g. https://myapp.com/privacystatement

Publisher domain ⓘ crestronNJ.onmicrosoft.com Update domain

The application's consent screen will show 'Unverified'.
[Learn more about publisher domain](#)

Publisher verification (preview)

Associate a verified Microsoft Partner Center (MPN) account with your application. A verified badge will appear in various places, including the application consent screen. [Learn more](#)

MPN ID Add MPN ID to verify publisher

The application publisher domain is set to crestronNJ.onmicrosoft.com, but onmicrosoft.com publisher domains are not allowed. Please use a custom domain in order to proceed. Note: this domain must be a DNS verified domain on the tenant and match the primary contact domain for your MPN account.

Publisher display name Not provided

The following branding settings can be configured for the Crestron Room Scheduling app:

- **Name: Required.** Set the user-friendly name of the application. This is the same name that was defined when registering the application, but it can be changed here.
- **Upload New Logo:** Set a user-facing logo for this application that appears on the consent screen. The image file for the logo must meet the following requirements:
 - Image dimensions of 215 x 215 pixels
 - Central image dimensions of 94 x 94 pixels
 - Uses the file type .bmp, .jpg, or .png
 - File size less than 100 KB
- **Privacy statement URL:** Provides a link to the application privacy statement in the consent screen.
- **Publisher domain:** Sets the process that must be completed to verify ownership of the domain. Most users will probably already have a verified domain. If the domain is not verified, the application will work, but the consent screen will warn the user they are consenting to an unverified application.

Authentication

Select **Authentication** under the **Manage** section of the application navigation menu to configure authentication settings for the app.

Application Authentication Screen

Crestron Scheduling Device | Authentication

Search (Ctrl+)

<<

Save

Discard

Got feedback?

Overview

Quickstart

Integration assistant (preview)

Manage

Branding

Authentication

Certificates & secrets

Token configuration

API permissions

Expose an API

Owners

Roles and administrators (Previous version)

Manifest

Support + Troubleshooting

Troubleshooting

New support request

Platform configurations

Depending on the platform or device this application is targeting, additional configuration may be required such as redirect URIs, specific authentication settings, or fields specific to the platform.

+ Add a platform

Supported account types

Who can use this application or access this API?

☒ Accounts in this organizational directory only (Crestron Electronics NJ only - Single tenant)

☐ Accounts in any organizational directory (Any Azure AD directory - Multitenant)

Help me decide...

Due to temporary differences in supported functionality, we don't recommend enabling personal Microsoft accounts for an existing registration. If you need to enable personal accounts, you can do so using the manifest editor. [Learn more about these restrictions.](#)

Advanced settings

Default client type ⓘ

Treat application as a public client.
Required for the use of the following flows where a redirect URI is not used:

Yes

No

Resource owner password credential (ROPC) [Learn more](#)

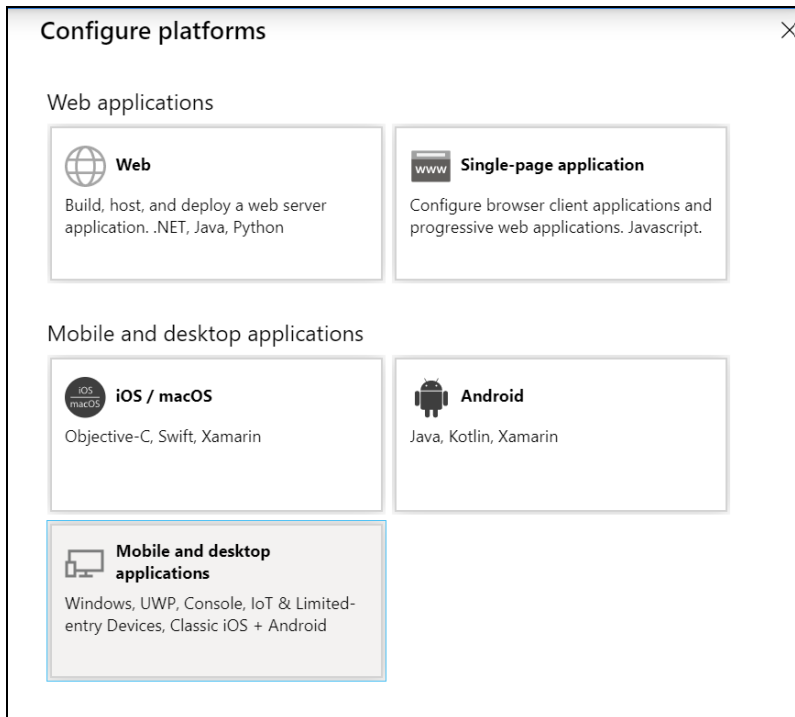
Device code flow [Learn more](#)

Integrated Windows Authentication (IWA) [Learn more](#)

The following authentication settings can be configured for the Crestron Room Scheduling app:

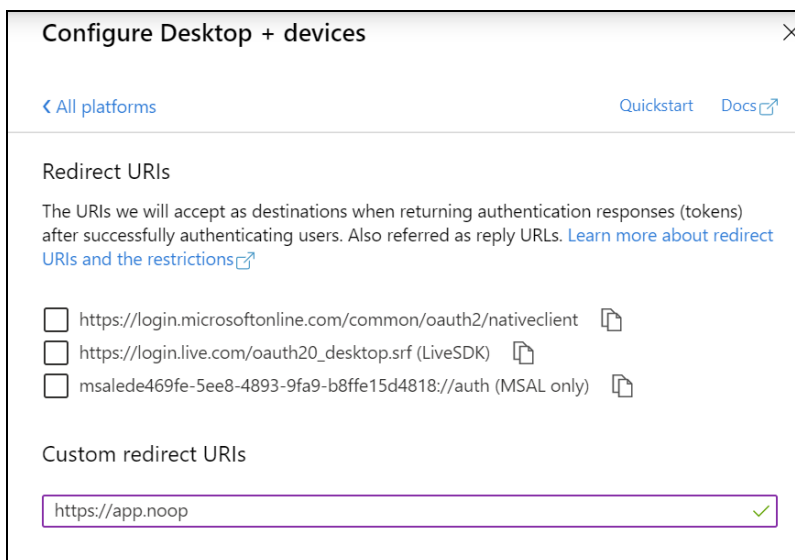
- **Add a Platform:** Click this button to create a platform for app authentication. The **Configure platforms** pane is displayed on the right side of the screen.

Configure platforms Pane



Select **Mobile and desktop applications** to display settings for configuring this platform.

Configure Desktop + devices Pane



Azure AD requires the use of a redirect URI, but the Crestron Room Scheduling app does not. Enter a valid URI address and select **Configure**.

NOTE: Certain sites require selecting the third checkbox (**MSAL only**) within this pane in order for authentication to work properly.

- **Supported account types:** Select an account type for the app. This setting is the same as the one set when registering the app and should not change from **Accounts in this organizational directory only**.
- **Default Client Type:** The **Treat application as a public client** toggle must be set to enabled.

API Permissions

Select **API Permissions** under the **Manage** section of the application navigation menu to configure API permissions for the app.

API Permissions Screen

Crestron Scheduling Device | API permissions

Search (Ctrl+/) Refresh

Overview
Quickstart
Integration assistant (preview)

Manage

- Branding
- Authentication
- Certificates & secrets
- Token configuration
- API permissions
- Expose an API
- Owners
- Roles and administrators (Previous)
- Manifest

Support + Troubleshooting

- Troubleshooting
- New support request

Configured permissions

Applications are authorized to call APIs when they are granted permissions by users/admins as part of the consent process. The list of configured permissions should include all the permissions the application needs. [Learn more about permissions and consent](#)

+ Add a permission Grant admin consent for Crestron Electronics NJ

API / Permissions name	Type	Description	Admin consent req...	Status
Microsoft Graph (1)				...
User.Read	Delegated	Sign in and read user profile	-	...


The following API permissions settings can be configured for the Crestron Room Scheduling app.

Select **Add a Permission** to create a new API permission for the app. The **Request API permissions** pane is displayed on the right side of the screen.

Request API permissions Pane


Request API permissions

applications in the cloud

 **Azure Data Lake**


Access to storage and compute for big data analytic scenarios

data to build near real-time and complex analytics solutions


 **Azure Import/Export**

Programmatic control of import/export jobs


data to build near real-time and complex analytics solutions

 **Azure Key Vault**


Manage your key vaults as well as the keys, secrets, and certificates within your Key Vaults

 **Customer Insights**


Create profile and interaction models for your products

 **Data Export Service for Microsoft Dynamics 365**


Export data from Microsoft Dynamics CRM organization to an external destination

 **Dynamics CRM**


Access the capabilities of CRM business software and ERP systems

 **Dynamics ERP**


Programmatic access to Dynamics ERP data

 **PowerApps Runtime Service**

Powerful data storage, modeling, security and integration capabilities


 **Speech**

Create powerful speech-enabled features using speech to text and text to speech conversion


 **Universal Print**

Programmatic access to create and manage printer and print job resources

Supported legacy APIs

 **Azure Active Directory Graph**

Programmatic access to directory data and objects

 **Exchange**

A powerful, easy-to-use way to access and manipulate Exchange data

To set the API permissions for EWS:

1. Select **Exchange** to display a list of permissions for EWS.

Request API permissions Pane - Exchange

Request API permissions

[All APIs](#)

What type of permissions does your application require?

Delegated permissions

Your application needs to access the API as the signed-in user.

Application permissions

Your application runs as a background service or daemon without a signed-in user.

Select permissions

expand all

Type to search

Permission	Admin consent required
> Calendars	
> Contacts	
> EAS	
▼ EWS (1)	
<input checked="" type="checkbox"/> EWS.AccessAsUser.All Access mailboxes as the signed-in user via Exchange Web Services ⓘ	-
> Exchange	
> Group	
> MailboxSettings	
> Mail	
> Notes	
> People	
> Place	
> Tasks	

Add permissions

Discard

2. Expand the EWS accordion.
3. Fill the checkbox next to **EWS.AccessAsUser.All** to allow the application to make requests to the Exchange Web Services API on behalf of the configured user.

To set the API permissions for the Microsoft® Graph function:

1. Select **Microsoft Graph** to display a list of permissions for Microsoft Graph.

Request API permissions Pane - Microsoft Graph

Request API permissions

< All APIs

Microsoft Graph
<https://graph.microsoft.com/> Docs

What type of permissions does your application require?

Delegated permissions
Your application needs to access the API as the signed-in user.

Application permissions
Your application runs as a background service or daemon without a signed-in user.

Select permissions expand all

Type to search

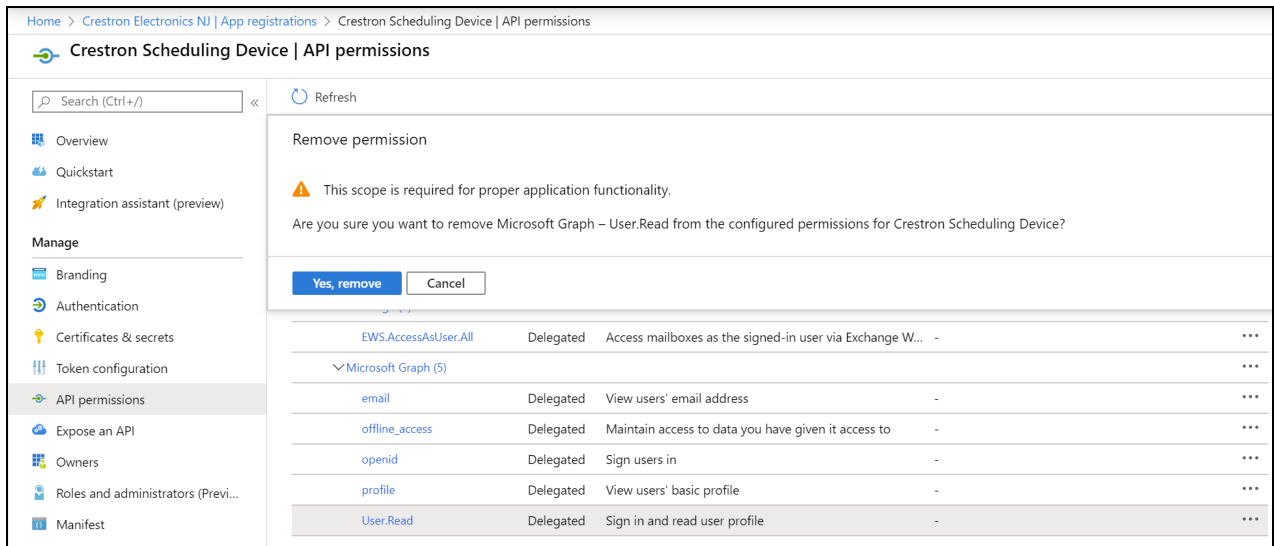
Permission	Admin consent required
<input checked="" type="checkbox"/> email View users' email address ⓘ	-
<input checked="" type="checkbox"/> offline_access Maintain access to data you have given it access to ⓘ	-
<input checked="" type="checkbox"/> openid Sign users in ⓘ	-
<input checked="" type="checkbox"/> profile View users' basic profile ⓘ	-
> AccessReview	
> AdministrativeUnit	
> AgreementAcceptance	
> Agreement	
> Analytics	

Add permissions Discard

2. Fill the checkboxes next to the following settings to enable the functionality described below:
 - **offline_access:** Allows the application to receive a Refresh Token, which can be exchanged for a new Access Token, when it expires. This is required for long running applications, so user consent is not required each time an access token expires.
 - **openid:** Allows the application to receive an ID Token, which provides basic profile information about the authenticated user. This scope is required for the next two scopes, as they are delivered in the ID Token.
 - **email:** provides the email address of the authenticated user. The application uses this to get the calendar address if none is entered during device configuration.
 - **profile:** Provides basic profile information about the authenticated user, such as the display name and photo URL.

If the Microsoft Graph **User.Read** scope is added automatically, it can be removed. If there is a warning, it can be ignored.

API Permissions Screen - User.Read Scope



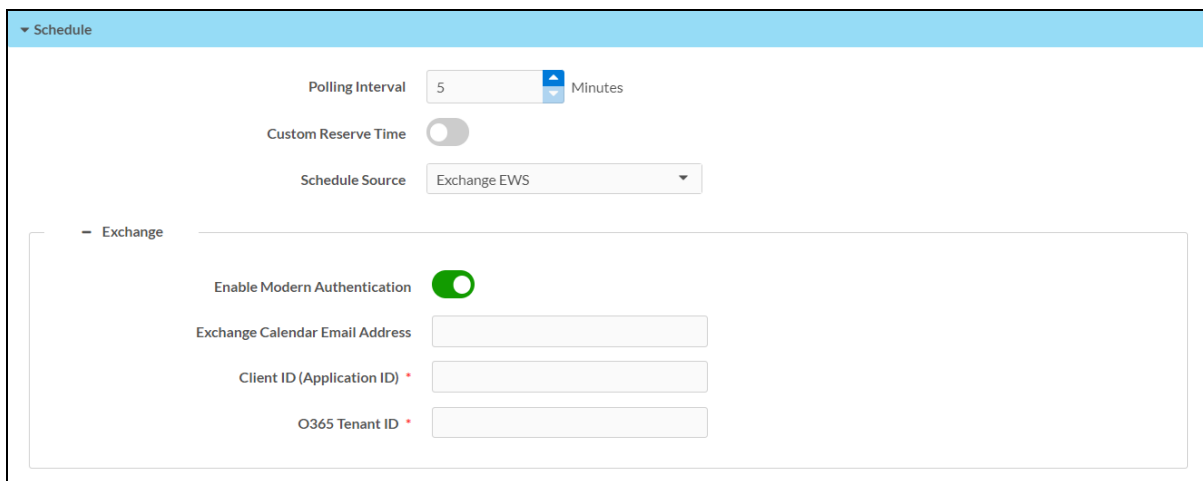
Connect the Scheduling App to EWS

Once an app has been registered in Azure AD, the Crestron Room Scheduling app can be connected to EWS from the touch screen web configuration interface.

To connect the Crestron Room Scheduling App to EWS:

1. Navigate to **Settings > Schedule**.
2. Select **Exchange EWS** from the **Schedule Source** drop-down menu.
3. Turn on the **Enable Modern Authentication** toggle.

Settings Tab - Schedule (Exchange EWS) - Enable Modern Authentication



4. Enter the following information in the appropriate fields:
 - Enter the email address associated with the Microsoft Exchange scheduling calendar in the **Exchange Calendar Email Address** text field.
 - Copy and paste the application client ID obtained in [Obtain Authentication IDs on page 95](#) into the **Client ID (Application ID)** text field.
 - Copy and paste the directory tenant ID obtained in [Obtain Authentication IDs on page 95](#) into the **O365 Tenant ID** text field.
5. Select **Save Changes** from the **Action** menu.
6. Navigate to **Status > Schedule**. The **Exchange** subsection displays a **Register now** button.

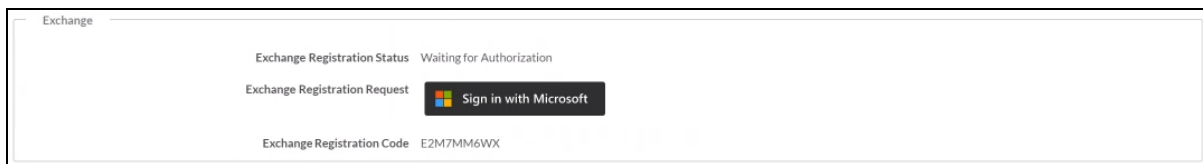
Status Tab - Schedule (Register now Button)



7. Select **Register Now**.

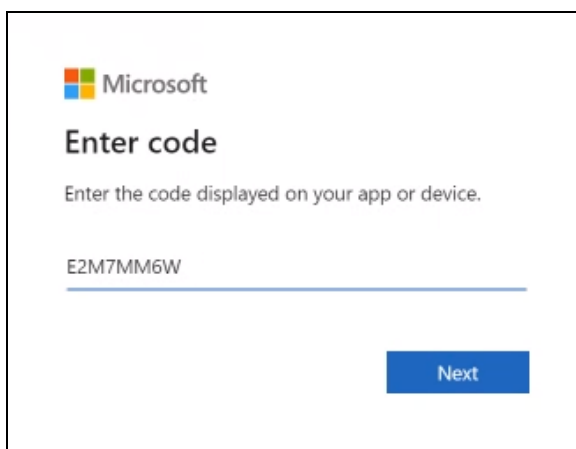
When the web configuration interface refreshes, the **Exchange** subsection displays a **Sign in with Microsoft** button next to **Exchange Registration Request** and an **Exchange Registration Code**.

Status Tab - Schedule (Registration URL and Code)



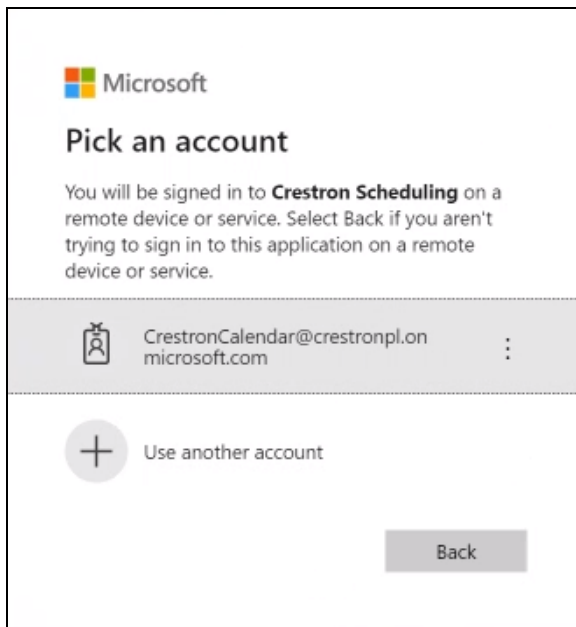
8. Select **Sign in with Microsoft**. An **Enter Code** dialog box is displayed.

Enter Code Dialog Box



9. Enter the provided Exchange registration code in the text field and select **Next**. The **Pick an account** dialog box is displayed.

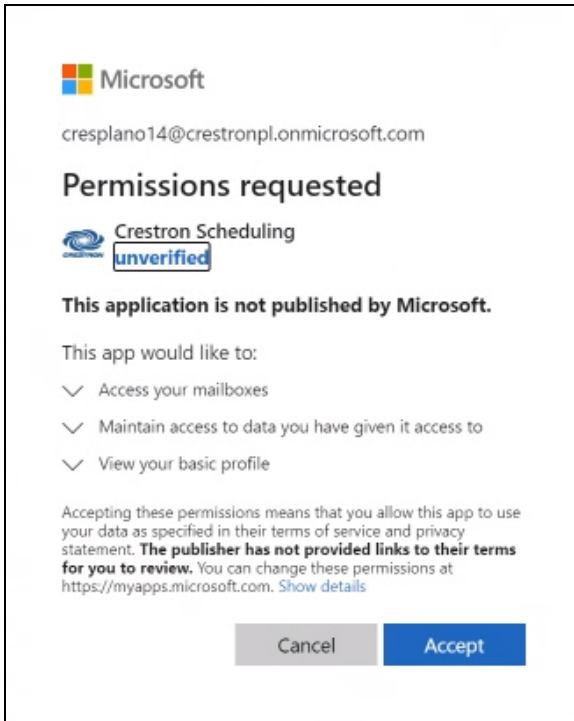
Pick an account Dialog Box



10. Select the EWS account that contains the desired scheduling calendar and enter the account password if prompted.

11. If the account has not yet been verified, a **Permissions requested** dialog box is displayed. Select **Accept** to verify the account.

Permissions requested Dialog Box



When the web configuration interface refreshes, the **Exchange Registration Status** updates to **Registered**. The Exchange scheduling calendar connects to the scheduling application without requiring a restart.

Status Tab - Schedule (Registered)



Appendix B: Configure Microsoft Graph for Crestron Room Scheduling

This appendix provides the procedures required to configure Microsoft Graph support for the Crestron Room Scheduling App. These procedures apply to TSW-70 touch screen firmware version 2.004.x or higher.

Microsoft Graph is provided by the Microsoft Entra® service to allow access to Microsoft Cloud service resources. Once Microsoft Graph is configured, the Crestron Room Scheduling app uses this access method to provide heightened user authentication.

NOTE: If access has not been granted for Microsoft Graph configuration or if account has not been provided to access the Microsoft Entra tenant, contact the tenant administrator within your organization's IT department.

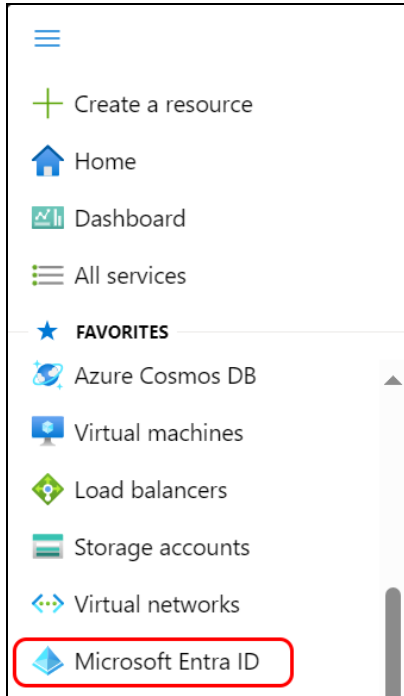
Configure the Crestron Room Scheduling App

Use the following procedures to define a new application in Microsoft Entra.

Create the Crestron Room Scheduling App

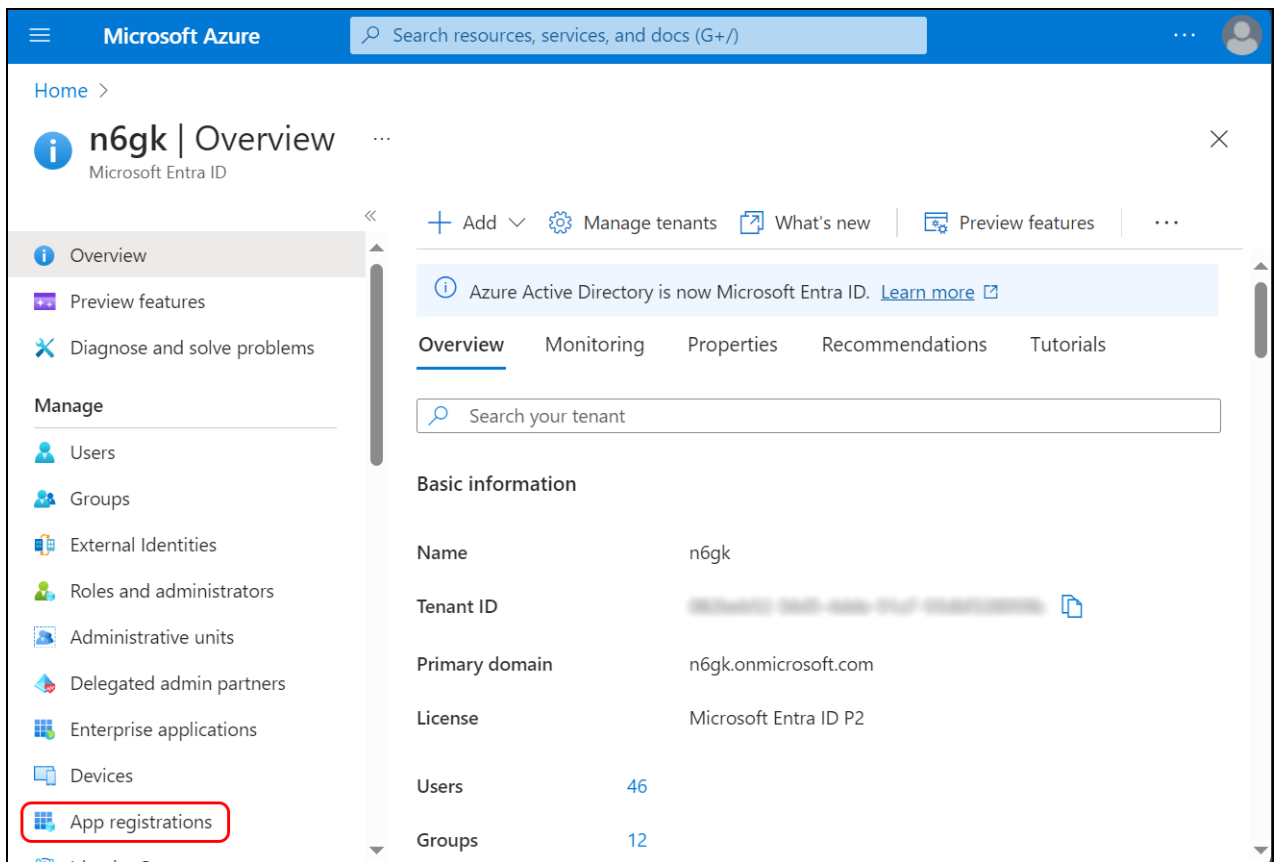
1. Sign into the Microsoft Entra portal with a user ID with sufficient permissions to create an app.
2. Select **Microsoft Entra ID** from the left navigation menu.

Microsoft Entra ID Selection



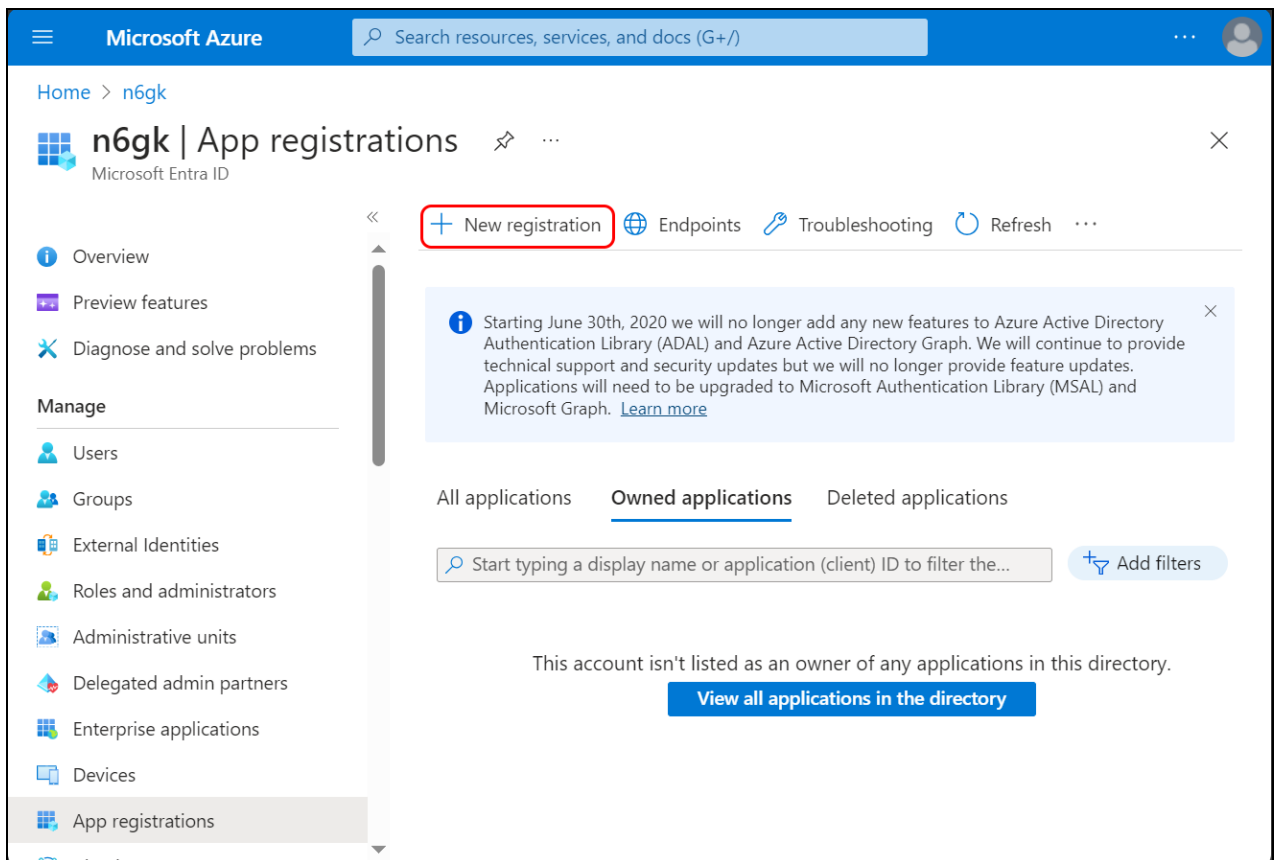
3. Select **App registrations** from the Microsoft Entra widget menu.

App registrations Selection



4. Select **+ New registration**.

App registrations - New registration Selection



A dialog box for creating the app is displayed.

Register an application Dialog Box

Microsoft Azure Search resources, services, and docs (G+/)

Home > n6gk | App registrations >

Register an application

* Name

The user-facing display name for this application (this can be changed later).

Crestron Scheduling for Graph API ✓

Supported account types

Who can use this application or access this API?

☒ Accounts in this organizational directory only (n6gk only - Single tenant)

☐ Accounts in any organizational directory (Any Microsoft Entra ID tenant - Multitenant)

☐ Accounts in any organizational directory (Any Microsoft Entra ID tenant - Multitenant) and personal Microsoft accounts (e.g. Skype, Xbox)

☐ Personal Microsoft accounts only

[Help me choose...](#)

Redirect URI (optional)

We'll return the authentication response to this URI after successfully authenticating the user. Providing this now is optional and it can be changed later, but a value is required for most authentication scenarios.

Select a platform ▼ e.g. https://example.com/auth

Register an app you're working on here. Integrate gallery apps and other apps from outside your organization by adding from [Enterprise applications](#).

By proceeding, you agree to the [Microsoft Platform Policies](#)

Register

5. Enter the following information:

- **Name:** Enter a user-facing name of the application (in the Microsoft Entra environment). This can be any string 120 characters or less. It is possible to have more than one application registered with the same display name.
- **Supported account types:** Select the supported account type. Only the **Accounts in this organizational directory only** option is supported by the Crestron Room Scheduling app at this time.

NOTE: The **Redirect URI (optional)** settings are not configured for this application.

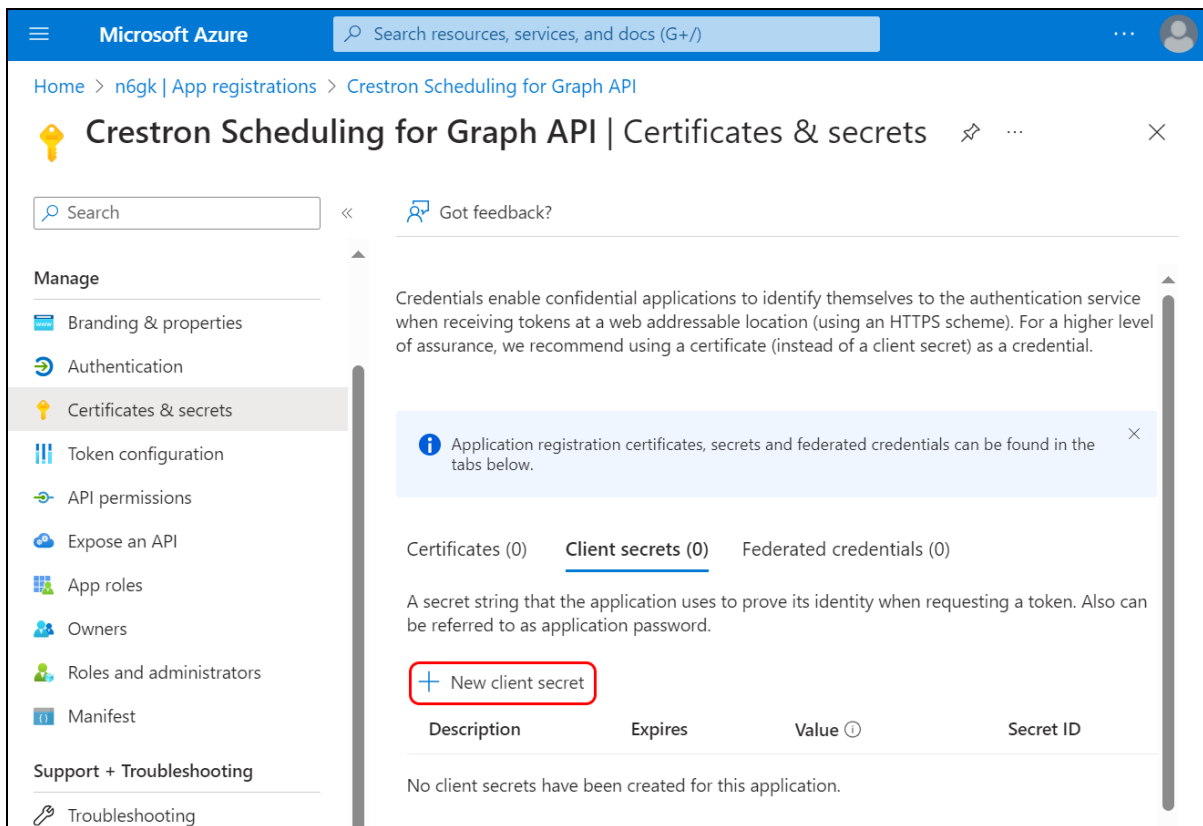
6. Select **Register**.

Create a Client Secret

Once the app is registered, a client secret must be created to connect the Crestron Room Scheduling App to the Microsoft Entra app.

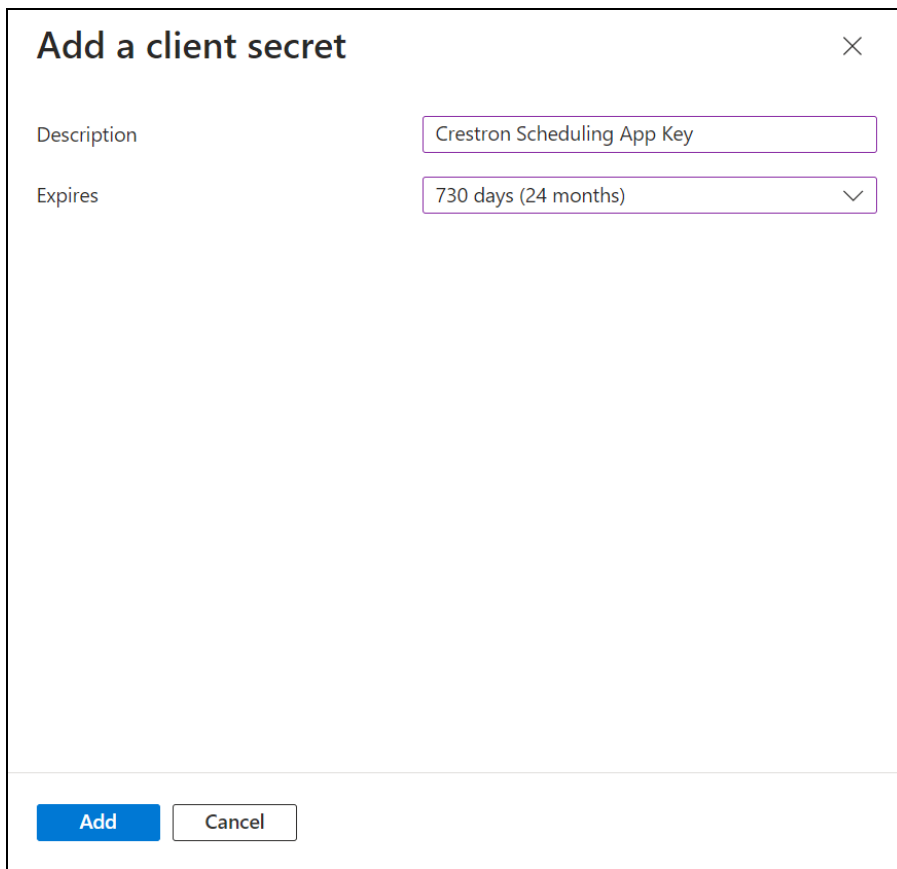
1. Select **App registrations** from the Microsoft Entra widget menu.
2. Select the application created for the Crestron Room Scheduling App. An application dialog box is displayed.
3. Select **Certificates & secrets** from the navigation menu. The **Certificates & secrets** page for the Microsoft Entra app is displayed.

Certificates & secrets Page



4. Select **+ New client secret**. The **Add a client secret** dialog box is displayed.

Add a client secret Dialog Box

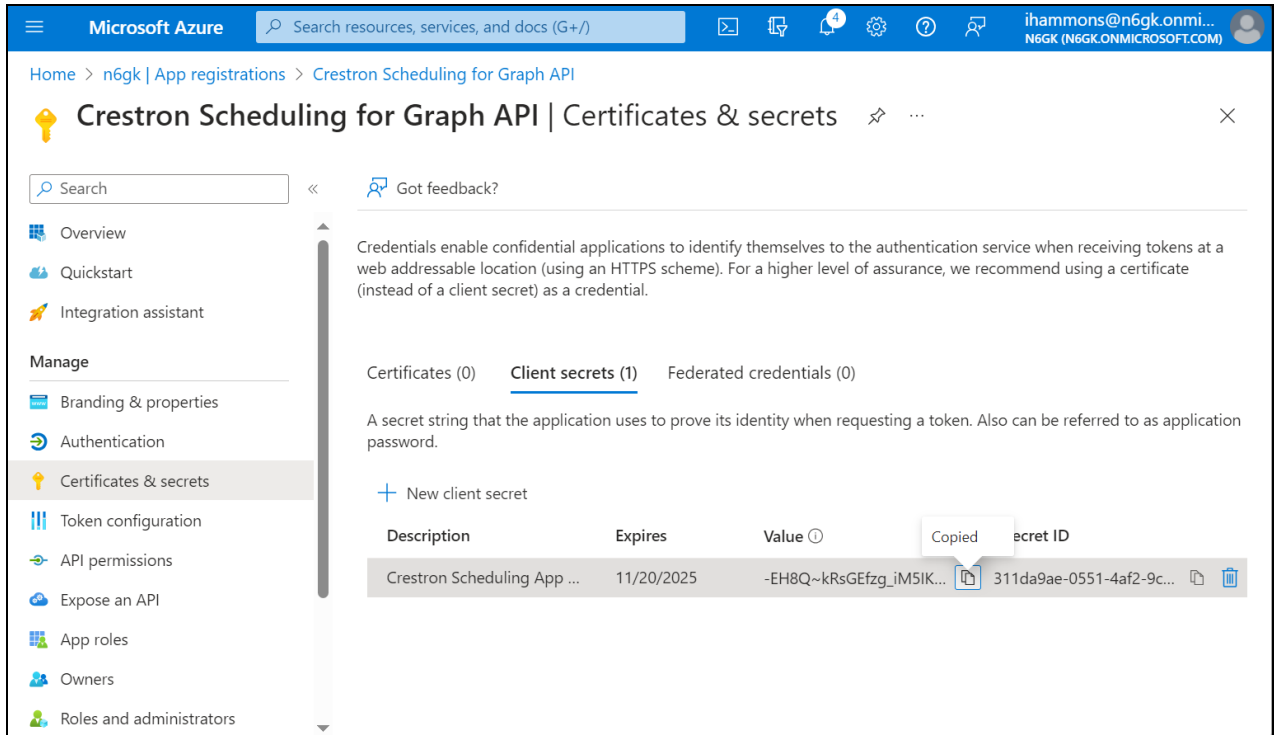


The dialog box is titled "Add a client secret" and features a close button (X) in the top right corner. It contains two input fields: "Description" with the text "Crestron Scheduling App Key" and "Expires" with a dropdown menu showing "730 days (24 months)". At the bottom are "Add" and "Cancel" buttons.

5. Enter the following information:
 - **Description:** Enter a description for the client secret.
 - **Expires:** Select the duration before the client secret expires from the drop-down menu.
6. Select **Add**. The new client secret is added to the **Certificates & secrets** page for the Microsoft Entra app.
7. Copy the client secret **Value** to the clipboard or a location where it can be accessed later when configuring the Crestron Room Scheduling App as described in [Connect the Scheduling App to Microsoft Graph on page 122](#).

NOTE: The client secret **Value** is available only after it is first created. If the client secret **Value** is not copied before navigating away from the **Certificates & secrets** page, it will no longer be visible, and a new client secret must be created.

Certificates & secrets Page - Added Client Secret



Add API Permissions

Use the following procedure to set Microsoft Graph API permissions for the Crestron Room Scheduling App.

NOTE: The Microsoft Entra app is created with one global API permission by default (**Users.Read**). This permission can be removed since it will be added later at the application level.

1. Select **App registrations** from the Microsoft Entra widget menu.
2. Select the application created for the Crestron Room Scheduling App. An application dialog box is displayed.

3. Select **API permissions** from the navigation menu. The **API permissions** page for the Microsoft Entra app is displayed.

API permissions Page

The screenshot shows the Microsoft Azure portal interface. The top navigation bar includes the 'Microsoft Azure' logo and a search bar. The breadcrumb trail indicates the path: Home > n6gk | App registrations > Crestron Scheduling for Graph API. The main heading is 'Crestron Scheduling for Graph API | API permissions'. On the left, a navigation pane lists various management options, with 'API permissions' highlighted. The main content area features a search bar, a 'Refresh' button, and a 'Got feedback?' link. A blue information banner explains the 'Admin consent required' column. Below this, the 'Configured permissions' section provides an overview of the consent process. A table lists the configured permissions, showing one permission under the 'Microsoft Graph' scope: 'User.Read' with a 'Delegated' type and the description 'Sign in and read user profile'. The 'Admin consent required' column for this permission is set to 'No'.

Search resources, services, and docs (G+/)

Home > n6gk | App registrations > Crestron Scheduling for Graph API

Crestron Scheduling for Graph API | API permissions

Search

Refresh Got feedback?

Manage

- Overview
- Quickstart
- Integration assistant
- Branding & properties
- Authentication
- Certificates & secrets
- Token configuration
- API permissions**
- Expose an API
- App roles
- Owners
- Roles and administrators

The "Admin consent required" column shows the default value for an organization. However, user consent can be customized per permission, user, or app. This column may not reflect the value in your organization, or in organizations where this app will be used. [Learn more](#)

Configured permissions

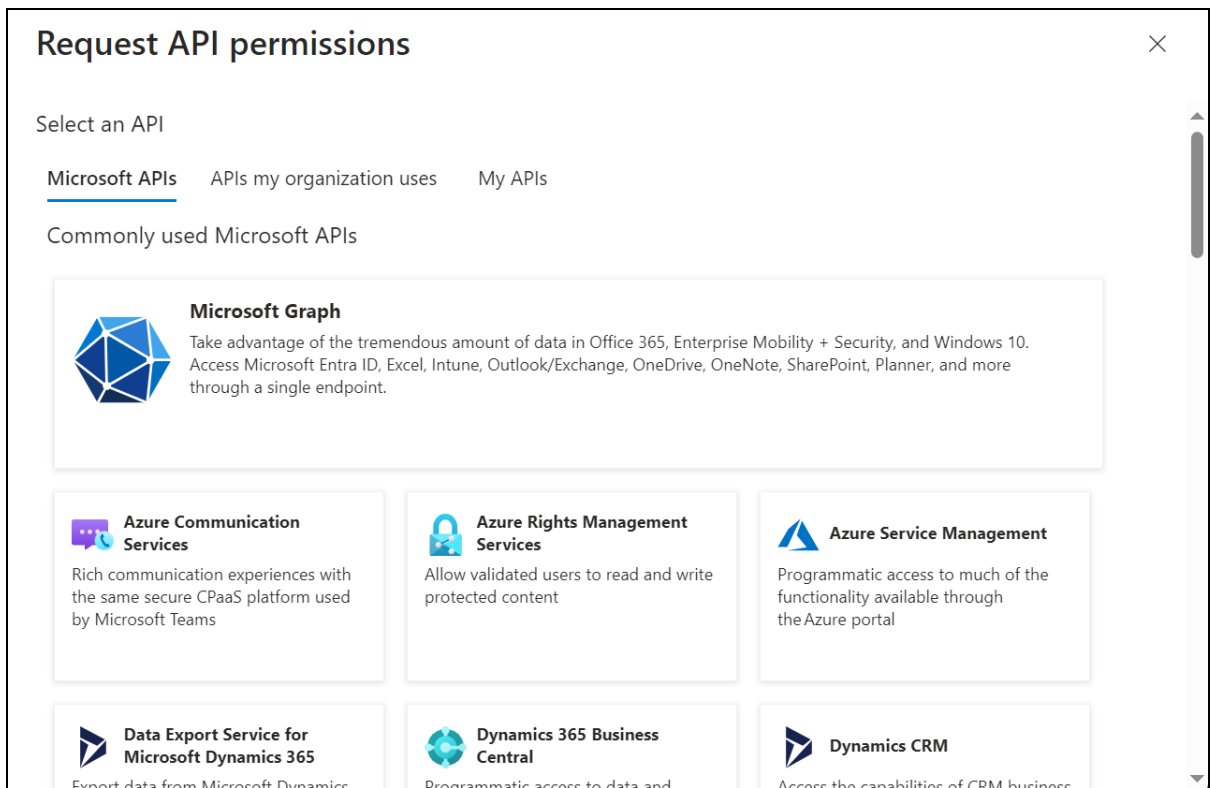
Applications are authorized to call APIs when they are granted permissions by users/admins as part of the consent process. The list of configured permissions should include all the permissions the application needs. [Learn more about permissions and consent](#)

+ Add a permission ✓ Grant admin consent for n6gk

API / Permissions name	Type	Description	Admin co
▼ Microsoft Graph (1)			
User.Read	Delegated	Sign in and read user profile	No

4. Select **+ Add a permission**. The **Request API permissions** dialog box is displayed.

Request API permissions Dialog Box




5. Select **Microsoft Graph**. Permissions for the Microsoft Graph API are displayed.
6. Select **Application permissions** for the required permission type.

NOTE: Delegated permissions require that the app acts on the behalf of a logged-in user. Since the app has its own key, permissions are granted to the app directly.

Request API permissions (Microsoft Graph) Dialog Box

Request API permissions

< All APIs

 Microsoft Graph
<https://graph.microsoft.com/> [Docs](#)

What type of permissions does your application require?

Delegated permissions
Your application needs to access the API as the signed-in user.

Application permissions
Your application runs as a background service or daemon without a signed-in user.

Select permissions [expand all](#)

Permission	Admin consent required
> AccessReview	
> Acronym	

Add permissionsDiscard

7. Fill the appropriate check boxes to select the following permissions:

- Within the **Calendars** section, select **Calendars.ReadWrite**.

Calendars (1)

<input type="checkbox"/>	Calendars.Read ⓘ Read calendars in all mailboxes	Yes
<input type="checkbox"/>	Calendars.ReadBasic.All ⓘ Read basic details of calendars in all mailboxes	Yes
<input checked="" type="checkbox"/>	Calendars.ReadWrite ⓘ Read and write calendars in all mailboxes	Yes

- Within the **MailboxSettings** section, select **MailboxSettings.Read**.

MailboxSettings (1)

<input checked="" type="checkbox"/>	MailboxSettings.Read ⓘ Read all user mailbox settings	Yes
<input type="checkbox"/>	MailboxSettings.ReadWrite ⓘ Read and write all user mailbox settings	Yes

- Within the **User** section, select **User.ReadAll**.

User (1)		
<input type="checkbox"/>	User.EnableDisableAccount.All ⓘ Enable and disable user accounts	Yes
<input type="checkbox"/>	User.Export.All ⓘ Export user's data	Yes
<input type="checkbox"/>	User.Invite.All ⓘ Invite guest users to the organization	Yes
<input type="checkbox"/>	User.ManageIdentities.All ⓘ Manage all users' identities	Yes
<input checked="" type="checkbox"/>	User.Read.All ⓘ Read all users' full profiles	Yes
<input type="checkbox"/>	User.ReadWrite.All ⓘ Read and write all users' full profiles	Yes

8. Select **Add permissions**. The three permissions are added under the **Configured permissions** section of the **API permissions** page for the Microsoft Entra app.
9. Select **Grant admin consent for [Microsoft Entra Account Name]** for the three added permissions, where **[Microsoft Entra Account Name]** is the name of the active Microsoft Entra account, then select **Yes** when prompted within the dialog box that is displayed.

API permissions Page - Grant admin consent Selection

Microsoft Azure | Search resources, services, and docs (G+)

Home > n6gk | App registrations > Creston Scheduling for Graph API

Creston Scheduling for Graph API | API permissions

Search | Refresh | Got feedback?

Grant admin consent confirmation.
Do you want to grant consent for the requested permissions for all accounts in n6gk? This will update any existing admin consent records this application already has to match what is listed below.

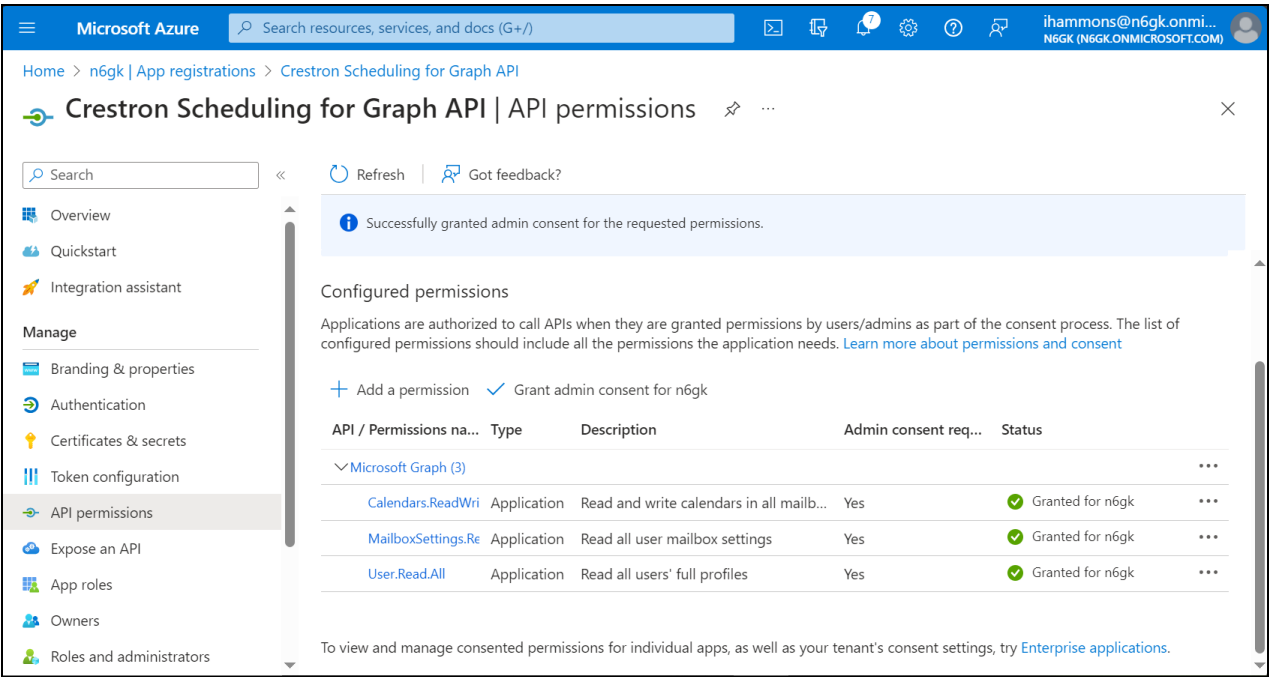
+ Add a permission

API / Permissions na...	Type	Description	Admin consent req...	Status
Microsoft Graph (3)				
Calendars.ReadWrite	Application	Read and write calendars in all mailb...	Yes	Not granted for n6gk
MailboxSettings.Re	Application	Read all user mailbox settings	Yes	Not granted for n6gk
User.Read.All	Application	Read all users' full profiles	Yes	Not granted for n6gk

To view and manage consented permissions for individual apps, as well as your tenant's consent settings, try [Enterprise applications](#).

10. Verify that the **Status** column for each permission changes to show a green check icon and states that permission has been granted for the active Microsoft Entra account.

API permissions Page - Admin Consent Granted



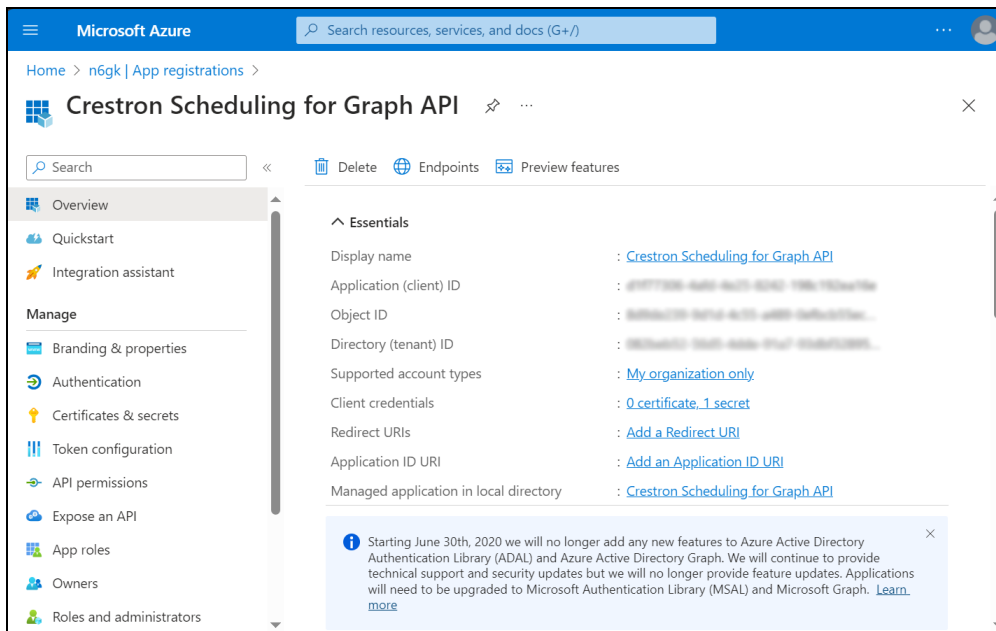
Obtain Authentication IDs

Use the following procedure to obtain the application and directory IDs that are required to connect the Room Scheduling app to the Microsoft Entra app.

1. Select **App registrations** from the Microsoft Entra widget menu.
2. Select the application created for the Crestron Room Scheduling app. An application dialog box is displayed.

3. Select **Overview** from the navigation menu. Information about the Microsoft Entra app is provided.

Application Overview Page



4. Copy the following fields from the **Overview** pane to an accessible location. Use the **Copy to Clipboard** button that appears when hovering over each field to ensure accuracy.
 - **Application (client) ID:** The unique identification string for the Microsoft Entra app.
 - **Directory (tenant) ID:** The unique identification string for the Microsoft Entra directory.

Connect the Scheduling App to Microsoft Graph

Once an app has been registered in Microsoft Entra, the Crestron Room Scheduling app can be connected to Microsoft Graph from the touch screen web configuration interface.

To connect the Crestron Room Scheduling App to Microsoft Graph:

1. Navigate to **Settings > Schedule**.
2. Select **O365** from the **Schedule Source** drop-down menu.

Settings Tab - Schedule (O365)

The screenshot shows the 'Schedule' configuration page for the O365 source. At the top, there's a 'Polling Interval' set to 5 minutes and a 'Custom Reserve Time' toggle that is turned off. The 'Schedule Source' is set to 'O365'. Below this, there's a section titled 'Exchange' which contains four text input fields: 'Exchange Calendar Email Address', 'Client ID (Application ID)', 'O365 Tenant ID', and 'Client Secret'. Each field has a red asterisk indicating it is required.

3. Enter the following information in the appropriate fields:
 - Enter the email address associated with the Microsoft Exchange scheduling calendar in the **Exchange Calendar Email Address** text field.
 - Copy and paste the directory tenant ID obtained in [Obtain Authentication IDs on page 120](#) into the **O365 Tenant ID** text field.
 - Copy and paste the application client ID obtained in [Obtain Authentication IDs on page 120](#) into the **Client/Application ID** text field.
 - Copy and paste the client secret obtained in [Create a Client Secret on page 113](#) into the **Client Secret** text field.
4. Select **Save Changes** from the **Action** menu. The Office 365 scheduling calendar connects to the scheduling application without requiring a restart.

