



# Configuration Guide

## Port Scheduler

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This configuration guide helps users understand and configure the ADTRAN Operating System (AOS) Port Scheduler feature. This document includes an overview of common applications, detailed descriptions of Web-based graphical user interface (GUI) menus, and step-by-step command line interface (CLI) configuration.

Prerequisites for this configuration guide include the following AOS documents (located on your *AOS Documentation* CD or on the Web at [kb.adtran.com](http://kb.adtran.com)):

- *Network Monitoring in AOS Configuration Guide*
- *Network Quality Monitoring Configuration Guide*
- *PoE and Power Management Technology Brief*

This guide consists of the following sections:

- *Port Scheduler Overview* on page 2
- *Hardware and Software Requirements and Limitations* on page 4
- *Using the GUI* on page 4
- *Port Scheduler Configuration Wizard* on page 5
- *GUI Port Scheduler Configuration* on page 9
- *CLI Port Scheduler Configuration* on page 14
- *Troubleshooting* on page 19

## Port Scheduler Overview

As part of ADTRAN's efforts to develop and deliver products that meet our customer's requirements, while incorporating material and energy conservation initiatives, the AOS Port Scheduler feature was developed to help our customers easily conserve energy. The Port Scheduler feature allows system administrators to configure ADTRAN switch products to automatically activate and deactivate switchports based on the time of day.

A common application is to power off nonessential Power over Ethernet (PoE) phones after business hours and reactivate them at the start of business the next day. Another application of the Port Scheduler feature is to enhance security by shutting down the interface connected to a wireless access point (AP) to prevent network intrusion after business hours.

## Power over Ethernet

PoE is a technology that is used to transmit electrical power (along with data) to remote devices over a standard twisted-pair cable connected to an Ethernet port. PoE ports are used to provide power to a variety of network appliances including, but not limited to, IP phones, IP cameras, and wireless APs. PoE is a cost-effective and convenient method of powering devices connected to ADTRAN switch products.

## Schedules

The Port Scheduler feature uses the schedule and track configuration options to create an automatic power control for individual PoE ports.

Schedules are objects in the unit's configuration that monitor the time of day and day of the week. The configuration of the schedules controls when the ports can be shut down based on calendar date and time. Schedules are used to determine what times during the day and how often tracks are active. There are three types of schedules: absolute, relative, and periodic.

Absolute schedules are active only once, for a specified amount of time. This type of schedule activates at an exact month, day, year, and time.

Relative schedules become active after a specified delay. The delay begins when the delay command is entered into the unit's configuration. Relative schedules are beneficial in situations such as those where the activation of dial backup interfaces should be delayed until after the primary interface has had time to start up.

Periodic schedules transition from active to inactive at specified periods. These periods can be daily, weekly, on weekdays, or on weekends. Periodic schedules are beneficial in creating reoccurring events. The periodic schedule type is used in the Port Scheduler setup to create a reoccurring on and off period for the specified Ethernet interfaces.

## Tracks

In the Port Scheduler feature, the track is configured to monitor a schedule based upon the time and date. An action can be executed based upon the configuration and status of the schedule. The association between a track and an action occurs by linking the track in the action object's configuration (which is the specified Ethernet interface in the Port Scheduler feature). Once the schedule is registered with the track, it is ready to be linked with an Ethernet interface configuration.

Whenever a change occurs with the active schedule state, the track will trigger the interface action. Tracks have PASS or FAIL state changes that are used to govern specific actions. In this case, the Port Scheduler feature monitors the schedule and commands an interface to become administratively up when the track is passing, and administratively down when the track is failing. The track's action status is based on the test results of the schedule(s) that the track is monitoring.

## Port Scheduler Network Diagram

In the illustration below, a small business is using a periodic Port Scheduler that is active from 6:00 a.m. to 6:00 p.m. daily (Sunday through Saturday) to supply power to phones located in the employees' offices (ports 1 through 16) during business hours. When the schedule is active, ports 1 through 16 will be active. When the schedule is inactive, ports 1 through 16 will automatically conserve power during the shutdown mode, and the remaining ports (17 through 24) will not be affected.

Using the Port Scheduler feature allows this company to save power on ports 1 through 16 without interrupting the essential devices connected to the remaining ports.

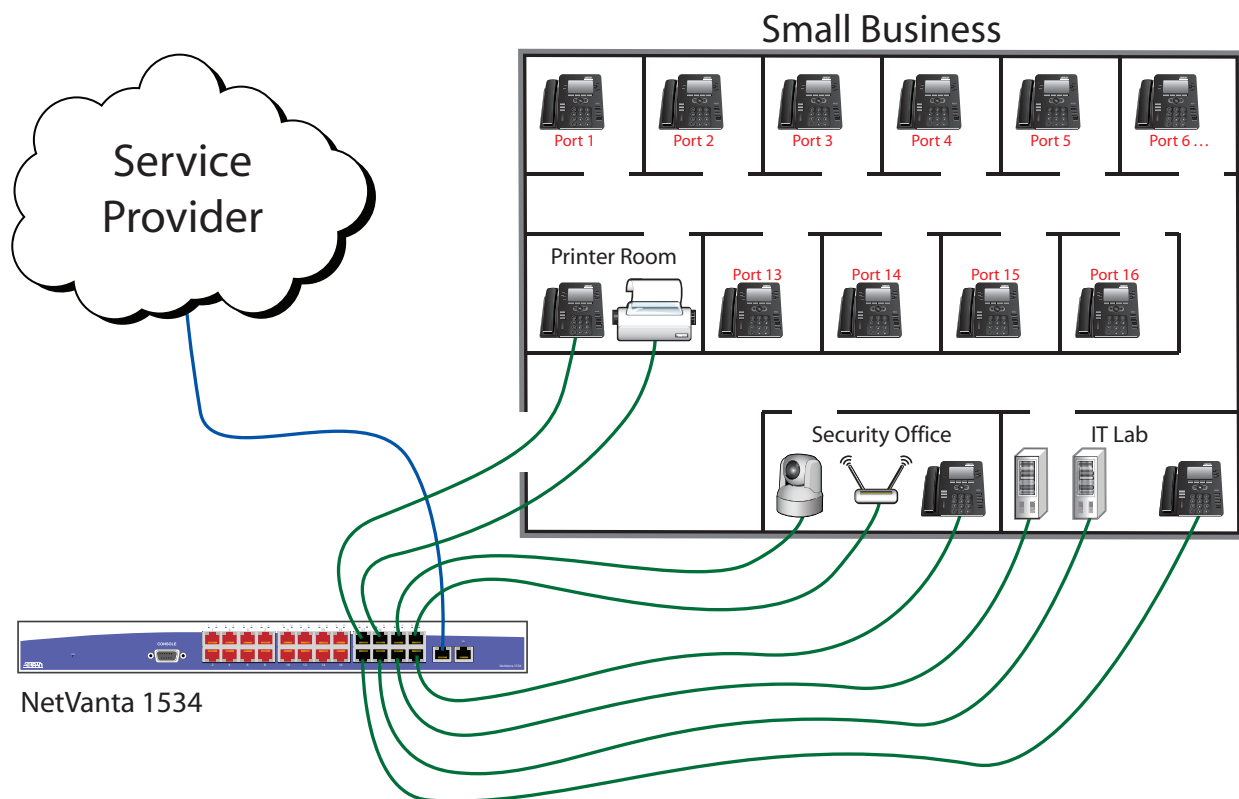


Figure 1. Port Scheduler Application

## Hardware and Software Requirements and Limitations

The Port Scheduler feature is available on AOS data products as outlined in the ADTRAN knowledge base article number 2272, *Product Feature Matrix*, available online at <http://kb.adtran.com>.



For more information on probe types and their functions, refer to the **Network Monitoring in AOS** configuration guide located on your **AOS Documentation** CD or on the Web at <http://kb.adtran.com>.

## Configuring a Port Scheduler

The following are three available configuration methods to implement the Port Scheduler feature in AOS:

- *Port Scheduler Configuration Wizard* on page 5
- *GUI Port Scheduler Configuration* on page 9
- *CLI Port Scheduler Configuration* on page 14

## Using the GUI

Access your unit from any Web browser on your network to configure a Port Scheduler using the wizard or GUI setup by following these steps:

1. Connect the unit to your PC using the first Ethernet port on the unit with a 10/100Base-T Ethernet cable.
2. Set your PC to obtain an IP address automatically via Dynamic Host Configuration Protocol (DHCP), or change your PC to a fixed IP address of 10.10.10.2. If you cannot change the PC's IP address, you will need to change the unit's IP address using the CLI.
3. Enter the unit's IP address in your Web browser's address line. The default IP address is 10.10.10.1. You will then be prompted for the user name and password (the default settings are **admin** and **password**). After entering the correct user name and password, the initial GUI menu will appear.

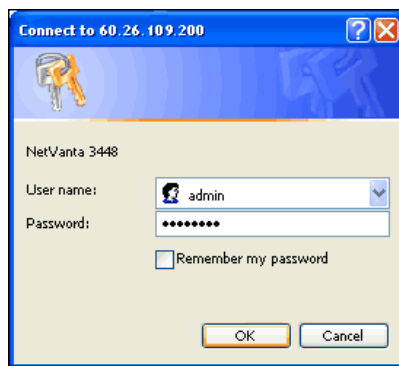



Figure 2. GUI Login Screen



While navigating the GUI, you will notice question mark  symbols that indicate additional information is available. Simply place your cursor over the symbol to view the additional information.

## Port Scheduler Configuration Wizard

The configuration wizard is available to quickly guide you through the setup of a Port Scheduler. Follow the instructions below to utilize the **Port Scheduler Wizard**. If you prefer to manually set up a Port Scheduler using the GUI, proceed with the *GUI Port Scheduler Configuration* on page 9.

1. Navigate to **Data > Switch > Port Scheduler** and follow the instructions to create a Port Scheduler.

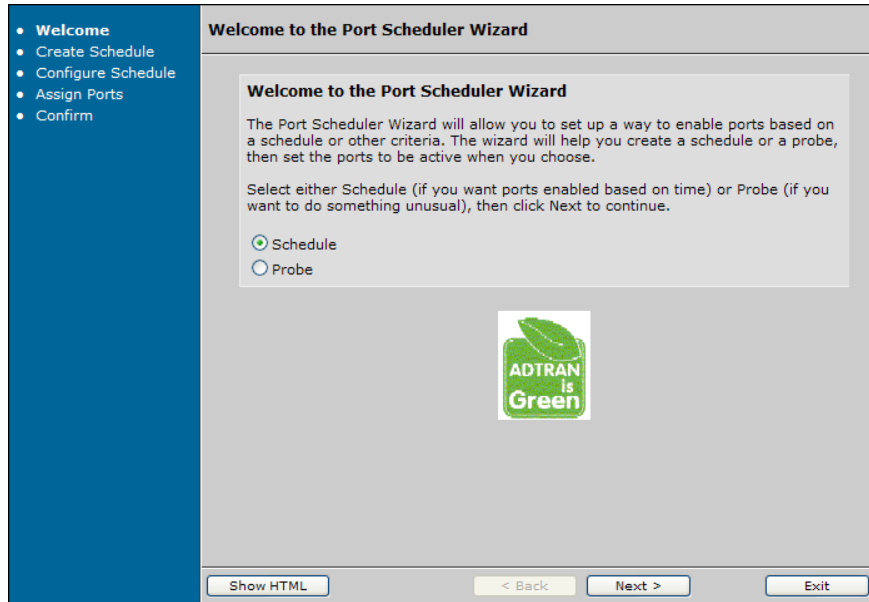


Figure 3. Port Scheduler Wizard Welcome Menu

2. Select **Next**, and enter a name for the schedule.

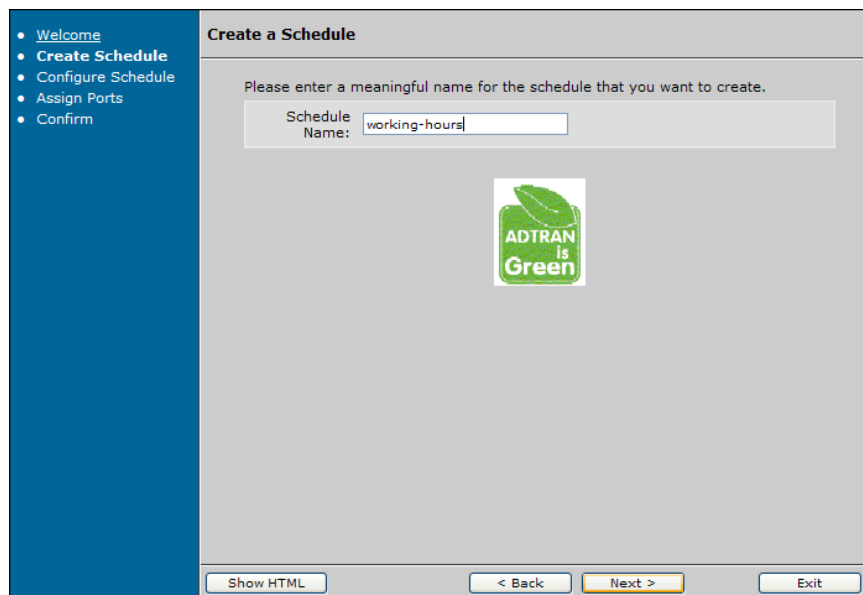


Figure 4. Create a Schedule Menu

3. Configure a periodic schedule **Type** for the day(s) and time to reactivate the ports (phones). Select **Next** to continue with the setup.

**Configure the Schedule**

Configure the schedule

Type:

Day(s): ☒ Daily ☒ Sunday ☒ Monday ☒ Tuesday ☒ Wednesday ☒ Thursday ☒ Friday ☒ Saturday

Enable time:

To or For:

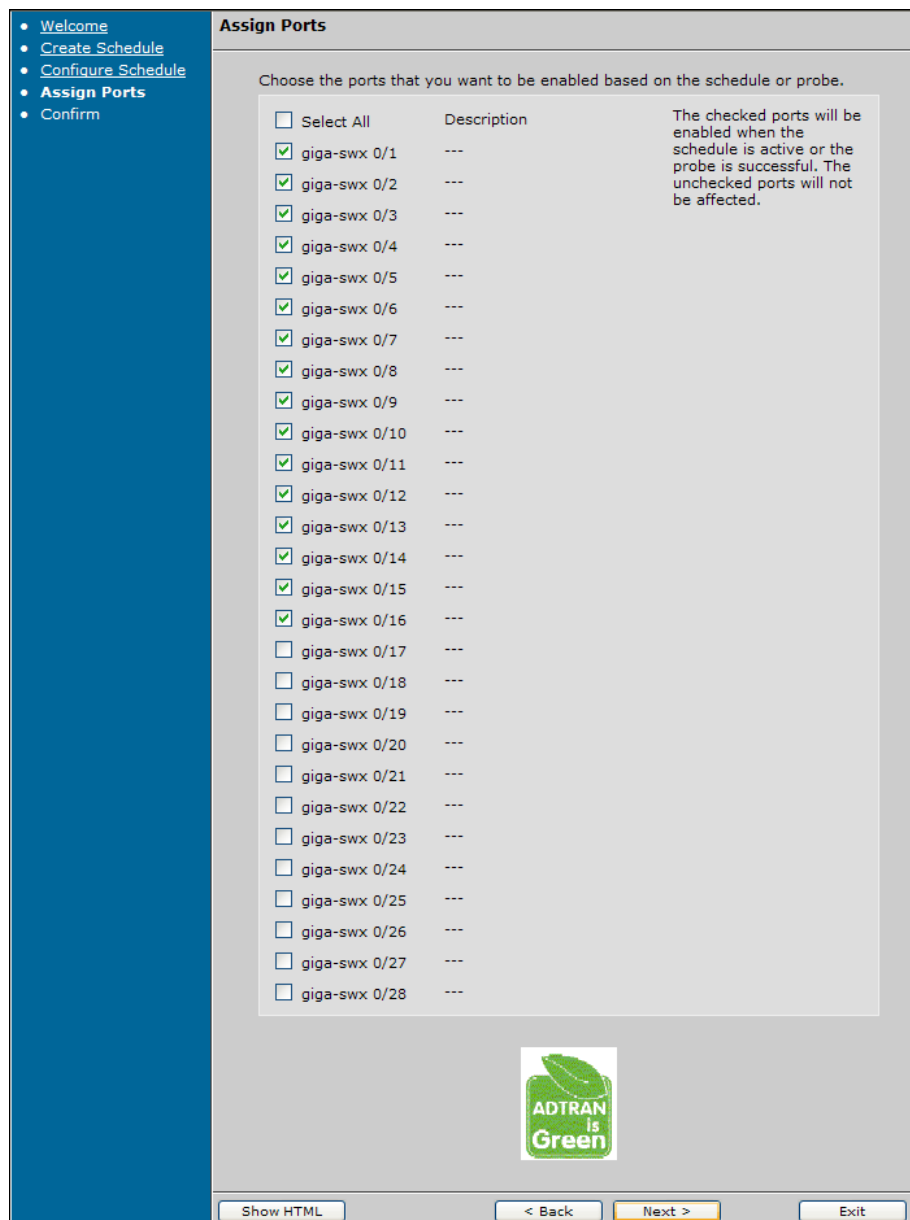
Disable time:

**ADTRAN is Green**

Show HTML < Back Next > Exit

Figure 5. Configure a Schedule Menu

4. Select the ports to associate with the schedule and track action (or assigned ports). Select **Next** to continue with the setup.



The screenshot shows the 'Assign Ports' window of the Port Scheduler Configuration Wizard. On the left is a blue sidebar with a list of steps: Welcome, Create Schedule, Configure Schedule, Assign Ports (highlighted), and Confirm. The main area is titled 'Assign Ports' and contains the instruction: 'Choose the ports that you want to be enabled based on the schedule or probe.' Below this is a table with three columns: a checkbox, a port identifier, and a description. The first checkbox is 'Select All'. The next 16 checkboxes are checked and correspond to ports giga-swx 0/1 through giga-swx 0/16. The remaining 12 checkboxes are unchecked and correspond to ports giga-swx 0/17 through giga-swx 0/28. To the right of the table, a text box explains: 'The checked ports will be enabled when the schedule is active or the probe is successful. The unchecked ports will not be affected.' At the bottom center is the 'ADTRAN is Green' logo. The bottom of the window features four buttons: 'Show HTML', '< Back', 'Next >' (highlighted in yellow), and 'Exit'.

	Checkbox	Description
Select All	<input type="checkbox"/>	
giga-swx 0/1	<input checked="" type="checkbox"/>	---
giga-swx 0/2	<input checked="" type="checkbox"/>	---
giga-swx 0/3	<input checked="" type="checkbox"/>	---
giga-swx 0/4	<input checked="" type="checkbox"/>	---
giga-swx 0/5	<input checked="" type="checkbox"/>	---
giga-swx 0/6	<input checked="" type="checkbox"/>	---
giga-swx 0/7	<input checked="" type="checkbox"/>	---
giga-swx 0/8	<input checked="" type="checkbox"/>	---
giga-swx 0/9	<input checked="" type="checkbox"/>	---
giga-swx 0/10	<input checked="" type="checkbox"/>	---
giga-swx 0/11	<input checked="" type="checkbox"/>	---
giga-swx 0/12	<input checked="" type="checkbox"/>	---
giga-swx 0/13	<input checked="" type="checkbox"/>	---
giga-swx 0/14	<input checked="" type="checkbox"/>	---
giga-swx 0/15	<input checked="" type="checkbox"/>	---
giga-swx 0/16	<input checked="" type="checkbox"/>	---
giga-swx 0/17	<input type="checkbox"/>	---
giga-swx 0/18	<input type="checkbox"/>	---
giga-swx 0/19	<input type="checkbox"/>	---
giga-swx 0/20	<input type="checkbox"/>	---
giga-swx 0/21	<input type="checkbox"/>	---
giga-swx 0/22	<input type="checkbox"/>	---
giga-swx 0/23	<input type="checkbox"/>	---
giga-swx 0/24	<input type="checkbox"/>	---
giga-swx 0/25	<input type="checkbox"/>	---
giga-swx 0/26	<input type="checkbox"/>	---
giga-swx 0/27	<input type="checkbox"/>	---
giga-swx 0/28	<input type="checkbox"/>	---

Figure 6. Assign Ports Menu

5. Review the schedule and ports selected for the Port Scheduler setup. Select **Finish** to complete the setup and create the Port Scheduler.

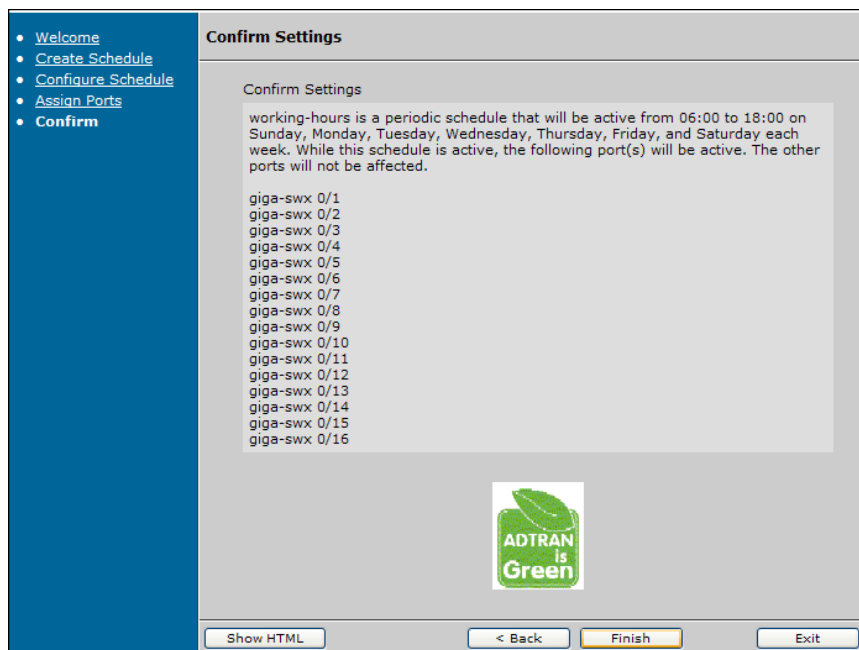


Figure 7. Confirm Settings Menu

6. Select **Exit** to return to the **Data** menu. When the wizard setup is complete, a new schedule, track, and interface configuration will exist. Use the *GUI Port Scheduler Configuration* on page 9 as a guide when editing schedules, tracks, and interface settings.

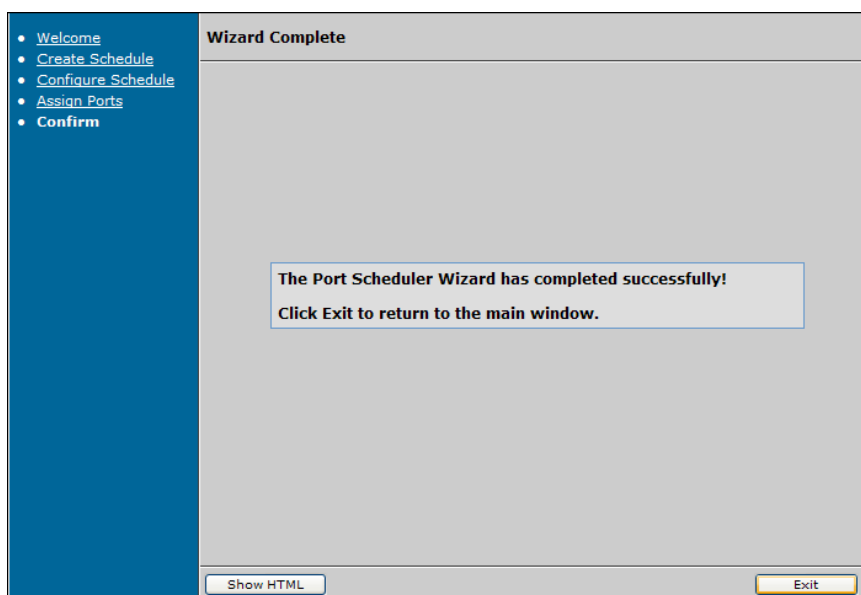


Figure 8. Wizard Complete



## GUI Port Scheduler Configuration

The following steps are required to implement the Port Scheduler feature using the GUI in AOS:

- *Creating a Schedule* (below)
- *Configuring a Track* on page 12
- *Configuring the Track Action (Assign Ports)* on page 13



*Updated configurations must be saved to nonvolatile memory (NVRAM) to retain new changes after a loss of power or a reboot. To quickly save your configuration at any time while in the GUI, select **Save** at the top right of your current menu.*

### Creating a Schedule

1. To manually create and configure a new schedule, navigate to **Data > Network Monitor > Probes / Schedules / Tracks** from the main menu. Then select the **Schedule** tab.

Select the **Schedule** tab.

Enter a name for the schedule and select the **Create** button to proceed with the schedule configuration.

**Figure 9. Schedule Configuration Tab**

2. Select the **Type** of schedule to create and configure the schedule settings to complete the setup. The example in the menu below is a reoccurring daily (**Periodic**) schedule that begins at the start of business (6 a.m.), and lasts **For** 12 hours (or until 6 p.m.).

**"Schedule Business Closed" Configuration**

Edit the information for schedule Business Closed below.

**WARNING: Modifying an existing schedule will replace the configuration for that schedule.**

Type: **Periodic** Select the type of schedule to create.

Day(s): ☒ Daily ☒ Sunday ☒ Monday ☒ Tuesday ☒ Wednesday ☒ Thursday ☒ Friday ☒ Saturday The day(s) to run this schedule each week.

Start time:  The time to start this schedule each of the selected days. Use military time (HH:MM).

To or For: **For** Select whether to go TO the End Time or to last FOR a given amount of time.

End time:  Either the ending time or the duration of the schedule. Use military time (HH:MM).

The **Periodic** schedule reoccurs on the **Day(s)** selected.

Refer to Steps 3 - 4 on pages 10 and 11 to configure an **Absolute** or **Relative** schedule type.

Select **Apply** to create the schedule.

**Figure 10. Periodic Schedule Configuration Menu**

3. Optional. To create an absolute schedule, select **Absolute** as the schedule **Type**. This schedule will only occur once.

**"Schedule Company Holiday" Configuration**

Edit the information for schedule Company Holiday below.

**WARNING: Modifying an existing schedule will replace the configuration for that schedule.**

Type: **Absolute** Select the type of schedule to create.

Start time:  The time the schedule begins. Use military time (HH:MM).

Start day:  The day the schedule begins (MM/DD/YYYY).

End time:  The time the schedule ends. Use military time (HH:MM).

End day:  The day the schedule ends (MM/DD/YYYY).

Select **Apply** to create the schedule.

**Figure 11. Absolute Schedule Configuration Menu**

- Optional. To create a relative schedule, select **Relative** as the schedule **Type**. Relative schedules occur a given number of seconds after the schedule is activated.

**"Schedule Test" Configuration**

Enter the appropriate information below to create a schedule.

Type: **Relative** Select the type of schedule to create.

Delay: **00:05:00** The delay between applying this schedule and it going into effect "HH:MM:SS".

**Reset** **Apply**

**Figure 12. Relative Schedule Configuration Menu**

- Verify the newly created schedule(s) appear in the table at the bottom on the **Schedule** tab.

Probe... **Schedule** Track

Use this form to create, configure, and delete schedules. To edit an existing schedule, click on the schedule name listed below.

**WARNING: Modifying an existing schedule will replace the configuration for that schedule.**

Schedule Name:  Enter schedule name.

**Create**

<input type="checkbox"/>	Schedule	Type	Status
<input type="checkbox"/>	<a href="#">Business Closed</a>	Periodic	<b>Active</b>
<input type="checkbox"/>	<a href="#">Company Holiday</a>	None	<b>Inactive</b>
<input type="checkbox"/>	<a href="#">Test</a>	Relative	<b>Inactive</b>

**Figure 13. Schedule Table**

## Configuring a Track

1. To create a track, navigate to **Data > Network Monitor > Probes / Schedules / Tracks** and select the **Track** tab. Enter a name for the track and select **Create** to proceed with the track configuration.

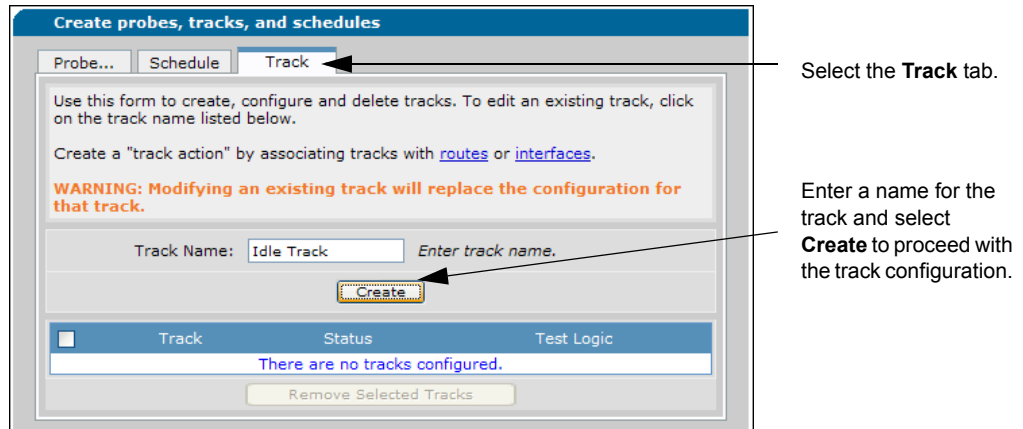


Figure 14. Track Tab

2. Enable the track by selecting the **Enable** check box. The track can be associated with a combination of up to five objects (probes and schedules). Select **Apply** to append the configuration settings.

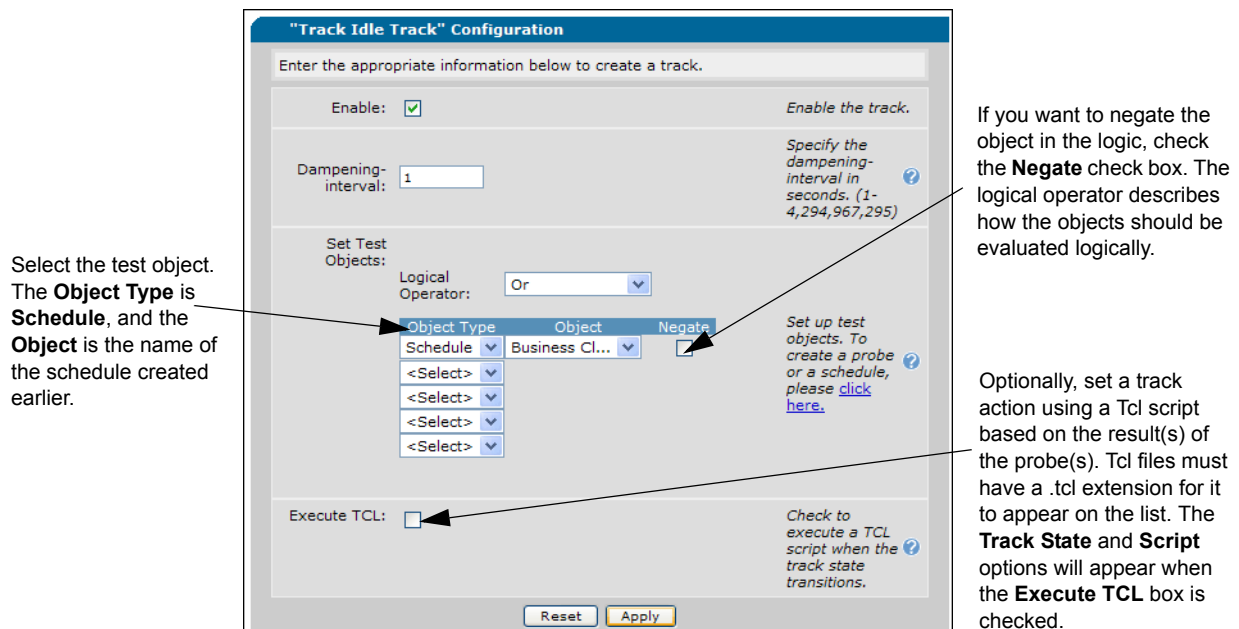


Figure 15. Track Configuration Menu

## Configuring the Track Action (Assign Ports)

1. Navigate to **Data > Switch > Ports** and select the port(s) to associate with the track.

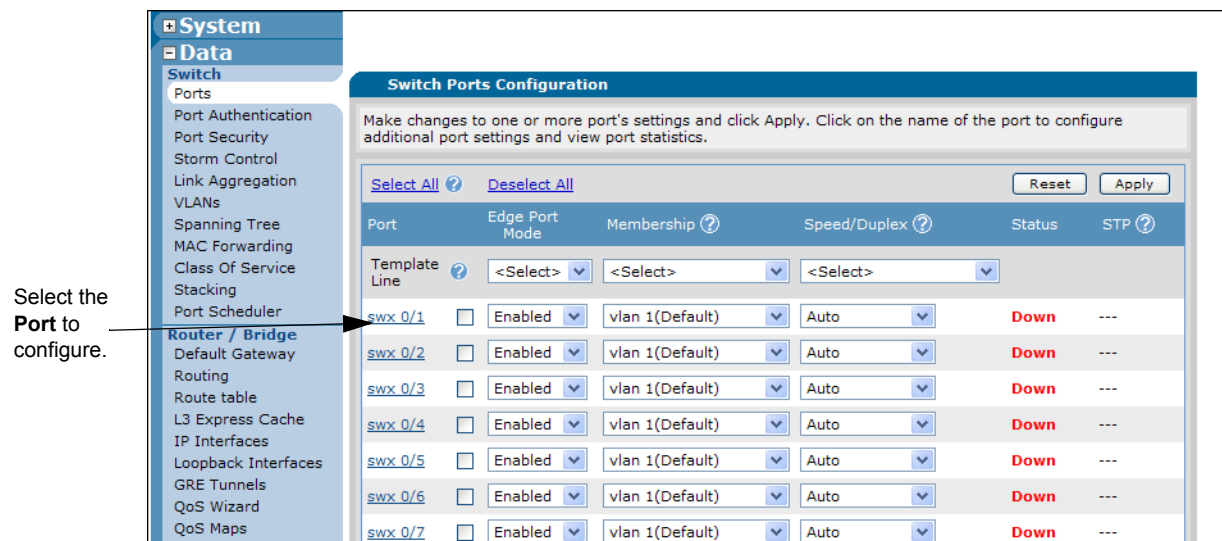


Figure 16. Switch Ports Configuration Menu

2. Configure the Ethernet port to be active based on the status of the track created previously. Select **Apply**.

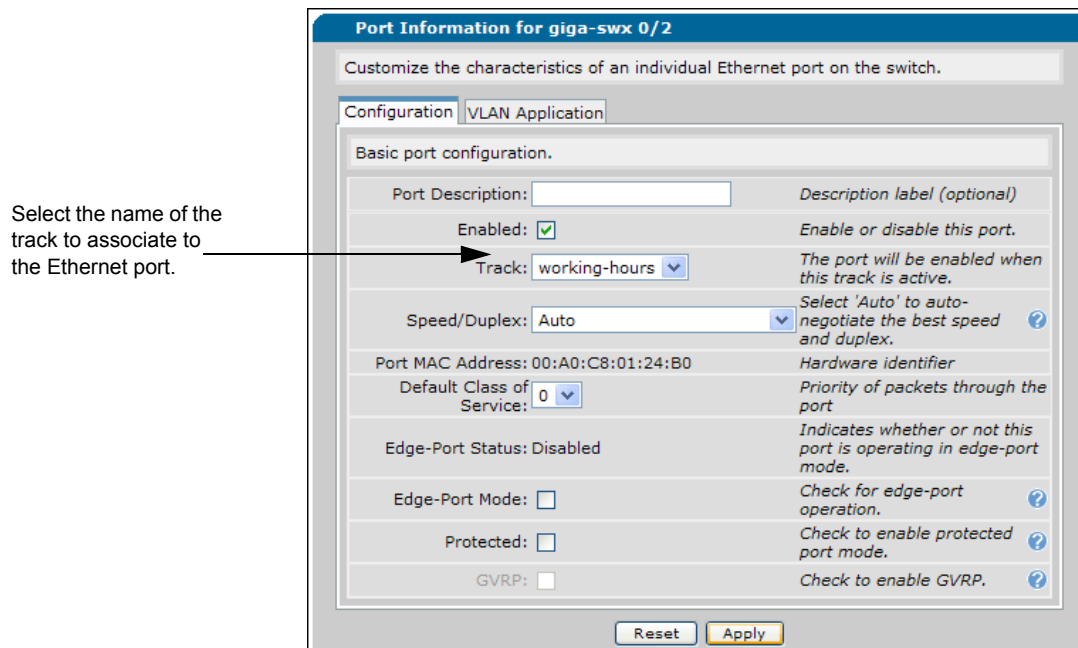


Figure 17. Port Information Menu

## CLI Port Scheduler Configuration



*Refer to the quick start guide provided with your unit (or on the **AOS Documentation CD**) for assistance logging into the unit's CLI.*

The following configuration steps are required to implement the Port Scheduler feature using the AOS CLI:

- *Step 1: Create a Schedule* (below)
- *Step 2: Create a Track* on page 15
- *Step 3: Configure a Track Action* on page 16

### Step 1: Create a Schedule

Create a periodic schedule to specify the days and time period for the ports to be active. During the inactive time period, the port will be shut off. Enter the command syntax as follows:

(config)#**schedule** <name>

<name> Specifies the name of the schedule to create.

(config-schedule-name)#**periodic** [**daily** | <weekday> | **weekday** | **weekend**] <start time> [**for** <duration> | **to** <end time>]

**daily** Specifies the schedule to occur every day of the week.

<weekday> Specifies any day or combination of days (Monday through Friday).

**friday** Specifies the schedule to occur on Friday.

**monday** Specifies the schedule to occur on Monday.

**saturday** Specifies the schedule to occur on Saturday.

**sunday** Specifies the schedule to occur on Sunday.

**thursday** Specifies the schedule to occur on Thursday.

**tuesday** Specifies the schedule to occur on Tuesday.

**wednesday** Specifies the schedule to occur on Wednesday.

**weekday** Specifies the schedule to occur on Monday through Friday.

**weekend** Specifies the schedule to occur on Saturday and Sunday.

<start time> Optional. Specifies the start time (in military format). If the start time is not specified, the port(s) will continue to deliver power. The time must be entered for the ports to shut down. Once the time period is set in the schedule, the settings will take effect within 60 seconds.

**for** <duration> Specifies the schedule to continue for the specified amount of time (in military format).

**to** <end time> Specifies the schedule to end at the specified time (in military format).

## Different Schedule Types

Optional. Use the **absolute** or **relative** schedule type to create general-purpose time schedules. Refer to *Schedules* on page 2 for more information. Enter the command as follows:

```
(config-schedule-name)#absolute start <start time> <day of month> <month> <year> end <end time>  
                        <day of month> <month> <year>
```

**start** Specifies the schedule's starting time and date.

<start time> Optional. Specifies the start time (in military format).

<day of month> Specifies the day of the month. The range is **1** to **31**.

<month> Specifies the month of the year. The range is **january** to **december**.

<year> Specifies the year. The range is **2000** to **2105**.

<end time> Specifies the ending time for this schedule (in military format).

**end** Specifies the schedule's ending time and date.

Optional. Use the **relative start-after** command to specify the schedule to occur a given number of seconds after the schedule is activated. The command appears as follows:

```
(config-schedule-name)#relative start-after <time>
```

<time> Specifies the time to start in seconds. The range is **1** to **65535**.

## Step 2: Create a Track

Use the **track** command to create a track to monitor the schedule. The command appears as follows:

```
(config)#track <name>
```

<name> Specifies the name of this track.

Use the **test if** command to configure test track test conditions. This command tests the activation status of the specified time schedule. The command appears as follows:

```
(config-track-name)#test if schedule <name>
```

<name> Specifies the name of the schedule to test for activation status. If the schedule is active, the test will pass.

Optional. Use the **test if not** to negate the results of the test. The command appears as follows:

```
(config-track-name)#test if not schedule <name>
```

<name> Specifies the name of the schedule to test for activation status. If the schedule is not active, the test will pass.

### Step 3: Configure a Track Action

The track action must be configured to implement an action based on the test results of the track. Use the **interface** command to implement track action. Enter the **interface** *<type>* *<slot/port>* command at the Global Configuration mode prompt. The command appears as follows:

```
(config)#interface <type> <slot/port>
```

*<type>* Specifies the Ethernet interface type to configure. The four Ethernet interface types are Ethernet, Gigabit Ethernet, switchport, and gigabit switchport. Type **interface ?** for a complete list of valid interface types on your unit.

*<slot/port>* Specifies the identity of the Ethernet interfaces. Slot and port number ranges are dependent upon the hardware installed in your unit. Type **interface ethernet ?** for information regarding valid ranges.

For example, to activate the Gigabit Switchport Interface Configuration mode, enter the **interface gigabit-switchport** command at the Global Configuration mode prompt. The command syntax appears as follows:

```
>enable  
#configure terminal  
(config)#interface gigabit-switchport 0/2  
(config-giga-swx 0/2)#
```

For example, to activate the Ethernet Configuration mode for a range of switchport interfaces, enter the **interface range** command at the Global Configuration mode prompt. The command syntax appears as follows:

```
>enable  
#configure terminal  
(config)#interface range switchport 0/1-16  
(config-swx 0/1-16)#
```

Next, enter the **no shutdown track** *<name>* command to enable monitoring of the track on specified interface. The command appears as follows:

```
(config-swx 0/1-16)#no shutdown track <name>
```

*<name>* Specifies the name of the track created to monitor the Port Scheduler. When the track passes the test, the ports will be reactivated.



## Example CLI Configuration

The following examples are designed to enhance the understanding of CLI configuration of the Port Scheduler feature on AOS switch products:



*The configuration parameters used in the example are for instructional purposes only. For detailed information on specific commands and advanced options, refer to the **AOS Command Reference Guide** provided on the **AOS Documentation** CD shipped with your AOS unit or available on the Web at [www.adtran.com](http://www.adtran.com).*

### ! Step 1: Create a Schedule

```
enable
configure terminal
schedule working-hours
periodic daily 06:00 to 18:00
exit
```

### ! Step 2: Create a Track

```
track work-hours
test if schedule working-hours
exit
```

### ! Step 3: Configure a Track Action

```
interface range switchport 0/1-16, switchport 0/24
no shutdown track work-hours
do write
end
```

## CLI Configuration Command Summary



Refer to the *AOS Command Reference Guide* located on your *AOS Documentation CD* or on the Web at [www.adtran.com](http://www.adtran.com) for a complete list of commands.

**Table 1. Command Summary Table**

Step	Command	Explanation
<b>Step 1</b>	(config)# <b>schedule</b> <name>	Specifies the name of the schedule to create. Use the <b>no</b> form of this command to delete a schedule.
	(config-schedule-name)# <b>periodic</b> [ <b>daily</b>   <weekday>   <b>weekday</b>   <b>weekend</b> ] <start time> [ <b>for</b> <duration>   <b>to</b> <end time>]	Specifies a reoccurring schedule by configuring the start and end days, times, and duration. Use the <b>no</b> form of this command to delete the schedule and the setting associated with the schedule.
	(config-schedule-name)# <b>exit</b>	Exits the current configuration mode and enter the previous one. For example, using the exit command in an interface configuration mode will activate the Global Configuration mode. When using the <b>exit</b> command in the Basic mode, the current session will be terminated.
<b>Step 2</b>	(config)# <b>track</b> <name>	Creates a track as part of Port Scheduler feature and enters into the Network Monitoring Track configuration mode once the command is executed. Use the <b>no</b> form of this command to delete track.
	(config-track-name)# <b>test if schedule</b> <name> or (config-track-name)# <b>test if not schedule</b> <name>	Specifies a single object (schedule) to be tested. Use the <b>no</b> form of this command to remove the track test.
	(config-track-name)# <b>exit</b>	Exits the current configuration mode.
<b>Step 3</b>	(config)# <b>interface range</b> <type> <slot/port>	Specifies a range of the Ethernet interfaces to configure. The four Ethernet interface types are Ethernet Gigabit Ethernet, switchport, and gigabit switchport. Type <b>interface ?</b> for a complete list of valid interface types on the unit.
	(config-sw 0/1-16)# <b>no shutdown track</b> <name>	Specifies enabling the interface(s) based on the status of the assigned track. Use the <b>shutdown</b> command to disable the interface(s).

Table 1. Command Summary Table (*Continued*)

Step	Command	Explanation
Step 3	(config-sw x 0/1-16)# <b>do write</b>	Saves the running configuration to the unit's NVRAM. Once the save is complete, the changes are retained even if the unit is shut down or suffers a power outage.
	(config-sw x 0/1-16)# <b>end</b>	Exits the current configuration mode and enters the Enable mode.



*For a complete list of commands, refer to the **AOS Command Reference Guide** located on your **AOS Documentation** CD shipped with your unit or available on the Web at [www.adtran.com](http://www.adtran.com).*

## Troubleshooting

The Port Scheduler feature track and schedule troubleshooting parameters can be viewed using either the CLI or GUI. The CLI **show** and **debug** commands, and the GUI View Statistics options, aid in troubleshooting as they allow a quick picture of Network Monitor component configurations. The following sections describe the CLI troubleshooting commands and how to access the GUI statistics.

## Troubleshooting Commands

The following table provides a quick look at the Port Scheduler feature CLI troubleshooting commands.

Table 2. AOS Port Scheduler Troubleshooting Commands

Command	Explanation
<b>#show schedule</b>	Displays all schedules with the status of the schedule in parentheses.
<b>#show track [&lt;name&gt;] [realtime]</b>	Displays all track object configurations and statistics. Specify the <name> to only display information about a specific track, rather than all configured tracks. <b>Realtime</b> displays full-screen output in real time.
<b>#debug schedule [&lt;name&gt;]</b>	Displays all debug schedule events. Specify the <name> to only display information about a specific schedule, rather than all configured schedules.
<b>#debug track [&lt;name&gt;]</b>	Activates debug messages associated with activities performed by track objects. Specify the <name> to only display information about a specific track, rather than all configured tracks.

## Show Commands

Show commands are issued from the Enable mode prompt, and display configuration information and statistics for tracks, probes, and schedules. Using the **<name>** parameter for tracks displays only the information about a specific track, rather than all configured tracks. Additional parameters are available with the track and probe **show** commands. The optional **realtime** keyword displays full-screen output in real time.

*Using the **realtime** argument for this command can adversely affect the performance of your unit.*



*The output of all **show** commands can be limited by appending the following modifiers to the end of the command: | **begin** <text>, | **exclude** <text>, and | **include** <text>. The **include** modifier limits output to lines that contain the specified text, the **exclude** modifier excludes any lines with the specified text, and the **begin** modifier displays the first line of output with the specified text and all lines thereafter.*

The following is sample output from the **show schedule** command:

**>enable**

**#show schedule**

Schedule entry: #Word (active)  
Schedule entry: Business Closed (inactive)  
Schedule entry: Closed (inactive)  
Schedule entry: Company Holiday (active)  
Schedule entry: MIDNIGHT (inactive)  
Schedule entry: Name (inactive)  
Schedule entry: Test (active)  
Schedule entry: name (active)  
Schedule entry: working-hours (inactive)

The following is sample output from the **show track** command:

**>enable**

**#show track**

Track working-hours:

Current State: FAIL (Admin: UP)

Testing:

schedule working-hours (FAIL)

Dampening Interval: 1 seconds

Time in current state: 0 days, 8 hours, 47 minutes, 19 seconds

Track State Changes: 5

Tracking:

swx 0/5

swx 0/6

Track Closed:

Current State: FAIL (Admin: UP)

Testing:

schedule Closed (FAIL)

Dampening Interval: 1 seconds

Time in current state: 0 days, 3 hours, 43 minutes, 15 seconds

Track State Changes: 21

Tracking:

swx 0/1

swx 0/2

swx 0/3

swx 0/4

swx 0/7

swx 0/8

swx 0/9

swx 0/10

swx 0/11

swx 0/12

swx 0/13

swx 0/14

swx 0/15

swx 0/16

Track Closed:

Current State: PASS (Admin: UP)

Testing:

(NO TESTS)

Dampening Interval: 1 seconds

Time in current state: 2 weeks, 4 days, 4 hours, 33 minutes, 44 seconds

Track State Changes: 22

Tracking:

## Debug Commands

Debug commands are issued from the Enable mode prompt, and display information associated with activities performed by tracks. Using the *<name>* parameter in debug commands displays only the information about a specific track. Without this parameter, all track debug events are displayed.

The sample output below is taken when an ADTRAN phone is powered down due to a schedule. The phone is plugged into the gigabit-switchport 0/11:

### #debug schedule

```
#19:46:00: NETMON.SCHEDULE phoneSchedule: status changed to inactive
2009.01.20 19:46:01 NETMON.TRACK phoneSchedule changed state to inactive. Interface giga-swx 0/11
will become inactive.
2009.01.20 19:46:01 INTERFACE_STATUS.giga-swx 0/11 changed state to administratively down
2009.01.20 19:46:01 INTERFACE_STATUS.giga-swx 0/11 changed state to down
19:46:04: NETMON.SCHEDULE ip phones: status changed to inactive
2009.01.20 19:46:09 POWER_OVER_ETHERNET.giga-swx 0/11 changed state from DELIVERING to
SEARCHING
```

The following output shows the phone becoming active again based on the schedule:

```
#13:46:08: NETMON.SCHEDULE phoneSchedule: status changed to active
2009.01.20 13:46:09 NETMON.TRACK phoneSchedule changed state to active. Interface
giga-swx 0/11 will become active.
2009.01.20 13:46:09 INTERFACE_STATUS.giga-swx 0/11 changed state to administratively
up13:46:12: NETMON.SCHEDULE ip phones: status changed to active
2009.01.20 13:46:13 INTERFACE_STATUS.giga-swx 0/11 changed state to up
2009.01.20 13:46:15 POWER_OVER_ETHERNET.giga-swx 0/11 changed state from SEARCHI
NG to DELIVERING
```

The following sample output of the **debug track** command:

### #debug track ICMP4

```
10:53:32: NETMON.PROBE ICMP-ECHO4: Reply from 10.22.190.4: bytes=34 time=2ms (passed)
10:53:42: NETMON.PROBE ICMP-ECHO4: Reply from 10.22.190.4: bytes=34 time=13ms (passed)
10:53:53: NETMON.PROBE ICMP-ECHO4: Reply from 10.22.190.4: bytes=34 time=2ms (passed)
10:54:04: NETMON.PROBE ICMP-ECHO4: Reply from 10.22.190.4: bytes=34 time=2ms (passed)
10:54:15: NETMON.PROBE ICMP-ECHO4: Reply from 10.22.190.4: bytes=34 time=3ms (passed)
10:54:27: NETMON.PROBE ICMP-ECHO4: Request timed out. (failed)
10:54:38: NETMON.PROBE ICMP-ECHO4: Request timed out. (failed)
10:54:49: NETMON.PROBE ICMP-ECHO4: value changed to fail
10:54:49: NETMON.PROBE ICMP-ECHO4: Request timed out. (failed)
```

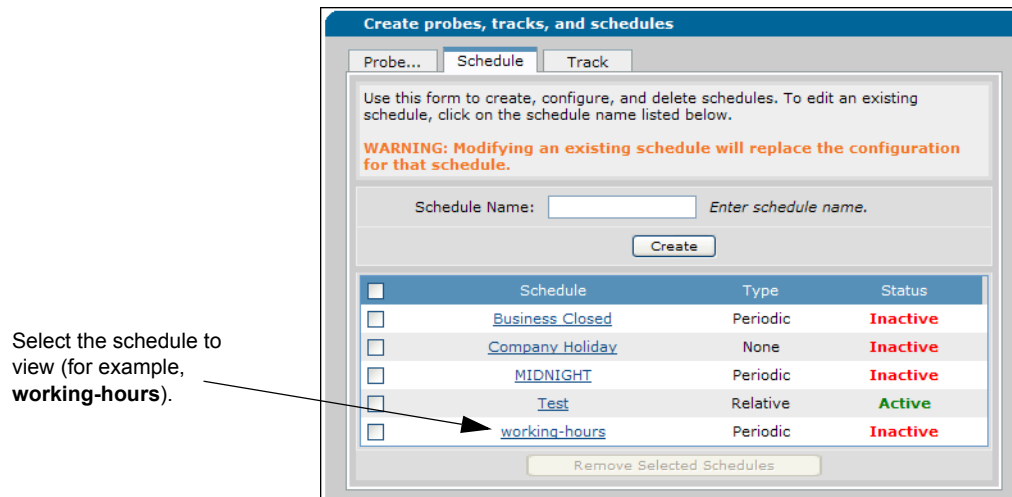
## GUI Troubleshooting

Schedule and track configuration and statistical information is also available through the GUI. To access this information, connect to the GUI and follow the steps outlined in the following sections.

### Viewing Schedule Statistics

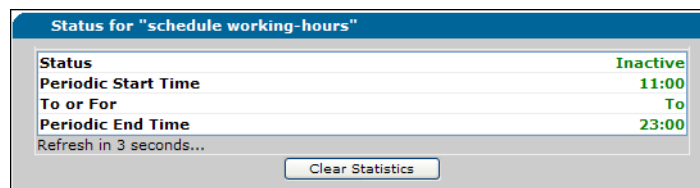
To view probe statistical and configuration information, follow these steps:

1. Navigate to **Data > Network Monitoring > Probes / Schedules / Tracks**. Select the track name from the list to display the current settings and status.



**Figure 18. Schedule Tab**

2. Scroll to the bottom of the menu, and to view the statistics for the selected schedule.

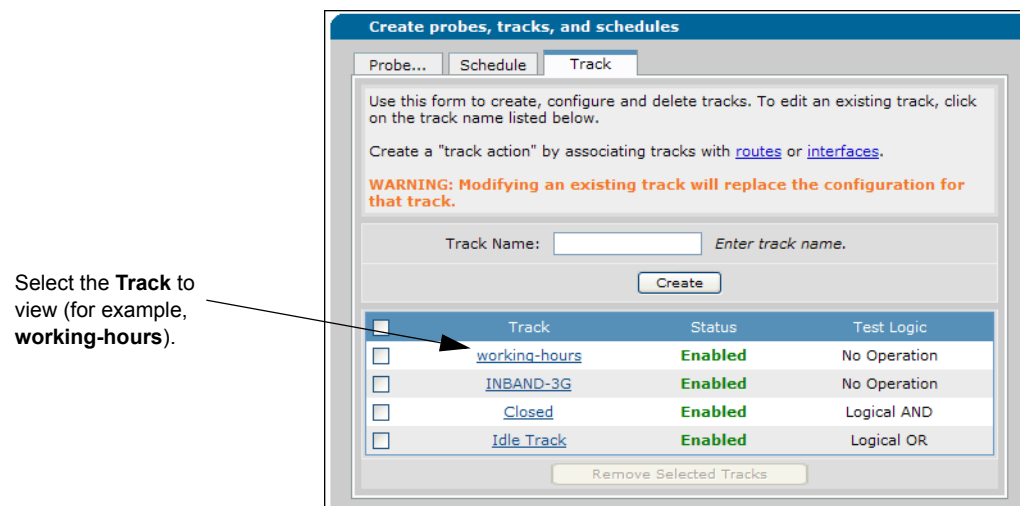


**Figure 19. Schedule Status Menu**

## Viewing Track Statistics

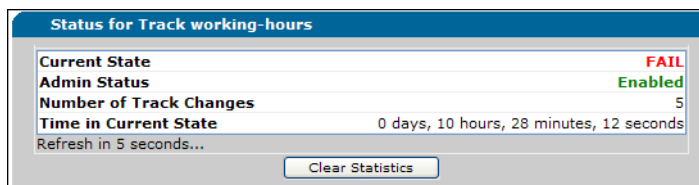
To view track statistical and configuration information, follow these steps:

1. Navigate to **Data > Network Monitoring > Probes / Schedules / Tracks** and select the **Track** tab. Select the track name from the list to display the current settings and status.



**Figure 20. Track Tab**

2. Scroll to the bottom of the menu to view the statistics for the selected track.



**Figure 21. Track Status Menu**