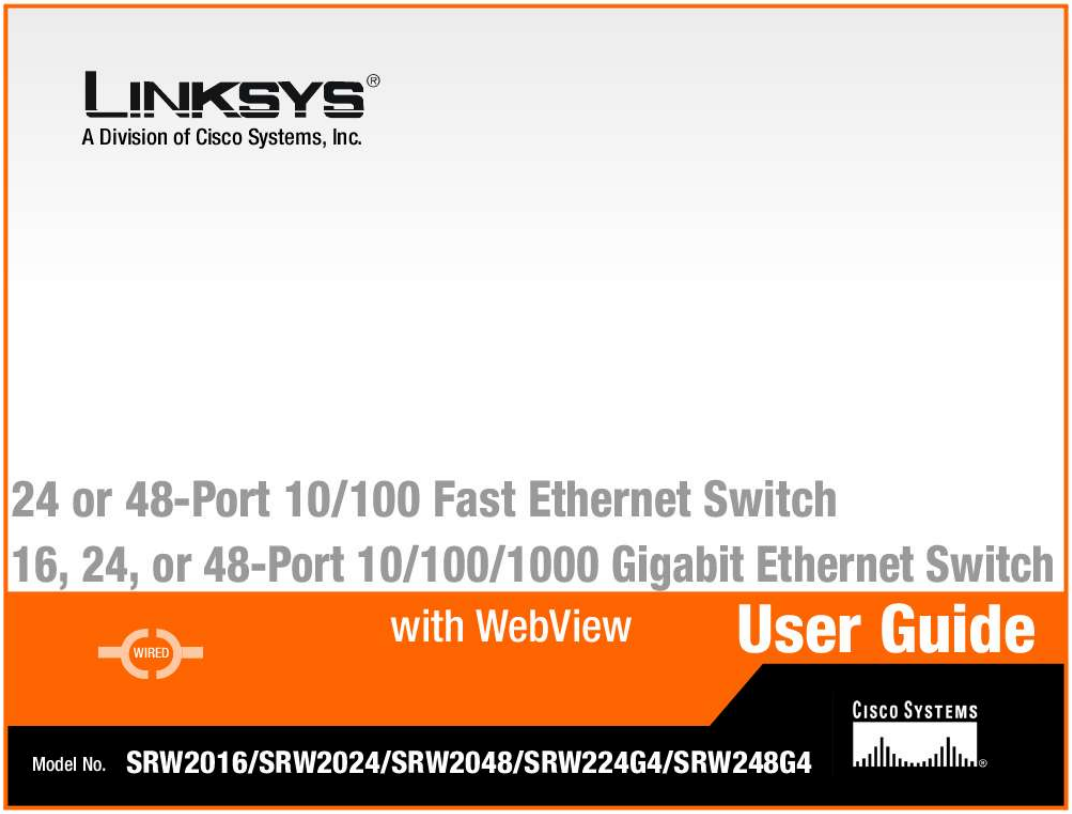

Manual abstract:

and/or its affiliates in the U.S. and certain other countries. Copyright © 2005 Cisco Systems, Inc. All rights reserved. @@@@Wash hands after handling. @@Look for the following items when reading this User Guide: This checkmark means there is a note of interest and is something you should pay special attention to while using the Switch. This exclamation point means there is a caution or warning and is something that could damage your property or the Switch. This question mark provides you with a reminder about something you might need to do while using the Switch. In addition to these symbols, there are definitions for technical terms that are presented like this: word: definition.

Also, each figure (diagram, screenshot, or other image) is provided with a figure number and description, like this: Figure 0-1: Sample Figure Description Figure numbers and descriptions can also be found in the "List of Figures" section. Webview Switches-UG-50817 KL WebView Switches Table of Contents Chapter 1: Introduction Welcome What's in this User Guide? 1 1 2 Chapter 2: Getting to Know the Switch Overview The Front Panel The Back Panel 3 3 3 4 Chapter 3: Connecting the Switch Overview Before You Install the Switch... Placement Options Connecting the Switch 5 5 6 6 7 Chapter 4: Using the Console Interface for Configuration Overview Configuring the HyperTerminal Application Connecting to the Switch through a Telnet Session Configuring the Switch through the Console Interface 9 9 9 10 11 Chapter 5: Using the Web-based Utility for Configuration Overview Accessing the Web-based Utility Sys. Info. (System Information) Tab - System Description Sys. Info. 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16 or 24, 10/100/1000 ports wire up your workstations or connect to other switches and the backbone. And the mini-GBIC ports allow future expansion to alternate transmission media, such as fiber optic cabling. The Switch features WebView monitoring and configuration via your web browser, making it easy to manage your VLANs and trunking groups. Or if you prefer, you can use the Switch's console interface to configure the Switch. Use the instructions in this User Guide to help you connect the Switch, set it up, and configure it to bridge your different networks.

These instructions should be all you need to get the most out of the Switch. Chapter 1: Introduction Welcome 1 WebView Switches What's in this User Guide? This user guide covers the steps for setting up and using the Switch. · Chapter 1: Introduction This chapter describes the Switch's applications and this User Guide. · Chapter 2: Getting to Know the Switch This chapter describes the physical features of the Switch. · Chapter 3: Connecting the Switch This chapter explains how to install and connect the Switch. · Chapter 4: Using the Console Interface for Configuration This chapter instructs you on how to use the Switch's console interface when you configure the Switch. · Chapter 5: Using the Web-based Utility for Configuration This chapter shows you how to configure the Switch using thxplain how to connect network devices to the Switch. For an example of a typical network configuration, see the application diagram shown below. Figure 3-1: Typical Network Configuration for the 16-Port Switch When you connect your network devices, make sure you don't exceed the maximum cabling distances, which are listed in the following table: Table 1: Maximum Cabling Distances From Switch Hub Switch or Hub To Switch or Hub Hub Computer Maximum Distance 100 meters (328 feet) 5 meters (16.4 feet) 100 meters (328 feet) *A hub refers to any type of 100Mbps hub, including regular hubs and stackable hubs.*

A 10Mbps hub connected to another 10Mbps hub can span up to 100 meters (328 feet). Chapter 3: Connecting the Switch Overview 5 WebView Switches Before You Install the Switch... When you choose a location for the Switch, observe the following guidelines: · Make sure that the Switch will be accessible and that the cables can be easily connected. · Keep cabling away from sources of electrical noise, power lines, and fluorescent lighting fixtures. · Position the Switch away from water and moisture sources. · To ensure adequate air flow around the Switch, be sure to provide a minimum clearance of two inches (50 mm). · Do not stack free-standing Switches more than four units high. Placement Options Before connecting cables to the Switch, first you will physically install the Switch.

Either set the Switch on its four rubber feet for desktop placement or mount the Switch in a standard-sized, 19-inch wide, 1U high rack for rackmount placement. Desktop Placement 1. Attach the rubber feet to the recessed areas on the bottom of the Switch. 2. Place the Switch on a desktop near an AC power source.

3. Keep enough ventilation space for the Switch and check the environmental restrictions mentioned in the specifications. 4. Proceed to the section, "Connecting the Switch." Chapter 3: Connecting the Switch Before You Install the Switch.

.. 6 WebView Switches Rack-Mount Placement To mount the Switch in any standard-sized, 19-inch wide, 1U high rack, follow these instructions: 1. Place the Switch on a hard flat surface with the front panel facing you. 2. Attach a rackmount bracket to one side of the Switch with the supplied screws. Then attach the other bracket to the other side. 3. Make sure the brackets are properly attached to the Switch. 4.

Use the appropriate screws (not included) to securely attach the brackets to your rack.

5. Proceed to the section, "Connecting the Switch." IMPORTANT: Make sure you use the screws supplied with the mounting brackets. Using the wrong screws could damage the Switch and would invalidate your warranty. Figure 3-2: Attach the Brackets to the Switch Connecting the Switch To connect network devices to the Switch, follow these instructions: 1. Make sure all the devices you will connect to the Switch are powered off. 2. For a 10/100Mbps devices, connect a Category 5 Ethernet network cable to one of the numbered ports on the Switch. For a 1000Mbps device, connect a Category 5e Ethernet network cable to one of the numbered ports on the Switch.

3. Connect the other end to a PC or other network device. 4. Repeat steps 2 and 3 to connect additional devices. 5.

If you are using the mini-GBIC port, then connect the mini-GBIC module to the mini-GBIC port. For detailed instructions, refer to the module's documentation. 6. If you will use the Switch's console interface to configure the Switch, then connect the supplied serial cable to the Switch's Console port, and tighten the captive retaining screws. Connect the other end to your PC's serial port.

(This PC must be running the VT100 terminal emulation software, such as HyperTerminal.) 7. Connect the supplied power cord to the Switch's power port, and plug the other end into an electrical outlet. IMPORTANT: Make sure you use the power cord that is supplied with the Switch. Use of a different power cord could damage the Switch. NOTE: If you need to reset the Switch, unplug the power cord from the back of the Switch. Wait a few seconds and then reconnect it. Figure 3-3: Mount the Switch in the Rack Chapter 3: Connecting the Switch Connecting the Switch 7 WebView Switches 8. Power on the network devices connected to the Switch. Each active port's corresponding Link/Act LED will light up on the Switch.

If a port has an active Gigabit connection, then its corresponding Gigabit LED will also light up. If you will use the Switch's console interface to configure the Switch, proceed to Chapter 4: Using the Console Interface for Configuration for directions. If you will use the Switch's Web-based Utility to configure the Switch, proceed to Chapter 5: Using the Web-based Utility for Configuration. Chapter 3: Connecting the Switch Connecting the Switch 8 WebView Switches Chapter 4: Using the Console Interface for Configuration Overview The Switch features a menu-driven console interface for basic configuration of the Switch and management of your network. The Switch can be configured using CLI through the console interface or through a telnet connection. This chapter describes console interface configuration. Configuration can also be performed through the web utility, which is covered in the next chapter. Configuring the HyperTerminal Application Before you use the console interface, you will need to configure the HyperTerminal application on your PC. 1. Click the Start button.

Select Programs and choose Accessories. Select Communications. Select HyperTerminal from the options listed in this menu. 2. On the Connection Description screen, enter a name for this connection.

In the example, the name of connection is SRW2016. Select an icon for the application. Then, click the OK button. 3. On the Connect To screen, select a port to communicate with the Switch: COM1, COM2, or TCP/IP.

Figure 4-1: Finding HyperTerminal Figure 4-2: Connection Description Chapter 4: Using the Console Interface for Configuration Overview Figure 4-3: Connect To 9 WebView Switches 4. Set the serial port settings as follows: Bits per second: 38400 Data bits: 8 Parity: None Stop bits: 1 Flow control: None Then, click the OK button. Figure 4-4: COM1 Properties Connecting to the Switch through a Telnet Session Open a command line editor and enter telnet 192.168.1.254. Then, press the Enter key. The Login screen will now appear. The first time you open the CLI interface, select Edit and enter admin in the User Name field. Leave the Password field blank.

Press the Esc button and you will return to the login screen. Then, select Enter to enter the CLI interface. Figure 4-5: Telnet Login screen Chapter 4: Using the Console Interface for Configuration Connecting to the Switch through a Telnet Session 10 WebView Switches Configuring the Switch through the Console Interface The console screens consist of a series of menus. Each menu has several options, which are listed vertically. You select a menu option when you highlight it; pressing the Enter key activates the highlighted option. To navigate through the menus and actions of the console interface, use the up or down arrow keys to move up or down, and use the left or right arrow keys to move left or right. Use the Enter key to select a menu option, and use the Esc key to return to the previous selection. Menu options and any values entered or present will be highlighted. The bottom of the screen lists the actions available. Switch Main Menu The System Main Menu screen displays these choices: 1.

System Configuration Information Menu 2. Port Status 3. Port Configuration 4. Help Figure 4-6: Switch Main Menu Port Status On the Switch Main Menu screen, select Port Status and press the Enter key if you want to view the status information for the Switch's ports. The Port Status screen displays the port numbers, their status, Link status, speed and duplex mode, and status of flow control, which is the flow of packet transmissions.

If you want to change any settings for a port, you must use the Port Configuration screen. Figure 4-7: Port Status Chapter 4: Using the Console Interface for Configuration Configuring the Switch through the Console Interface 11 WebView Switches Port Configuration On the Switch Main Menu screen, select Port Configuration and press the Enter key if you want to configure the Switch's ports. The Port Configuration screen displays the port numbers, their status, auto-negotiation status, speed and duplex mode, and status of flow control, which is the flow of packet transmissions. Select Edit to make changes. When your changes are complete, press the Esc key to return to the Action menu, and select Save to save your changes.

Help Select Help and press the Enter key if you want to view the help information. This screen explains how to navigate the various screens of the console interface. Figure 4-8: Port Configuration System Configuration Menu On the System Configuration Menu screen, you have these choices: 1. System Information 2. Management Settings 3. User & Password Settings 4. Security Settings 5. IP Configuration 6. File Management 7. Restore System Default Settings 8.

Reboot System 0. Back to main menu Figure 4-9: System Configuration Menu Chapter 4: Using the Console Interface for Configuration Configuring the Switch through the Console Interface 12 WebView Switches System Information Using this screen, you can check the Switch's firmware versions and general system information.

Figure 4-10: System Information Menu Versions The Versions screen displays the Switch's boot, software, and hardware firmware versions. Figure 4-11: Versions General System Information The General System Information screen displays the Switch's description, System Up Time, System MAC Address, System Contact, System Name, and System Location. Select Edit to make changes. When your changes are complete, press the Esc key to return to the Action menu, and select Save to save your changes. Figure 4-12: General System Information Chapter 4: Using the Console Interface for Configuration Configuring the Switch through the Console Interface 13 WebView Switches Management Settings From the Management Settings screen, you can set Serial Port Session Configuration, Telnet Session Configuration, or Secure Telnet (SSH) Configuration. Figure 4-13: Management Settings Menu Serial Port Configuration On the Serial Port Configuration screen, the Switch's baud rate is displayed. Select Edit to make changes. When your changes are complete, press the Esc key to return to the Action menu, and select Save to save your changes.

Figure 4-14: Serial Port Configuration Telnet Configuration On the Telnet Configuration screen, the time-out is displayed. Select Edit to make changes. When your changes are complete, press the Esc key to return to the Action menu, and select Save to save your changes. Figure 4-15: Telnet Configuration Chapter 4: Using the Console Interface for Configuration Configuring the Switch through the Console Interface 14 WebView Switches Username & Password Settings From this sceen, you can administer the user names and passwords of those accessing the Switch. NOTE: The Username & Password Settings screen can also be used to set passwords for other users.

Figure 4-16: Username & Password Settings Security Settings The Security Settings screen enables you to configure security settings on the Switch, as well as generate and display the certificate. Figure 4-17: Security Settings Chapter 4: Using the Console Interface for Configuration Configuring the Switch through the Console Interface 15 WebView Switches SSL Certificate Generation Use the Certificate Generation screen to specify a device-generated certificate. The following fields are specified: Public Key Length - Specifies the SSL RSA key length. (Range: 512 - 2048) Organization Name - Specifies the organization name. (Range: 1 - 64) Locality or City Name - Specifies the location or city name.

(Range: 1 - 64) Figure 4-18: SSL Certificate Generation State or Province Name - Specifies the state or province name. (Range: 1 - 64) Country Name - Specifies the country name. (Range: 2 - 2) Validity Term - Specifies number of days certification is valid. (Range: 30 - 3650) SSL_Certificate_Generation.bmp Show Certificate Use the Show Certificate screen to display the internal certificate. Figure 4-19: SSL Certificate IP Configuration The IP Configuration screen displays these choices: the Switch's IP Address Settings, HTTP, HTTPS Configuration and Network Configuration. Figure 4-20: IP Configuration Chapter 4: Using the Console Interface for Configuration Configuring the Switch through the Console Interface 16 WebView Switches IP Address Configuration The Switch's IP information is displayed here. IP Address. The IP Address of the Switch is displayed. (The default IP address is 192.

168.1.254.) Verify that the address you enter is correct and does not conflict with another device on the network. Subnet Mask. The subnet mask of the Switch is displayed. Default Gateway. The IP address of your network's default gateway is displayed. Management VLAN. The VLAN ID number is displayed. DHCP client. The status of the DHCP client is displayed. If you want the Switch to be a DHCP client, then select ENABLE. If you want to assign an static IP address to the Switch, then enter the IP settings and select DISABLE. Select Edit to make changes.

When your changes are complete, press the Esc key to return to the Action menu, and select Save to save your changes. HTTP The HTTP screen displays the status and port number of the HTTP Server. For the 24-Port Switch, there is also an HTTP Authentication setting. You can set the authentication method for up to four users of the Switch's Web-based Utility. Select LOCAL if you want access protected by a username and password.

Select RADIUS if you want to use authentication via a RADIUS server. Select TACACS if you want access protected by the TACACS authentication protocol, which uses a username and password. Select DENY if you want to block access (for example, if you want to allow fewer than four users). Select Edit to make changes. When your changes are complete, press the Esc key to return to the Action menu, and select Save to save your changes. Figure 4-21: IP Address Configuration Figure 4-22: HTTP HTTPS Configuration Use the HTTPS Configuration screen to configure HTTPS settings. You can enable or disable the HTTPS server and configure the port on which the session is enabled. Figure 4-23: HTTPS Configuration Chapter 4: Using the Console Interface for Configuration Configuring the Switch through the Console Interface 17 WebView Switches Network Configuration The Network Configuration screen offers a choice of two tests, Ping and TraceRoute. Figure 4-24: Network Configuration Ping The Ping screen displays the IP address of the location you want to contact. Select Edit to change the IP address, and select Execute to begin the ping test.

After the ping test is complete, the Ping screen displays the IP address, status, and statistics of the ping test. Select Edit to make changes. When your changes are complete, press the Esc key to return to the Action menu, and select Save to save your changes. Figure 4-25: Ping Test TraceRoute The TraceRoute screen displays the IP address of the address whose route you want to trace. Select Edit to change the IP address, and select Execute to begin the traceroute test. After the traceroute test is complete, the TraceRoute screen displays the IP address, status, and statistics of the traceroute test. Select Edit to make changes. When your changes are complete, press the Esc key to return to the Action menu, and select Save to save your changes. Figure 4-26: TraceRoute Test Chapter 4: Using the Console Interface for Configuration Configuring the Switch through the Console Interface 18 WebView Switches File Management The File Management screen allows you to upload or download files, such as the startup configuration, boot, or image file, using a TFTP server. Select Edit to change the settings.

When your changes are complete, press the Esc key to return to the Action menu, and select Execute to upload or download the designated file. After you download a file to the Switch, it may need to be rebooted. Figure 4-27: File Management Restore System Default Settings To restore the Switch back to the factory default settings, select Restore System Default Settings and press the Enter key.

You will be asked if you want to continue. Press the y key to restore the Switch's default settings, or press the n key to cancel.
Reboot System Figure 4-28: Restore System Default Settings Select Reboot System and press the Enter key if you want to restart the Switch. You will be asked if you want to continue. Press the y key to reboot the Switch, or press the n key to cancel. After the Switch has rebooted, the Switch Main Menu screen will appear. Back to main menu Select Back to main menu and press the Enter key if you want to return to the Switch Main Menu screen.
Figure 4-29: Reboot System Chapter 4: Using the Console Interface for Configuration Configuring the Switch through the Console Interface 19 WebView Switches Chapter 5: Using the Web-based Utility for Configuration Overview This chapter describes the features included in the Web-based utility. All of the features shown in this chapter, unless specifically identified, are included in the Fast Ethernet switches. Additional features for the Gigabit switches are specified with images for the Gigabit Ethernet's utility included. Accessing the Web-based Utility Open your web browser and enter 192.168.1.254 into the Address field. Press the Enter key and the login screen will appear. The first time you open the Web-based Utility, enter admin in the User Name field, and leave the Password field blank. Click the OK button.

You can set a password later from the System Password screen. The first screen that appears is the System Description screen. This allows you to access six main tabs: Sys. Info. (System Information), IP Conf. (Configuration), Switch Conf. (Configuration), QoS (Quality of Service), Security, SNTP (Simple Network Time Protocol), Statistics, Logs, Maintenance, and Help. Click one of the main tabs to view additional tabs. An About button appears at the top of each screen. Clicking this button will bring up the versioning information of the Switch.
The LEDs on the screen display status information about their corresponding ports. A green LED indicates a connection, while a blue LED indicates no connection. When you click a port's LED, the statistics for that port are displayed. NOTE: The LEDs displayed in the Web-based Utility are not the same as the LEDs on the front panel of the Switch. The front panel LEDs display different status information, which is described in Chapter 2: Getting to Know the Switch.
Figure 5-1: Login Screen Chapter 5: Using the Web-based Utility for Configuration Overview 20 WebView Switches Sys. Info. (System Information) Tab - System Description The System Description screen lets you enter general information about the Switch. Model Name. This is the model number and name of the Switch.
System Name. Enter a name for the Switch. System Location. Describe the location of the Switch. System Contact. Enter the name of the contact person for this Switch. System Object ID. The vendor's authoritative identification of the network management subsystem contained in the entity. Figure 5-2: System Information - System Description System up time. This displays the amount of time that has elapsed since the Switch was last reset.

IP Address. This is the IP address of the Switch. Base MAC Address. This is the MAC address of the Switch. Hardware Version. Displayed here is the version number of the Switch's hardware. Software Version. Displayed here is the version number of the Switch's software. Click the Submit button to save your changes. Sys.
Info. (System Information) Tab - System Mode This screen appears in the Web-based utility for the Gigabit Ethernet switches ONLY. The System Mode screen allows you to enable or disable the Jumbo Frames feature. Jumbo Frames enable the travel of identical data in fewer frames; this promotes faster data transmissions. Jumbo Frames.
If you want to enable this feature on the Switch, select Enabled. You will be notified that this feature will be enabled after the Switch is reset. Otherwise, select Disabled. Click the Submit button to save your changes. NOTE: The System Mode screen applies to the Gigabit Ethernet switches ONLY.
Chapter 5: Using the Web-based Utility for Configuration Sys. Info. (System Information) Tab - System Description Figure 5-3: System Information - System Mode 21 WebView Switches Sys. Info. (System Information) Tab - Forwarding Database The Forwarding Database screen lets you define the aging interval of the Switch. Aging Interval (15-630) (secs). This specifies the aging-out period on the Forwarding Database. Click the Submit button to save your changes. A table of VLAN (Virtual Local Area Network) entries is listed. VLAN ID.

Displayed here is the ID number of the VLAN for this entry. MAC Address. This is the MAC address of the entry. Port. This is the port number for this entry. ifIndex. This is the interface for this entry. Status. This indicates how the entry was created, Dynamic (dynamically learned) or Static (statically configured). You can add or edit a forwarding interface by clicking the icon that looks like a sheet of paper.
This will allow you to configure the following settings: Interface. Select the appropriate interface, either a port number or LAG (Link Aggregation Group) number. MAC Address. Enter the MAC address for this entry. VLAN ID.
If you want to use a VLAN ID, then select the radio button and enter the ID number of the VLAN. VLAN Name. If you want to use a VLAN Name, select the radio button and then enter a name here. Status. Select the status of your entry, Permanent, Delete On Reset, or Delete On Time Out.
Click the Submit button to save your changes. Figure 5-5: Forwarding Database - Add Entry Figure 5-4: System Information - Forwarding Database Chapter 5: Using the Web-based Utility for Configuration Sys. Info. (System Information) Tab - Forwarding Database 22 WebView Switches Sys. Info. (System Information) Tab - Time Synchronization The Time Synchronization screen allows you to configure the time settings for the Switch. Clock Source. If you want to set the system clock via an SNTP (Simple Network Time Protocol) server, then select SNTP. Otherwise, select None. Local Settings Date.

Specify the system date here. Local Time. Specify the system time here. Time Zone Offset. Enter the difference between Greenwich Mean Time (GMT) and local time. Daylight Saving. Select Daylight Saving to enable it on the Switch. If the Switch should use US daylight savings, then select USA. If the Switch should use EU daylight savings, then select European. If it should use another kind of daylight savings, then select Other and complete the From and To fields.
Time Set Offset (1-1440). For non-US and European countries, specify the amount of time for daylight savings. The default is 60 minutes. From. If you selected Other for the Daylight Saving setting, then enter the date and time when daylight savings begins.
To. If you selected Other for the Daylight Saving setting, then enter the date and time when daylight savings ends. Recurring. If you selected Other for the Daylight Saving setting and daylight savings has the same start and end dates and times every year, then select Recurring.

From.
If you selected Recurring, then enter the date and time when daylight savings begins. To. If you selected Recurring, then enter the date and time when daylight savings ends. Click the Submit button to save your changes. Figure 5-6: System Information - Time Synchronization Chapter 5: Using the Web-based Utility for Configuration Sys. Info. (System Information) Tab - Time Synchronization 23 WebView Switches IP Conf. (Configuration) Tab - IP Addr. (Address) The IP Address screen allows you to assign DHCP or static IP settings to interfaces and assign default gateways. DHCP Interface.

If you are using the DHCP Interface, then select the radio button and specify the VLAN on which the DHCP IP address is configured. Host Name. Enter the DHCP Host Name here. Static Address. If you are using a static IP address, then select the radio button and enter the IP settings. IP Address. Enter the interface IP address. Mask. Enter the subnet mask of the currently configured IP address. Default Gateway.
Enter the IP address of the Default Gateway. To delete the Default Gateway setting, click the red X to the right. Current Management Interface. Specify the interface used to manage the Default Gateway. Click the Submit button to save your changes.
Before any changes are incorporated into the Web-based utility, you must first return to the System Description screen on the System Information tab and click your web browser's Refresh button. Figure 5-7: IP Configuration - IP Address Chapter 5: Using the Web-based Utility for Configuration IP Conf. (Configuration) Tab - IP Addr. (Address) 24 WebView Switches Switch Conf. (Configuration) Tab - Interface Conf.
(Configuration) The Interface Configuration screen shows you the settings for each of the Switch's ports. Where many ports are present, you can scroll to the right on the screen to view the settings for further ports. Interface#. This is the port number. Name. This is the device port ID. Edit. The next row shows which port is selected or modified (according to the buttons at the bottom of the screen. Click the radio button in the port's row to select that port before clicking either button at the bottom of the screen. Port Type.

This is the port type. Port Status. Displayed here is the status of the port. Port Speed. Displayed here is the configured rate for the port. The speed can be configured only when autonegotiation is disabled on that port. Duplex Mode. This is the port duplex mode, Full (transmission occurs in both directions simultaneously) or Half (transmission occurs in only one direction at a time). This mode can be configured only when auto-negotiation is disabled and port speed is set to 10Mbps or 100Mbps. It cannot be configured on Link Aggregation Groups (LAGs).
Auto Negotiation. This is the status of the port's Auto Negotiation feature. Back Pressure. Displayed here is the status of the port's Back Pressure mode, which is used with Half Duplex Mode to disable ports from receiving messages. This mode is used for ports in Half Duplex Mode or on LAGs.
Flow Control. This is the flow control status of the port. It is active when the port uses Full Duplex Mode. MDI/MDIX. This is the MDI/MDIX status of the port.
The Auto setting is used when you want the port to automatically detect the cable type. The MDI setting is used if the port is connected to an end station. The MDIX setting is used if the port is connected to a hub or another switch. LAG. This indicates if the port is part of a LAG. Storm Control. When enabled, the Storm Control setting prevents an excessive number of broadcast and multicast messages. Figure 5-8: Switch Configuration - Interface Configuration Chapter 5: Using the Web-based Utility for Configuration Switch Conf. (Configuration) Tab - Interface Conf. (Configuration) 25 WebView Switches PVE.

For Gigabit Ethernet switches. When a port is a Private VLAN Edge (PVE) port, it bypasses the Forwarding Database and forwards all unicast, multicast, and broadcast traffic to an uplink, except for MAC-to-me packets. Uplinks can be ports or LAGs. PVE. For Fast Ethernet switches. PVE Groups indicates the PVE group to which the port belongs. When an uplink is configured for a port, all ports in that group are also protected by that uplink. PVE Uplink indicates the uplink to which all traffic from a protected port is forwarded. If you want to reset a port's settings to its defaults, select a port by clicking the radio button for that port. Then, click the Reset the settings of Selected Port to default button.
If you want to modify a port's changes, select a port by clicking the radio button for that port. Then, click the Modify the settings of Selected Port button. On the new screen that appears, you can change the port's settings. (Some settings shown may not be available, depending on the type of switch you have and other settings you have configured for that port.) Interface.
This is the port number. Description. Enter a description for this port. Port Type. This is the port type.
Admin Status. Change the status of the port here. Current Port Status. Displayed here is the status of the port. Reactivate Suspended Port. If you want to reactivate a port that has been suspended, click the checkbox. Operational Status. This indicates whether or not the port is active. Admin Speed. Change the speed of the port here.

Current Port Speed. Displayed here is the current speed of the port. Admin Duplex. Change the duplex mode here. Current Duplex Mode. This is the duplex mode of the port. Auto Negotiation. You can enable or disable the port's Auto Negotiation feature. Current Auto Negotiation. This is the current setting of the port's Auto Negotiation feature.
Back Pressure. You can enable or disable the port's Back Pressure feature. Chapter 5: Using the Web-based Utility for Configuration Switch Conf. (Configuration) Tab - Interface Conf. (Configuration) NOTE: PVE is configured on a group of ports for FE devices.
This is done using the using the PVE Mapping screen Figure 5-9: Interface Configuration - Change Settings 26 WebView Switches Current Back Pressure. Displayed here is the status of the port's Back Pressure mode. Flow Control. You can enable or disable the port's Flow Control feature. Current Flow Control.
This is the flow control status of the port. MDI/MDIX. Select the Auto setting if you want the port to automatically detect the cable type. Select MDI if the port is connected to an end station. Select MDIX if the port is connected to a hub or another switch. Current MDI/MDIX. This is the current MDI/MDIX status of the port. LA. This indicates if the port is part of a LAG. Storm Control.

You can enable or disable the port's Storm Control setting. PVE. For Gigabit Ethernet switches ONLY. When a port is a Private VLAN Edge (PVE) port, it bypasses the Forwarding Database and forwards all unicast, multicast, and broadcast traffic to an uplink, except for MAC-tome packets. Uplinks can be ports or LAGs. Click the Submit button to save your changes.

Chapter 5: Using the Web-based Utility for Configuration Switch Conf. (Configuration) Tab - Interface Conf. (Configuration) 27 WebView Switches Switch Conf. (Configuration) Tab - VLAN The VLAN screen displays subgroups of a LAN (Local Area Network).

Chose the Select VLAN ID or Show All option. If you chose to Select VLAN ID, chose the ID you wish to display from the drop-down menu. The following information is displayed: VLAN ID. This displays the VLAN ID number. Name.

This can be up to 32 alphanumeric characters long and identifies the name assigned to the VLAN. Type. Displayed here is the VLAN type: Dynamic (dynamically created), Static (created by user), or Default (the Switch has one default VLAN). Ports & LAGs. This shows the port of the column you selected or all of the ports with the following designations: Member: Indicates the port's membership status in the VLAN, which can be: S - Statistically included D - Dynamically included E - Excluded F - Forbidden Tagging: Indicates if the port is a tagged member with a T for "Tagged" or U for "Untagged".

To create a VLAN, click the Create icon on the far right of the screen. On the screen that appears, enter the VLAN ID as well as the VLAN name. Chose the port, as well as the Member and Tagging type. Then, click the Submit button. Figure 5-11: Switch Configuration - Create VLAN Figure 5-10: Switch Configuration - VLAN Chapter 5: Using the Web-based Utility for Configuration Switch Conf. (Configuration) Tab - VLAN 28 WebView Switches Switch Conf. (Configuration) Tab - VLAN Interface Settings The VLAN Interface Settings screen lets you define properties of the interfaces that are associated with VLANs. Interface. This is the physical address of the interface, Port or LAG. Interface VLAN Mode.

One of the following VLAN modes will appear · General - The port belongs to VLANs, and each VLAN is user-defined as tagged or untagged (full 802.1q mode). · Access - The port belongs to a single, untagged VLAN. When a port is in Access mode, the packet tapes accepted on the port cannot be designated. Ingress filtering cannot be enabled/disabled on an access port. · Trunk - The port belongs to VLANs in which all ports are tagged (except for one port that can be untagged). PVID. VLAN ID of untagged packets. Frame Type. Packet type accepted on the port, Admit All (all packets are accepted) or VLAN Only (only VLAN packets are accepted).

Ingress Filtering. Enables or disables Ingress filtering on the port. Ingress filtering discards packets that are destined to VLANs of which the specific port is not a member. To edit the interface settings for a particular VLAN, click the Edit icon, which resembles a pencil, for that interface. On the screen that appears, you can settings for that interface.

Click the Submit button when finished. Figure 5-12: Switch Configuration - VLAN Interface Settings Figure 5-13: Switch Configuration - edit VLAN Interface Settings Chapter 5: Using the Web-based Utility for Configuration Switch Conf. (Configuration) Tab - VLAN Interface Settings 29 WebView Switches Switch Conf. (Configuration) Tab - GVRP Parameters The name of this section is different depending on the type of Switch you are using. Gigabit Ethernet Switches show the GVRP Parameters screen.

Fast Ethernet Switches show the PVE Mapping screen NOTE: The GVRP Parameters screen applies to the SRW2048 model ONLY. GVRP Parameters - Gigabit Ethernet Switches ONLY GARP VLAN Registration Protocol (GVRP) is specifically provided for automatic distribution of VLAN membership information among VLAN-aware bridges. GVRP allows VLAN-aware bridges to automatically learn VLANs to bridge ports mapping, without having to individually configure each bridge and register VLAN membership. GVRP Global Status. This indicates if GVRP is enabled on the Switch. Interface. This dIsplays the interface/port on which GVRP is enabled. GVRP State. This indicates if GVRP is enabled on the interface. Dynamic VLAN Creation.

This indicates if Dynamic VLAN creation is enabled on the interface. GVRP Registration. This indicates if VLAN registration through GVRP is enabled on the interface. To modify a GVRP, click the Edit icon, which looks like a pencil. To apply changes made to a GVRP, click the Submit button. Figure 5-14: Switch Configuration - GVRP Parameters Switch Conf. (Configuration) Tab - PVE Mapping PVE Mapping performs the same functions on the Fast Ethernet Switch , as configuring a PVE uplink, using the interface screen on GE devices. Group ID. This indicates the Group mapped on the Switch. Group Members. This dIsplays the ports associated with this Group. PVE Uplink. This indicates the type of PVE uplink. To modify a PVE, click the Edit icon, which looks like a pencil. Figure 5-15: Switch Configuration - PVE Mapping Chapter 5: Using the Web-based Utility for Configuration Switch Conf. (Configuration) Tab - GVRP Parameters 30 WebView Switches Switch Conf. (Configuration) Tab - LAG Conf. (Configuration) The Switch supports up to eight Link Aggregated Groups (LAGs), which maximize port usage by linking a group of ports together to form a single group. LAGs multiply the bandwidth between the network devices, increase port flexibility, and provide link redundancy. The Switch's LAGs are listed on the LA Configuration screen, which also allows you to modify them.

LAG Port. This displays the LAG number. Name. This is the port name. Link State. Displayed here is the status of the link. Member. This shows the ports configured to the LAG. If you want to delete a current LAG, then select the LAG's X icon. To modify a LAG, click the LAG's Edit icon, which resembles a pencil.

On the new screen that appears, you can modify the LAG for each of the Switch's ports. Where many ports are present, you can scroll to the right on the screen to view the settings for further ports. LAG Port. This displays the LAG number. LAG Name. Complete the LAG Name field. Port. Select the ports you want to include in this LAG. LACP. Select the ports for which you want to enable the use of Link Aggregation Control Protocol (LACP).

Activity. If checked, indicates that the port is an active member of the LAG. If not checked, indicates that it is a LAG LAP candidate, but is not an active LAG member. Click the Submit button to save your changes. Figure 5-17: Switch Configuration - edit LAG Configuration Figure 5-16: Switch Configuration - LAG Configuration Chapter 5: Using the Web-based Utility for Configuration Switch Conf. (Configuration) Tab - LAG Conf. (Configuration) 31 WebView Switches Switch Conf. (Configuration) Tab - Port Mirroring The Port Mirroring screen lets you configure the Switch's port mirroring settings. Port mirroring can be used for diagnostics or debugging. It forwards copies of incoming and outgoing packets from one port to a monitoring port.

Port to be Mirrored. Select the port number from which port traffic is mirrored. Probe Port. Select the port number to which port traffic is copied.

Mode. Select the appropriate port mode configuration, RxOnly (receiving only), TxOnly (transmitting only), or Both (receiving and transmitting). Click the Submit button to save your changes. Your port mirroring sessions are listed in a table. Probe Port. This is the port number to which port traffic is copied.

Port To Be Mirrored. This is the port number from which port traffic is mirrored. Copy Direction. This displays the traffic direction(s) being monitored. Remove. If you want to delete a port mirroring session, click its Remove checkbox and the Remove button. Figure 5-18: Switch Configuration - Port Mirroring Chapter 5: Using the Web-based Utility for Configuration Switch Conf. (Configuration) Tab - Port Mirroring 32 WebView Switches Switch Conf. (Configuration) Tab - LACP The LACP screen allows you to enable the use of the Link Aggregation Control Protocol (LACP) on relevant links for LAGs. Listed on this screen are the LACP LAGs.

LACP System Priority (1 - 65535). Select the LACP priority value for the system. Then, click the Submit button. LACP information is displayed below, per port. Port.

This is the port number using LACP. Port Priority. This is the LACP priority value for the port. LACP Timeout. This is the administrative LACP timeout period, Short or Long.

Click the pencil-shaped Edit icon to modify settings for a port. A new screen will appear, displaying the available LACP settings. Port. Select the port you want. LACP Port Priority. Select the LACP priority value for the port. LACP Timeout. Select the LACP timeout period for this port, Short or Long. Click the Submit button to save your changes. Figure 5-19: Switch Configuration - LACP Figure 5-20: LACP - Change Settings Chapter 5: Using the Web-based Utility for Configuration Switch Conf.

(Configuration) Tab - LACP 33 WebView Switches Switch Conf. (Configuration) Tab - IGMP Snooping When IGMP Snooping is enabled globally, all IGMP packets are forwarded to the CPU. The CPU analyzes the incoming packets and determines: Which ports want to join which Multicast groups. Which ports have Multicast routers generating IGMP queries. What routing protocols are forwarding packets and Multicast traffic. Figure 5-21: Switch Configuration - IGMP Snooping Ports requesting to join a specific Multicast group issue an IGMP report, specifying that Multicast group is accepting members. This results in the creation of the Multicast filtering database. The IGMP Snooping page contains the following fields: Enable IGMP Snooping Status. When this box is checked, IGMP Snooping is enabled on the Switch. IGMP Snooping can be enabled only if Bridge Multicast Filtering is enabled.

VLAN ID. Specifies the VLAN ID. IGMP Snooping Status. Indicates if IGMP snooping is enabled or disabled on the VLAN. Enable Auto Learn. Indicates if Auto Learn is enabled or disabled on the Switch. If Auto Learn is enabled, the Switch automatically learns where other Multicast groups are located. Host Timeout. Indicates the amount of time host waits to receive a message before timing out. The default time is 260 seconds.

MRouter Timeout. Indicates the amount of the time the Multicast router waits to receive a message before it times out. The default value is 300 seconds. Leave Timeout. Indicates the amount of time the host waits, after requesting to leave the IGMP group and not receiving a Join message from another station, before timing out. If a Leave Timeout occurs, the Switch notifies the Multicast device to stop sending traffic The Leave Timeout value is either user-defined, or an immediate leave value. The default timeout is 10 seconds. Click the Edit icon, which looks like a pen, to edit any of the IGMP Snooping settings. Click the Submit button to activate any changed you made on this screen. Figure 5-22: Switch Configuration - Edit IGMP Snooping Chapter 5: Using the Web-based Utility for Configuration Switch Conf.

(Configuration) Tab - IGMP Snooping 34 WebView Switches Switch Conf. (Configuration) Tab - Bridge Multicast The Bridge Multicast screen displays the ports and LAGs attached to the Multicast service group. The Port and LAG tables reflect the manner in which the port or LAG joined the Multicast group. Ports can be added either to existing groups or to new Multicast service groups. From this screen, you can view the VLAN ID for each of the Switch's ports. Where many ports are present, you can scroll to the right on the screen to view the settings for further ports. Enable Bridge Multicast Filtering. Indicates if bridge Multicast filtering is enabled. If Multicast filtering is disabled, Multicast frames are flooded to all ports in the relevant VLAN. This is disabled by default.

VLAN ID. Identifies a VLAN and contains information about the Multicast group address. Bridge Multicast Address. Identifies the Multicast group IP or MAC address. Ports.

Displays Port that can be added to a Multicast service. LAGs. Displays LAGs that can be added to a Multicast service. Figure 5-23: Switch Configuration - Bridge Multicast The table on this screen displays the IGMP port and LAG members management settings: · D - The Port/LAG has joined the multicast group dynamically, · S - Attaches the port to the Multicast group as a static member. · F - Forbidden ports, which are not included in the multicast group, even if IGMP snooping designated the port to join a multicast group.

· Blank - The port/LAG is not attached to a multicast group. Figure 5-24: Switch Configuration - Edit Bridge Multicast To add a multicast group, use the Add Multicast Group screen, by clicking the Add icon at the end of the row. Chapter 5: Using the Web-based Utility for Configuration Switch Conf. (Configuration) Tab - Bridge Multicast 35 WebView Switches Switch Conf. (Configuration) Tab - Bridge Multicast Forward All The Bridge Multicast Forward All screen contains fields for attaching ports or LAGs to a switch that is attached to a neighboring Multicast router/switch. Once IGMP Snooping is enabled, Multicast packets are forwarded to the appropriate port or VLAN. VLAN ID. Displays the VLAN for which Multicast parameters are displayed. Ports. Ports that can be added to a Multicast service.

The table on this screen displays the IGMP port and LAG members management settings: · F - Forbidden ports, which are not included in the multicast group, even if IGMP snooping designated the port to join a multicast group. · S - Attaches the port to the Multicast group as a static member. · D - The Port/LAG has joined the multicast group dynamically. · Blank - The port/LAG is not attached to a multicast group. Figure 5-25: Switch Configuration Bridge Multicast Forward All Chapter 5: Using the Web-based Utility for Configuration Switch Conf. (Configuration) Tab - Bridge Multicast Forward All 36 WebView Switches QoS Tab - CoS Settings Quality of Service (QoS) allows you to implement priority queuing within a network, so different types of traffic are assigned different priority queues.

Class of Service (CoS) services are then assigned to the queues, using one of two methods, Strict Priority, for which time-sensitive applications are forwarded using the quickest path, or Weighted Round Robin (WRR), for which no single application dominates the forwarding capacity. The CoS Settings screen lets you enable or disable CoS for various ports. CoS Mode. This indicates whether CoS is enabled or disabled for the Switch.
Interface. This indicates the interface to be configured. Default CoS. This defines the default CoS queue for incoming untagged packets. Restore Defaults. To reset a port to its default value, select this checkbox. Click the Submit button to save your changes. Figure 5-26: QoS - CoS Settings Chapter 5: Using the Web-based Utility for Configuration QoS Tab - CoS Settings 37 WebView Switches QoS Tab - Queue Settings The Queue Settings screen lets you select the CoS method and assign bandwidth values for your queues. Queue. This is the queue number.
Scheduling Strict Priority. If you want traffic scheduling to be based on queue priority, then click this radio button. WRR. If you want to assign a WRR weight to a queue, then click this radio button. WRR Weight. If a queue uses WRR, then enter the WRR weight in this field. % of WRR Bandwidth. This is the percentage of bandwidth used by WRR. This automatically changes if you change the WRR Weight for a queue. Click the Submit button to save your changes.

Figure 5-27: QoS - Queue Settings QoS Tab - CoS to Queue The CoS to Queue screen lets you assign CoS settings to traffic queues. Class of Service. This specifies the CoS priority tag values (0 is the lowest and 7 is the highest). Queue. This indicates the traffic forwarding queue to which the CoS priority is mapped. You can designate up to four traffic priority queues. Restore Defaults. To restore the factory defaults for mapping CoS values to a forwarding queue, click this checkbox. Click the Submit button to save your changes. Figure 5-28: QoS - CoS to Queue Chapter 5: Using the Web-based Utility for Configuration QoS Tab - Queue Settings 38 WebView Switches QoS Tab - Bandwidth Use the Bandwidth Settings page to define the bandwidth settings for specified ingress and egress interface.
Modifying queue scheduling affects the queue settings globally. Port. Shows the port to which bandwidth settings are applied. Ingress Rate Limit. Defines the ingress Rate Limit on the interface.
· Status. Indicates if rate limiting is enabled on the interface. · Rate Limit. Configures the rate to which traffic is limited. The range is 70 - 285,000 kbps. Egress Shaping Rates. Determines the Committed Information Rate (CIR) and Committed Burst Size (CBS) on the interface. · Status. Indicates if rate limiting is enabled on the interface. · Committed Information Rate (CIR). Defines the CIR rate. The possible field range is 4096-1,000,000,000. Figure 5-29: QoS - Bandwidth · Committed burst Size (CbS). Defines the CBS rate. The possible field range is 4096-16,000,000.

To modify the settings on this screen, click the Edit icon, which resembles a pencil, to open the edit screen. NOTE: On FE Switches, the bandwidth rate cannot be limited if storm control is enabled. Figure 5-30: QoS - Edit Bandwidth Chapter 5: Using the Web-based Utility for Configuration QoS Tab - Bandwidth 39 WebView Switches Security Tab - Local Users/System Password This screen will appear as Local Users for those using a Gigabit Ethernet Switch and as System Password for those using a Fast Ethernet Switch. This screen allows you to change the password for the Switch. To modify a user's Password information, click the Edit icon next to the user's name to open the edit screen. From this screen, you can edit the following fields: User Name. This is the name of the administrator presently logged into the Switch's Web-based Utility. Password. Enter a new password here. Passwords can be no longer than 20 alphanumeric characters long.
Confirm Password. Re-enter the new password. Passwords can be no longer than 20 alphanumeric characters long. Click the Submit button to save your changes. To remove a user's password information, click the Remove icon, which appears as a red X, next to their name.
To create a user's password, click the pen and paper icon above the Edit and Remove icons and add the information as above. Figure 5-32: Security - Edit Local Users/System Password Figure 5-31: Security - Local Users/System Password Security Tab - 802.1x Users The 802.1x Users screen allows you to enable port-based authentication and specify the authentication method you want to use. Port Based Network Access Control.
Enable or disable port-based network access on the Switch. Authentication Method. Select the authentication method you want to use, RADIUS, None; RADIUS; or None. For the RADIUS, None method, port authentication is performed first via RADIUS (Remote Authentication Dial In User Service). If the RADIUS server cannot be reached, then no authentication method is used. However, if a failure occurs, the port remains unauthorized and access is not granted. If you want the authentication to occur at the RADIUS server, select RADIUS. If you do not want to use an authentication method, then select None. Click the Submit button to save your changes. Figure 5-33: Security - 802.

1x Users Chapter 5: Using the Web-based Utility for Configuration Security Tab - Local Users/System Password 40 WebView Switches Security Tab - 802.1x Port Conf. (Configuration) The 802.1x Port Configuration screen lists the Switch's 802.1x ports and allows you to configure the authentication settings per port. This authentication method uses a RADIUS server and the Extensible Authentication Protocol (EAP). Port. This is the port name. Admin Port Control. This is the state of the port authorization.
Traffic is forwarded if the state is forceAuthorized. Traffic is discarded if the state is forceUnauthorized. If the state is Auto, then that means the controlled port state is set by the authentication method. Enable Periodic Reauthentication. True indicates that reauthentication is automatic, while False indicates that reauthentication is manual.
Reauthentication Period. This is the number of seconds that the Switch waits before initiating the reauthentication process. Quiet Period. This is the number of seconds the Switch remains in the quiet state after an authentication exchange has failed. Resending EAP.
This is the number of seconds the Switch waits for a response to an EAP request/identity frame, before resending the request. Max EAP Requests. This is the total number of EAP requests sent. If a response is not received in time, the authentication process is restarted. Supplicant Timeout (sec). This is the number of seconds that the Switch waits before EAP requests are resent to the client. Server Timeout (sec). This is the number of seconds that the Switch waits before it resends a request to the RADIUS server. Figure 5-34: Security - 802.