



Installation and Configuration Guide for the CiscoWorks Wireless LAN Solution Engine

Release 2.0

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Cisco 90-Day Limited Hardware Warranty Terms

There are special terms applicable to your hardware warranty and various services that you can use during the warranty period. Your formal Warranty Statement, including the warranty applicable to Cisco software, is included on the CD that accompanies your Cisco product. Follow these steps to access and download the *Cisco Information Packet* and your warranty document from the CD or from Cisco.com.

1. Launch your browser, and go to this URL:

http://www.cisco.com/univercd/cc/td/doc/es_inpk/cetrans.htm

The Warranties and License Agreements page appears.

2. To read the *Cisco Information Packet*, follow these steps:
 - a. Click the **Information Packet Number** field, and make sure that the part number 78-5235-02F0 is highlighted.
 - b. Select the language in which you would like to read the document.
 - c. Click **Go**.

The Cisco Limited Warranty and Software License page from the Information Packet appears.

- d. Read the document online, or click the **PDF** icon to download and print the document in Adobe Portable Document Format (PDF).



Note You must have Adobe Acrobat Reader to view and print PDF files. You can download the reader from Adobe's website: <http://www.adobe.com>

3. To read translated and localized warranty information about your product, follow these steps:
 - a. Enter this part number in the Warranty Document Number field:
78-5236-01C0
 - b. Select the language in which you would like to read the document.
 - c. Click **Go**.
The Cisco warranty page appears.
 - d. Review the document online, or click the **PDF** icon to download and print the document in Adobe Portable Document Format (PDF).

You can also contact the Cisco service and support website for assistance:

http://www.cisco.com/public/Support_root.shtml.

Duration of Hardware Warranty

Ninety (90) days.

Replacement, Repair, or Refund Policy for Hardware

Cisco or its service center will use commercially reasonable efforts to ship a replacement part within ten (10) working days after receipt of a Return Materials Authorization (RMA) request. Actual delivery times can vary, depending on the customer location.

Cisco reserves the right to refund the purchase price as its exclusive warranty remedy.

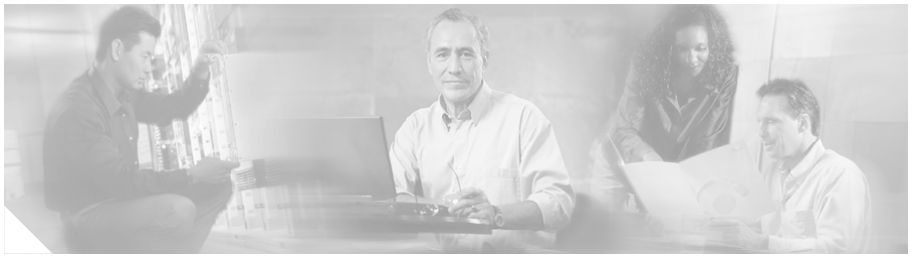
To Receive a Return Materials Authorization (RMA) Number

Contact the company from whom you purchased the product. If you purchased the product directly from Cisco, contact your Cisco Sales and Service Representative.

Complete the information below, and keep it for reference:

Company product purchased from	
Company telephone number	
Product model number	
Product serial number	
Maintenance contract number	





Preface

This guide describes how to install the CiscoWorks 1130 Wireless LAN Solution Engine (WLSE). It also describes configuration and maintenance tasks for the CiscoWorks 1105 and CiscoWorks 1130 WLSEs and provides technical specifications for the CiscoWorks 1130 WLSE.

This guide consists of the following chapters and appendixes:

- [Cisco 90-Day Limited Hardware Warranty Terms](#)
- [Preface](#)
- [Product Overview](#)
- [Installing the CiscoWorks 1130 Wireless LAN Solution Engine](#)
- [Configuring the Wireless LAN Solution Engine](#)
- [Administering the Wireless LAN Solution Engine](#)
- [Troubleshooting](#)
- [Using CLI Commands](#)
- [Technical Specifications](#)

Audience

This guide is intended primarily for system administrators who are responsible for installing and configuring internetworking equipment, and are familiar with Cisco IOS software.



Warning

Only trained and qualified personnel should be allowed to install, replace, or service this equipment.

Conventions

This document uses the following conventions:

Item	Convention
Commands and keywords	boldface font
Variables for which you supply values	<i>italic font</i>
Displayed session and system information	screen font
Information you enter	boldface screen font
Variables you enter	<i>italic screen font</i>
Menu items and button names	boldface font
Selecting a menu item in paragraphs	Option > Network Preferences



Note

Means *reader take note*. Notes contain helpful suggestions or references to material not covered in the publication.



Caution

Means *reader be careful*. In this situation, you might do something that could result in equipment damage or loss of data.

**Warning****IMPORTANT SAFETY INSTRUCTIONS**

This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. To see translations of the warnings that appear in this publication, refer to the translated safety warnings that accompanied this device.

Note: SAVE THESE INSTRUCTIONS

Note: This documentation is to be used in conjunction with the specific product installation guide that shipped with the product. Please refer to the Installation Guide, Configuration Guide, or other enclosed additional documentation for further details.

Waarschuwing**BELANGRIJKE VEILIGHEIDSINSTRUCTIES**

Dit waarschuwingssymbool betekent gevaar. U verkeert in een situatie die lichamelijk letsel kan veroorzaken. Voordat u aan enige apparatuur gaat werken, dient u zich bewust te zijn van de bij elektrische schakelingen betrokken risico's en dient u op de hoogte te zijn van de standaard praktijken om ongelukken te voorkomen. Voor een vertaling van de waarschuwingen die in deze publicatie verschijnen, dient u de vertaalde veiligheidswaarschuwingen te raadplegen die bij dit apparaat worden geleverd.

Opmerking BEWAAR DEZE INSTRUCTIES.

Opmerking Deze documentatie dient gebruikt te worden in combinatie met de installatiehandleiding voor het specifieke product die bij het product wordt geleverd. Raadpleeg de installatiehandleiding, configuratiehandleiding of andere verdere ingesloten documentatie voor meer informatie.

Varoitus TÄRKEITÄ TURVALLISUUTEEN LIITTYVIÄ OHJEITA

Tämä varoitusmerkki merkitsee vaaraa. Olet tilanteessa, joka voi johtaa ruumiinvammaan. Ennen kuin työskentelet minkään laitteiston parissa, ota selvää sähkökytkentöihin liittyvistä vaaroista ja tavanomaisista onnettomuuksien ehkäisykeinoista. Tässä asiakirjassa esitettyjen varoitusten käännökset löydät laitteen mukana toimitetuista ohjeista.

Huomautus SÄILYTÄ NÄMÄ OHJEET

Huomautus Tämä asiakirja on tarkoitettu käytettäväksi yhdessä tuotteen mukana tulleen asennusoppaan kanssa. Katso lisätietoja asennusoppaasta, kokoonpano-oppaasta ja muista mukana toimitetuista asiakirjoista.

Attention IMPORTANTES INFORMATIONS DE SÉCURITÉ

Ce symbole d'avertissement indique un danger. Vous vous trouvez dans une situation pouvant causer des blessures ou des dommages corporels. Avant de travailler sur un équipement, soyez conscient des dangers posés par les circuits électriques et familiarisez-vous avec les procédures couramment utilisées pour éviter les accidents. Pour prendre connaissance des traductions d'avertissements figurant dans cette publication, consultez les consignes de sécurité traduites qui accompagnent cet appareil.

Remarque CONSERVEZ CES INFORMATIONS

Remarque Cette documentation doit être utilisée avec le guide spécifique d'installation du produit qui accompagne ce dernier. Veuillez vous reporter au Guide d'installation, au Guide de configuration, ou à toute autre documentation jointe pour de plus amples renseignements.

Warnung WICHTIGE SICHERHEITSANWEISUNGEN

Dieses Warnsymbol bedeutet Gefahr. Sie befinden sich in einer Situation, die zu einer Körperverletzung führen könnte. Bevor Sie mit der Arbeit an irgendeinem Gerät beginnen, seien Sie sich der mit elektrischen Stromkreisen verbundenen Gefahren und der Standardpraktiken zur Vermeidung von Unfällen bewusst. Übersetzungen der in dieser Veröffentlichung enthaltenen Warnhinweise sind im Lieferumfang des Geräts enthalten.

Hinweis BEWAHREN SIE DIESE SICHERHEITSANWEISUNGEN AUF

Hinweis Dieses Handbuch ist zum Gebrauch in Verbindung mit dem Installationshandbuch für Ihr Gerät bestimmt, das dem Gerät beiliegt. Entnehmen Sie bitte alle weiteren Informationen dem Handbuch (Installations- oder Konfigurationshandbuch o. Ä.) für Ihr spezifisches Gerät.

Figyelem! FONTOS BIZTONSÁGI ELŐÍRÁSOK

Ez a figyelmeztető jel veszélyre utal. Sérülésveszélyt rejtő helyzetben van. Mielőtt bármely berendezésen munkát végezte, legyen figyelemmel az elektromos áramkörök okozta kockázatokra, és ismerkedjen meg a szokásos balesetvédelmi eljárásokkal. A kiadványban szereplő figyelmeztetések fordítása a készülékhez mellékelt biztonsági figyelmeztetések között található.

Megjegyzés ŐRIZZE MEG EZEKET AZ UTASÍTÁSOKAT!

Megjegyzés Ezt a dokumentációt a készülékhez mellékelt üzembe helyezési útmutatóval együtt kell használni. További tudnivalók a mellékelt Üzembe helyezési útmutatóban (Installation Guide), Konfigurációs útmutatóban (Configuration Guide) vagy más dokumentumban található.

Avvertenza IMPORTANTI ISTRUZIONI SULLA SICUREZZA

Questo simbolo di avvertenza indica un pericolo. La situazione potrebbe causare infortuni alle persone. Prima di intervenire su qualsiasi apparecchiatura, occorre essere al corrente dei pericoli relativi ai circuiti elettrici e conoscere le procedure standard per la prevenzione di incidenti. Per le traduzioni delle avvertenze riportate in questo documento, vedere le avvertenze di sicurezza che accompagnano questo dispositivo.

Nota CONSERVARE QUESTE ISTRUZIONI

Nota La presente documentazione va usata congiuntamente alla guida di installazione specifica spedita con il prodotto. Per maggiori informazioni, consultare la Guida all'installazione, la Guida alla configurazione o altra documentazione acclusa.

Advarsel VIKTIGE SIKKERHETSINSTRUKSJONER

Dette varselssymbolet betyr fare. Du befinner deg i en situasjon som kan forårsake personskaade. Før du utfører arbeid med utstyret, bør du være oppmerksom på farene som er forbundet med elektriske kretssystemer, og du bør være kjent med vanlig praksis for å unngå ulykker. For å se oversettelser av advarslene i denne publikasjonen, se de oversatte sikkerhetsvarslene som følger med denne enheten.

Merk TA VARE PÅ DISSE INSTRUKSJONENE

Merk Denne dokumentasjonen skal brukes i forbindelse med den spesifikke installasjonsveiledningen som fulgte med produktet. Vennligst se installasjonsveiledningen, konfigureringsveiledningen eller annen vedlagt tilleggsdokumentasjon for detaljer.

Aviso INSTRUÇÕES IMPORTANTES DE SEGURANÇA

Este símbolo de aviso significa perigo. O utilizador encontra-se numa situação que poderá ser causadora de lesões corporais. Antes de iniciar a utilização de qualquer equipamento, tenha em atenção os perigos envolvidos no manuseamento de circuitos eléctricos e familiarize-se com as práticas habituais de prevenção de acidentes. Para ver traduções dos avisos incluídos nesta publicação, consulte os avisos de segurança traduzidos que acompanham este dispositivo.

Nota GUARDE ESTAS INSTRUÇÕES

Nota Esta documentação destina-se a ser utilizada em conjunto com o manual de instalação incluído com o produto específico. Consulte o manual de instalação, o manual de configuração ou outra documentação adicional inclusa, para obter mais informações.

¡Advertencia! INSTRUCCIONES IMPORTANTES DE SEGURIDAD

Este símbolo de aviso indica peligro. Existe riesgo para su integridad física. Antes de manipular cualquier equipo, considere los riesgos de la corriente eléctrica y familiarícese con los procedimientos estándar de prevención de accidentes. Vea las traducciones de las advertencias que acompañan a este dispositivo.

Nota GUARDE ESTAS INSTRUCCIONES

Nota Esta documentación está pensada para ser utilizada con la guía de instalación del producto que lo acompaña. Si necesita más detalles, consulte la Guía de instalación, la Guía de configuración o cualquier documentación adicional adjunta.

Varning! VIKTIGA SÄKERHETSANVISNINGAR

Denna varningssignal signalerar fara. Du befinner dig i en situation som kan leda till personskada. Innan du utför arbete på någon utrustning måste du vara medveten om farorna med elkretsar och känna till vanliga förfaranden för att förebygga olyckor. Se översättningarna av de varningsmeddelanden som finns i denna publikation, och se de översatta säkerhetsvarningarna som medföljer denna anordning.

OBS! SPARA DESSA ANVISNINGAR

OBS! Denna dokumentation ska användas i samband med den specifika produktinstallationshandbok som medföljde produkten. Se installationshandboken, konfigurationshandboken eller annan bifogad ytterligare dokumentation för närmare detaljer.

Предупреждение ВАЖНЫЕ СВЕДЕНИЯ ПО БЕЗОПАСНОСТИ

Этот символ предупреждает о наличии опасности. При неправильных действиях возможно получение травм. Перед началом работы с любым оборудованием необходимо ознакомиться с ситуациями, в которых возможно поражение электротоком, и со стандартными действиями для предотвращения несчастных случаев. Переведенный текст предупреждений содержится в соответствующем документе, поставляемом вместе с устройством.

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警告 有关安全的重要说明

这个警告符号指有危险。您所处的环境可能使身体受伤。操作设备前必须意识到电流的危险性，务必熟悉操作标准，以防发生事故。如果需要了解本说明中出现的警告符号的译文，请参阅本装置所附之安全警告译文。

注意 保存这些说明

注意 本文件应与本产品附带的特定安装说明一并阅读。如欲了解详情，请参阅《安装说明》、《配置说明》或所附的其他文件。

警告 安全上の重要な注意事項

「危険」の意味です。人身事故を予防するための注意事項が記述されています。装置の取り扱い作業を行うときは、電気回路の危険性に注意し、一般的な事故防止対策に留意してください。このマニュアルに記載されている警告の各国語版は、装置に付属の「Translated Safety Warnings」を参照してください。

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Product Documentation

**Note**

We sometimes update the printed and electronic documentation after original publication. Therefore, you should review the documentation on Cisco.com for any updates.

On Cisco.com, WLSE documentation is located at **Products and Services > Network Management CiscoWorks > CiscoWorks Wireless LAN Solution Engine**.

You can access WLSE online help by clicking the **Help** button in the top right corner of the screen or by selecting an option and then clicking the **Help** button. You can access the user guide from the online help by clicking **View PDF**.

The following product documentation is available for the WLSE:

Document Title	Description
<i>Release Notes for the CiscoWorks Wireless LAN Solution Engine</i>	<p>Describes new features, documentation updates, known and resolved problems, information on obtaining documentation, and information on obtaining technical assistance. Available in the following formats:</p> <ul style="list-style-type: none"> • On Cisco.com at Products and Services > Network Management CiscoWorks > CiscoWorks Wireless LAN Solution Engine > Technical Documentation. • PDF on the WLSE Recovery CD.
<i>User Guide for the CiscoWorks Wireless LAN Solution Engine</i>	<p>Describes WLSE features and provides instructions for using it. Available in the following formats:</p> <ul style="list-style-type: none"> • From the WLSE online help. • PDF on the WLSE Recovery CD-ROM. • On Cisco.com at Products and Services > Network Management CiscoWorks > CiscoWorks Wireless LAN Solution Engine > Technical Documentation. • Printed document available by order.
Supported Device Table for the Wireless LAN Solution Engine	<p>Lists devices supported at the time the product was released. Available on Cisco.com at Products and Services > Network Management CiscoWorks > CiscoWorks Wireless LAN Solution Engine > Technical Documentation.</p>
<i>Troubleshooting and FAQs for the CiscoWorks Wireless LAN Solution Engine</i>	<p>Contains troubleshooting hints WLSE and FAQs for the WLSE. Available on Cisco.com at Products and Services > Network Management CiscoWorks > CiscoWorks Wireless LAN Solution Engine > Alerts and Troubleshooting.</p>

Document Title	Description
<i>Installation and Configuration Guide for the CiscoWorks Wireless LAN Solution Engine</i>	<p>Describes how to install and configure the WLSE. Available in the following formats:</p> <ul style="list-style-type: none"> • PDF on the WLSE Recovery CD-ROM. • On Cisco.com at Products and Services > Network Management CiscoWorks > CiscoWorks Wireless LAN Solution Engine > Technical Documentation. • Printed document available by order.
<i>Quick Start Guide for the CiscoWorks 1130 Wireless LAN Solution Engine</i>	<p>Helps you get the WLSE installed and ready to use as quickly as possible. Available in the following formats:</p> <ul style="list-style-type: none"> • Printed document shipped with the WLSE. • PDF on the WLSE Recovery CD-ROM. • On Cisco.com at Products and Services > Network Management CiscoWorks > CiscoWorks Wireless LAN Solution Engine > Technical Documentation.
<i>Regulatory Compliance and Safety Information for the CiscoWorks 1130 Wireless LAN Solution Engine</i>	<p>Provides regulatory compliance and safety information for the WLSE. Available in the following formats:</p> <ul style="list-style-type: none"> • Printed document shipped with the WLSE. • PDF on the WLSE Recovery CD-ROM. • On Cisco.com at Products and Services > Network Management CiscoWorks > CiscoWorks Wireless LAN Solution Engine > Product Literature.

Document Title	Description
<i>Integrating Cisco Applications with CiscoWorks Management Connection</i>	Provides information about adding a link to the WLSE from a CiscoWorks server's navigation tree. On Cisco.com at Products and Services > Network Management CiscoWorks > CiscoWorks Wireless LAN Solution Engine > Technical Documentation.
<i>Developer Guide for the CiscoWorks Wireless LAN Solution Engine</i>	Development information for the WLSE's XML application programming interface (API). On Cisco.com at Products and Services > Network Management CiscoWorks > CiscoWorks Wireless LAN Solution Engine > Technical Documentation.

Obtaining Documentation

Cisco provides several ways to obtain documentation, technical assistance, and other technical resources. These sections explain how to obtain technical information from Cisco Systems.

Cisco.com

You can access the most current Cisco documentation on the World Wide Web at this URL:

<http://www.cisco.com/univercd/home/home.htm>

You can access the Cisco website at this URL:

<http://www.cisco.com>

International Cisco web sites can be accessed from this URL:

http://www.cisco.com/public/countries_languages.shtml

Documentation CD-ROM

Cisco documentation and additional literature are available in a Cisco Documentation CD-ROM package, which may have shipped with your product. The Documentation CD-ROM is updated monthly and may be more current than printed documentation. The CD-ROM package is available as a single unit or through an annual subscription.

Registered Cisco.com users can order the Documentation CD-ROM (product number DOC-CONDOCCD=) through the online Subscription Store:

<http://www.cisco.com/go/subscription>

Ordering Documentation

You can find instructions for ordering documentation at this URL:

http://www.cisco.com/univercd/cc/td/doc/es_inpk/pdi.htm

You can order Cisco documentation in these ways:

- Registered Cisco.com users (Cisco direct customers) can order Cisco product documentation from the Networking Products MarketPlace:
<http://www.cisco.com/en/US/partner/ordering/index.shtml>
- Registered Cisco.com users can order the Documentation CD-ROM (Customer Order Number DOC-CONDOCCD=) through the online Subscription Store:
<http://www.cisco.com/go/subscription>
- Nonregistered Cisco.com users can order documentation through a local account representative by calling Cisco Systems Corporate Headquarters (California, U.S.A.) at 408 526-7208 or, elsewhere in North America, by calling 800 553-NETS (6387).

Documentation Feedback

You can email your comments to bug-doc@cisco.com.

You can submit your comments by mail by using the response card behind the front cover of your document or by writing to the following address:

Cisco Systems
Attn: Customer Document Ordering
170 West Tasman Drive
San Jose, CA 95134-9883

We appreciate your comments.

Obtaining Technical Assistance

Cisco provides Cisco.com, which includes the Cisco Technical Assistance Center (TAC) Website, as a starting point for all technical assistance. Customers and partners can obtain online documentation, troubleshooting tips, and sample configurations from the Cisco TAC website. Cisco.com registered users have complete access to the technical support resources on the Cisco TAC website, including TAC tools and utilities.

Cisco.com

Cisco.com offers a suite of interactive, networked services that let you access Cisco information, networking solutions, services, programs, and resources at any time, from anywhere in the world.

Cisco.com provides a broad range of features and services to help you with these tasks:

- Streamline business processes and improve productivity
- Resolve technical issues with online support
- Download and test software packages
- Order Cisco learning materials and merchandise
- Register for online skill assessment, training, and certification programs

To obtain customized information and service, you can self-register on Cisco.com at this URL:

<http://www.cisco.com>

Technical Assistance Center

The Cisco TAC is available to all customers who need technical assistance with a Cisco product, technology, or solution. Two levels of support are available: the Cisco TAC website and the Cisco TAC Escalation Center. The avenue of support that you choose depends on the priority of the problem and the conditions stated in service contracts, when applicable.

We categorize Cisco TAC inquiries according to urgency:

- Priority level 4 (P4)—You need information or assistance concerning Cisco product capabilities, product installation, or basic product configuration.
- Priority level 3 (P3)—Your network performance is degraded. Network functionality is noticeably impaired, but most business operations continue.
- Priority level 2 (P2)—Your production network is severely degraded, affecting significant aspects of business operations. No workaround is available.
- Priority level 1 (P1)—Your production network is down, and a critical impact to business operations will occur if service is not restored quickly. No workaround is available.

Cisco TAC Website

You can use the Cisco TAC website to resolve P3 and P4 issues yourself, saving both cost and time. The site provides around-the-clock access to online tools, knowledge bases, and software. To access the Cisco TAC website, go to this URL:

<http://www.cisco.com/tac>

All customers, partners, and resellers who have a valid Cisco service contract have complete access to the technical support resources on the Cisco TAC website. Some services on the Cisco TAC website require a Cisco.com login ID and password. If you have a valid service contract but do not have a login ID or password, go to this URL to register:

<http://tools.cisco.com/RPF/register/register.do>

If you are a Cisco.com registered user, and you cannot resolve your technical issues by using the Cisco TAC website, you can open a case online at this URL:

<http://www.cisco.com/en/US/support/index.html>

If you have Internet access, we recommend that you open P3 and P4 cases through the Cisco TAC website so that you can describe the situation in your own words and attach any necessary files.

Cisco TAC Escalation Center

The Cisco TAC Escalation Center addresses priority level 1 or priority level 2 issues. These classifications are assigned when severe network degradation significantly impacts business operations. When you contact the TAC Escalation Center with a P1 or P2 problem, a Cisco TAC engineer automatically opens a case.

To obtain a directory of toll-free Cisco TAC telephone numbers for your country, go to this URL:

<http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml>

Before calling, please check with your network operations center to determine the level of Cisco support services to which your company is entitled: for example, SMARTnet, SMARTnet Onsite, or Network Supported Accounts (NSA). When you call the center, please have available your service agreement number and your product serial number.

Obtaining Additional Publications and Information

Information about Cisco products, technologies, and network solutions is available from various online and printed sources.

- The *Cisco Product Catalog* describes the networking products offered by Cisco Systems as well as ordering and customer support services. Access the *Cisco Product Catalog* at this URL:

http://www.cisco.com/en/US/products/products_catalog_links_launch.html

- Cisco Press publishes a wide range of networking publications. Cisco suggests these titles for new and experienced users: *Internetworking Terms and Acronyms Dictionary*, *Internetworking Technology Handbook*,

Internetworking Troubleshooting Guide, and the *Internetworking Design Guide*. For current Cisco Press titles and other information, go to Cisco Press online at this URL:

<http://www.ciscopress.com>

- *Packet* magazine is the Cisco monthly periodical that provides industry professionals with the latest information about the field of networking. You can access *Packet* magazine at this URL:

http://www.cisco.com/en/US/about/ac123/ac114/about_cisco_packet_magazine.html

- *iQ Magazine* is the Cisco monthly periodical that provides business leaders and decision makers with the latest information about the networking industry. You can access *iQ Magazine* at this URL:

http://business.cisco.com/prod/tree.taf%3fasset_id=44699&public_view=true&kbns=1.html

- *Internet Protocol Journal* is a quarterly journal published by Cisco Systems for engineering professionals involved in the design, development, and operation of public and private internets and intranets. You can access the *Internet Protocol Journal* at this URL:

http://www.cisco.com/en/US/about/ac123/ac147/about_cisco_the_internet_protocol_journal.html

- Training—Cisco offers world-class networking training, with current offerings in network training listed at this URL:

http://www.cisco.com/en/US/learning/le31/learning_recommended_training_list.html



Product Overview

The Wireless LAN Solution Engine (WLSE) is a rack-mountable appliance for configuring and managing Cisco wireless devices. This chapter describes the software and hardware features of the WLSE.



Note

For translated safety warnings and regulatory compliance information, see the document titled *Regulatory Compliance and Safety Information for the CiscoWorks Wireless LAN Solution Engine*.

Software Features

The WLSE has the following major features:

- Configuration—Allows you to apply configuration changes to access points.
- Fault and policy monitoring—Monitors device fault and performance conditions, LEAP server responses, and policy misconfigurations.
- Reporting—Allows you to track device, client and security information. You can email, print, and export reports.
- Firmware—Allows you to upgrade the firmware on access points and bridges.

The WLSE has two user interfaces:

- The Command Line Interface (CLI), which you access by attaching a console to the WLSE or using Telnet. For information on all the CLI commands, see [Appendix B, “Using CLI Commands.”](#)
- The Web interface provides access to all device management tasks and most of the management tasks for the WLSE system. For information on using the Web interface, see the WLSE online help or the *User Guide for the Wireless LAN Solution Engine*.

Hardware Features—CiscoWorks 1130 Wireless LAN Solution Engine

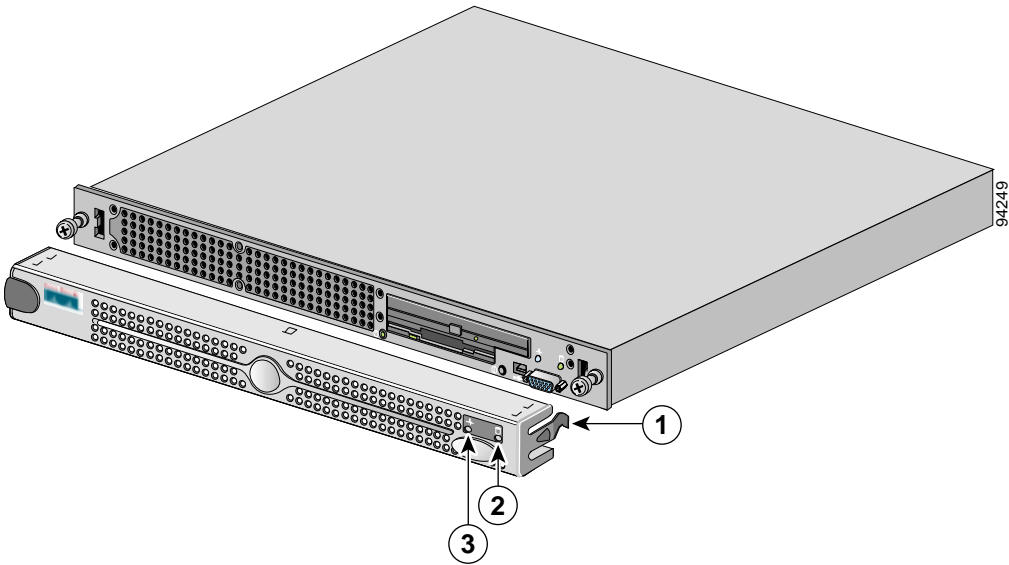
This section describes the WLSE 1130’s bezel, front panel, and back panel.

Bezel Features

The bezel, shown in [Figure 1-1](#), covers the front panel and has two Ethernet indicators, a system status indicator, and a hard drive indicator. For more information about the indicators, see [Table 1-1](#).

To remove the bezel, press the tab on each end and lift it from the chassis.

Figure 1-1 Bezel Features



1	Bezel latches	3	Blue/amber status indicator
2	Hard drive indicator		

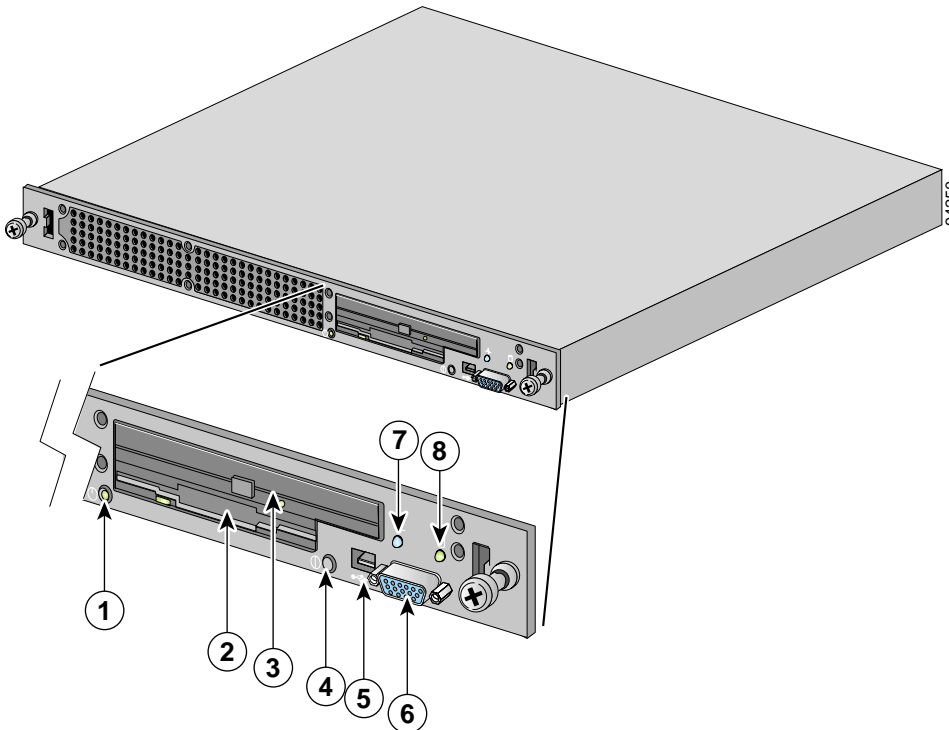
Front Panel Features

Figure 1-2 shows the front-panel features. Some features are not visible when the bezel is attached.

To access the front panel, remove the bezel by pressing the tabs on each end and lifting it from the chassis.

To reinstall the bezel, insert the tabs on each end into the flanges on each side of the chassis.

Figure 1-2 Front Panel Features



1	Power button/indicator	5	USB connector
2	Diskette drive	6	Video connector
3	CD drive	7	Blue/amber system status indicator
4	System identification button	8	Hard drive indicator

System Indicators and Buttons

When troubleshooting your WLSE, you might need to check the status of the indicator lights on the front panel or bezel (see [Figure 1-1](#) and [Figure 1-2](#)). The appearance and function of these lights are described in [Table 1-1](#).

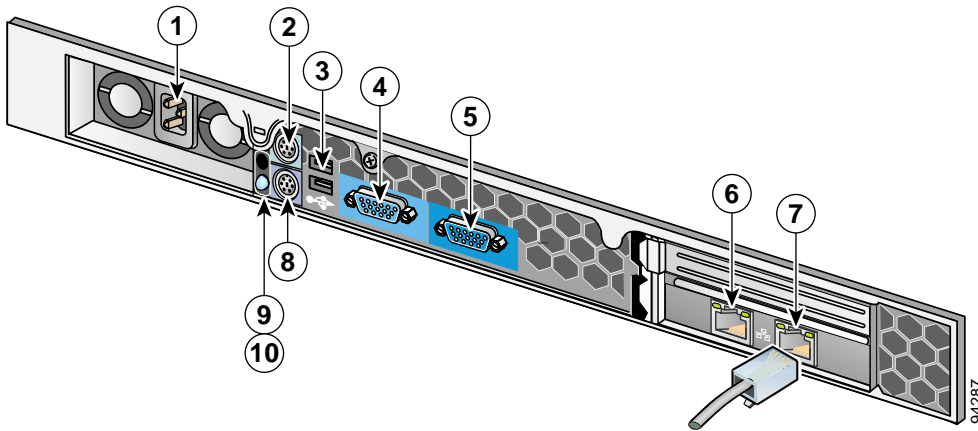
Table 1-1 Front-Panel System Indicators and Buttons

Indicator or Button	Color	Function
Power button and power indicator	Green	<p>The power button controls power input to the power supply. The indicator in the center of the power button indicates whether the WLSE is powered on.</p> <p>If the indicator is flashing, AC power is connected to the WLSE, but the WLSE is not powered on.</p> <p>If the indicator is not on, AC power is not connected.</p> <p>The bezel contains a duplicate of the power indicator.</p>
System identification button(s)	Blue	<p>The system identification button on the front and back panels can be used to locate a particular system in the rack. When you push the system identification button, the blue indicators will flash.</p> <p>This button is not visible with the bezel attached.</p>
System status indicator	Blue or amber	<p>Lights up during normal system operation.</p> <p>If the indicator is amber flashing, the WLSE has a fault.</p> <p>This indicator is not visible with the bezel attached.</p>
Hard drive indicator	Green	<p>Flashes when the hard drives are in use.</p> <p>The bezel contains a duplicate of this indicator.</p>

Back Panel Features

The back panel contains the AC power receptacle, keyboard connector, USB connectors, Ethernet connectors, serial port, video connector, mouse connector, system status indicator, and system identification button. Figure 1-3 shows the back-panel features. The functions of the system status indicator and system identification button are described in [Table 1-1](#).

Figure 1-3 Back Panel Features



1	AC power receptacle	6	Ethernet 1 connector (labeled "B")
2	Keyboard connector	7	Ethernet 0 connector (labeled "A")
3	USB connectors (2)	8	Mouse connector
4	Serial connector	9	Blue/amber system status indicator
5	Video connector	10	System identification button

Serial Port

The serial port on the back panel uses a 9-pin D-subminiature connector, and is used as the console port. Terminal settings for this port are:

Table 1-2 Serial Port Settings

Parameter	Setting
Baud rate	9600
Data bits	8
Parity	None
Stop bits	1

If you reconfigure your hardware, you may need the serial port pin number and signal information. Figure 1-4 illustrates the pin numbers and Table 1-3 defines the pin assignments and interface signals.

Figure 1-4 Pin Numbers for the Serial Port Connector

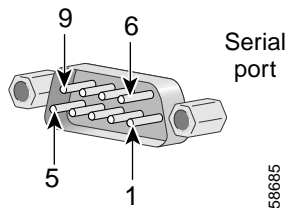


Table 1-3 Serial Port Pin Assignments

Pin	Signal	I/O	Definition
1	DCD	I	Data carrier detect
2	SIN	I	Serial input
3	SOUT	O	Serial output
4	DTR	O	Data terminal ready
5	GND	N/A	Signal ground
6	DSR	I	Data set ready
7	RTS	O	Request to send
8	CTS	I	Clear to send
9	RI	I	Ring indicator
Shell	N/A	N/A	Chassis ground

Ethernet Connectors

The WLSE has integrated 10/100/1000–megabit-per-second (Mbps) Ethernet connectors. Each Ethernet connector provides all the functions of a network expansion card and supports 10BASE-T, 100BASE-TX, and 1000BASE-T Ethernet standards.

**Warning**

To avoid electric shock, do not connect safety extra-low voltage (SELV) circuits to telephone-network voltage (TNV) circuits. LAN ports contain SELV circuits, and WAN ports contain TNV circuits. Some LAN and WAN ports both use RJ-45 connectors. Use caution when connecting cables.

Network Cable Requirements

The Ethernet connectors are designed for attaching an unshielded twisted pair (UTP) Ethernet cable equipped with standard RJ-45 compatible plugs. Press one end of the UTP cable into the Ethernet connector until the plug snaps securely into place. Connect the other end of the cable to an RJ-45 jack wall plate or to an RJ-45 port on a UTP concentrator or hub, depending on your network configuration. Observe the following cabling restrictions for 10BASE-T, 100BASE-TX, and 1000BASE-T networks:

- For 10BASE-T networks, use Category 3 or greater wiring and connectors.
- For 100BASE-TX and 1000 BASE-T networks, use Category 5 or greater wiring and connectors.
- The maximum cable run length (from a workstation to a concentrator) is 328 feet (ft) or 100 meters (m).
- For 10BASE-T networks, the maximum number of daisy-chained concentrators on one network segment is four.

**Note**

To avoid line interference, put voice and data lines in separate sheaths.



Installing the CiscoWorks 1130 Wireless LAN Solution Engine

This chapter describes how to install and configure the CiscoWorks 1130 Wireless LAN Solution Engine (WLSE). The chapter contains the following sections:

- [Preparing for Installation, page 2-2](#)
- [Installation Quick Reference, page 2-12](#)
- [Installing the CiscoWorks 1130 Wireless LAN Solution Engine, page 2-12](#)
- [Connecting the WLSE to the AC Power Source, page 2-19](#)
- [Connecting Cables, page 2-19](#)
- [Powering On the WLSE, page 2-20](#)

Preparing for Installation

This section describes the safety instructions and site requirements for installing the WLSE, and guides you through the installation and initial configuration.

Safety

This section provides safety information for installing this product.

Warnings and Cautions

Read the installation instructions in this document before you connect the system to its power source. Failure to read and follow these guidelines could lead to an unsuccessful installation and possible damage to the system and components.

You should observe the following safety guidelines when working with any equipment that connects to electrical power or telephone wiring. They can help you avoid injuring yourself and damaging the WLSE.

The following warnings and cautions are provided to help you prevent damage to the devices or injury to yourself:



Warning

This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. To see translations of the warnings that appear in this publication, refer to the Regulatory Compliance and Safety Information document that accompanied this device.



Warning

Read the installation instructions before you connect the system to its power source.



Warning

The safety cover is an integral part of the product. Do not operate the unit without the safety cover installed. Operating the unit without the cover in place will invalidate the safety approvals and pose a risk of fire and electrical hazards.



Warning

Never defeat the ground conductor or operate the equipment in the absence of a suitably installed ground conductor. Contact the appropriate electrical inspection authority or an electrician if you are uncertain that suitable grounding is available.



Warning

Before working on a chassis or working near power supplies, unplug the power cord on AC units; disconnect the power at the circuit breaker on DC units.



Warning

Before opening the chassis, disconnect the telephone-network cables to avoid contact with telephone-network voltages.



Warning

Only trained and qualified personnel should be allowed to install, replace, or service this equipment.



Warning

This product relies on the building's installation for short-circuit (overcurrent) protection. Make sure that a fuse or circuit breaker no larger than 120 VAC, 15A U.S. and 240 VAC, 10A international are used on the phase conductors (all current-carrying conductors).



Warning

This equipment is intended to be grounded. Ensure that the host is connected to earth ground during normal use.



Warning

Blank faceplates and cover panels serve three important functions: they prevent exposure to hazardous voltages and currents inside the chassis; they contain electromagnetic interference (EMI) that might disrupt other equipment; and they direct the flow of cooling air through the chassis. Do not operate the system unless all cards, faceplates, front covers, and rear covers are in place



Warning

Do not work on the system or connect or disconnect cables during periods of lightning activity.



Warning

Before working on equipment that is connected to power lines, remove jewelry (including rings, necklaces, and watches). Metal objects will heat up when connected to power and ground and can cause serious burns or weld the metal object to the terminals.



Warning

Ultimate disposal of this product should be handled according to all national laws and regulations.



Warning

The ports labeled "10BaseT", "100BaseTX," and "10/100" are safety extra-low voltage (SELV) circuits. SELV circuits should only be connected to other SELV circuits. Avoid connecting these circuits to telephone network voltage (TNV) circuits.



Warning

There is the danger of explosion if the battery is replaced incorrectly. Replace the battery only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.



Warning

The device is designed to work with TN power systems.

General Precautions

Observe the following general precautions when using and working with your system:

- Keep your system components away from radiators and heat sources, and do not block cooling vents.
- Do not spill food or liquids on your system components, and never operate the product in a wet environment. If the computer gets wet, see the appropriate chapter in your troubleshooting guide or contact the Cisco Technical Assistance Center. For instructions on contacting the Technical Assistance Center, see [“Obtaining Technical Assistance”](#) in the Preface.
- Do not push any objects into the openings of your system components. Doing so can cause fire or electric shock by shorting out interior components.
- Position system cables and power cables carefully; route system cables and the power cable and plug so that they cannot be stepped on or tripped over. Be sure that nothing rests on your system components’ cables or power cable.
- Do not modify power cables or plugs. Consult a licensed electrician or your power company for site modifications. Always follow your local/national wiring rules.
- To help avoid possible damage to the system board, wait 5 seconds after turning off the system before removing a component from the system board or disconnecting a peripheral device from the computer.

Maintaining Safety with Electricity

Follow these guidelines when working on equipment powered by electricity:

- Contact the Cisco Technical Assistance Center if any of the following conditions occur:
 - The power cable or plug is damaged.
 - An object has fallen into the product.
 - The product has been exposed to water.
 - The product has been dropped or damaged.
 - The product does not operate correctly when you follow the operating instructions.

- Use the correct external power source. Operate the product only from the type of power source indicated on the electrical ratings label. If you are not sure of the type of power source required, consult the Cisco Technical Assistance Center or a local power company.
- Use only approved power cables. If you have not been provided with a power cable for your computer or storage system or for any AC-powered option intended for your system, purchase a power cable that is approved for use in your country. The power cable must be rated for the product and for the voltage and current marked on the product's electrical ratings label. The voltage and current rating of the cable should be greater than the ratings marked on the product.
- To help prevent electric shock, plug the WLSE, components, and peripheral power cables into properly grounded electrical outlets. These cables are equipped with three-prong plugs to help ensure proper grounding. Do not use adapter plugs or remove the grounding prong from a cable.
- To help protect your system/components from sudden, transient increases and decreases in electrical power, use a surge suppressor, line conditioner, or uninterruptible power supply (UPS).
- Do not modify power cables or plugs. Consult a licensed electrician or your power company for site modifications. Always follow your local/national wiring rules.

Protecting Against Electrostatic Discharge

Static electricity can harm delicate components inside your computer. To prevent static damage, discharge static electricity from your body before you touch any of your computer's electronic components, such as the microprocessor. You can do so by touching an unpainted metal surface on the computer chassis.

As you continue to work inside the computer, periodically touch an unpainted metal surface to remove any static charge your body may have accumulated.

You can also take the following steps to prevent damage from electrostatic discharge (ESD):

- When unpacking a static-sensitive component from its shipping carton, do not remove the component from the antistatic packing material until you are ready to install the component in your computer. Just before unwrapping the antistatic packaging, be sure to discharge static electricity from your body.

- When transporting a sensitive component, first place it in an antistatic container or packaging.
- Handle all sensitive components in a static-safe area. If possible, use antistatic floor pads and workbench pads.

Preventing EMI

When you run wires for any significant distance in an electromagnetic field, electromagnetic interference (EMI) can occur between the field and the signals on the wires.

Note that:

- Bad plant wiring can result in radio frequency interference (RFI).
- Strong EMI, especially when it is caused by lightning or radio transmitters, can destroy the signal drivers and receivers in the system, and can even create an electrical hazard by conducting power surges through lines and into the system.

To predict and remedy strong EMI, consult RFI experts.

Preparing Your Site for Installation

This section describes the requirements your site must meet for safe installation and operation of your WLSE. Ensure that your site is properly prepared before beginning installation.

Environmental

When planning your site layout and equipment locations, keep in mind the precautions described in this section to help avoid equipment failures and reduce the possibility of environmentally caused shutdowns. If you are currently experiencing shutdowns or unusually high errors with your existing equipment, these precautions will help you isolate the cause of failures and prevent future problems.

Use the following precautions when planning the operating environment for your WLSE.

- Always follow the ESD-prevention procedures described in the [Preventing EMI, page 2-7](#) to avoid damage to equipment. Damage from static discharge can cause immediate or intermittent equipment failure.
- Make sure that the chassis cover is secure. The chassis is designed to allow cooling air to flow effectively within it. An open chassis allows air leaks, which could interrupt and redirect the flow of cooling air from internal components.
- Electrical equipment generates heat. Ambient air temperature might not be adequate to cool equipment to acceptable operating temperatures without adequate circulation. Make sure that the room in which you operate has adequate air circulation.

Choosing a Site for Installation



Warning

This unit is intended for installation in restricted access areas. A restricted access area is where access can only be gained by service personnel through the use of a special tool, lock and key, or other means of security, and is controlled by the authority responsible for the location.

- Choose a site with a dry, clean, well-ventilated and air-conditioned area.
- Choose a site that maintains an ambient temperature of 10° to 35°C (50° to 95°F).

Grounding the System



Warning

Never defeat the ground conductor or operate the equipment in the absence of a suitably installed ground conductor. Contact the appropriate electrical inspection authority or an electrician if you are uncertain that suitable grounding is available.

Creating a Safe Environment

Follow these guidelines to create a safe operating environment:

- Keep tools and chassis components off the floor and away from foot traffic.
- Clear the area of possible hazards, such as moist floors, ungrounded power extension cables, and missing safety grounds.
- Keep the area around the chassis free from dust and foreign conductive material (such as metal flakes from nearby construction activity).

AC Power

Ensure that the plug-socket combination is accessible at all times, because it serves as the main disconnecting device.



Warning

The plug-socket combination must be accessible at all times, because it serves as the main disconnecting device

Cabling

Use the cables in the accessory kit to connect the WLSE's console port to a console or computer that is running a console program. In addition to the console cable, you must supply your own standard Ethernet cable to connect the WLSE to your network. For information detailing cable requirements, see [Network Cable Requirements, page 1-8](#).

A structured wiring system provides a standardized way to wire a building for all types of networks for the WLSE to be installed. The main distribution frame links all the building's interior wiring and provides an interface connection to circuits coming from outside sources such as the local telephone company. Wiring hubs (peripherals for cabling installations) provide the connection logic unique to Fast Ethernet cables that the WLSE uses. Unshielded twisted pair (UTP) copper wire is used to connect the WLSE and distributes the network connections to wall jacks near each piece of network equipment.

Precautions for Rack-Mounting

Observe the following precautions for rack stability and safety. Also see the rack installation documentation accompanying the rack for specific warning and/or caution statements and procedures.

Servers, storage systems, and appliances are considered to be components in a rack. Thus, “component” refers to any server, storage system, or appliance, as well as to various peripherals or supporting hardware.

- Do not move large racks by yourself. Due to the height and weight of the rack, a minimum of two people are needed to accomplish this task.
- Ensure that the rack is level and stable before extending a component from the rack.
- Do not overload the AC supply branch circuit that provides power to the rack. The total rack load should not exceed 80 percent of the branch circuit rating.
- Ensure that proper airflow is provided to components in the rack.
- Do not step on or stand on any system/component when servicing other system/components in a rack.
- This unit should be mounted at the bottom of the rack if it is the only unit in the rack.
- When mounting this unit in a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack.
- If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the unit in the rack.



Warning

To prevent bodily injury when mounting or servicing this unit in a rack, you must take special precautions to ensure that the system remains stable. The following guidelines are provided to ensure your safety:

- This unit should be mounted at the bottom of the rack if it is the only unit in the rack.
- When mounting this unit in a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack.
- If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the unit in the rack.

Precautions for Products with Modems, Telecommunications, or Local Area Network Options

Observe the following guidelines when working with options:

- Do not connect or use a modem or telephone during a lightning storm. There may be a risk of electrical shock from lightning.
- Never connect or use a modem or telephone in a wet environment.
- Do not plug a modem or telephone cable into the Ethernet connector.
- Disconnect the modem cable before opening a product enclosure, touching or installing internal components, or touching an uninsulated modem cable or jack.
- Do not use a telephone line to report a gas leak while you are in the vicinity of the leak.

Required Tools and Equipment

The following equipment is included in the WLSE package:

- Wireless LAN Solution Engine
- Rack mounting kit
- Power cable
- Serial cable (light blue, RJ-45 to RJ-45)
- 10 baseT ethernet cable (yellow)
- 2 DB-9 to RJ-45 Adapters
- 1 DB-25 to RJ-45 Adapter
- WLSE Recovery CD
- WLSE documentation—The following documents are shipped with the WLSE:
 - *Quick Start Guide for the CiscoWorks 1130 Wireless LAN Solution Engine*
 - *Release Notes for the CiscoWorks Wireless LAN Solution Engine*

- *Regulatory Compliance and Safety Information for the CiscoWorks 1130 Wireless LAN Solution Engine*

You need the following tools and equipment to install the WLSE:

- Number 2 Phillips screwdriver
- Tape measure and level
- Antistatic mat or antistatic foam
- ESD grounding strap

Installing the CiscoWorks 1130 Wireless LAN Solution Engine

This section provides instructions for installing the WLSE in a rack. The rack must be properly secured to the floor, ceiling, or upper wall, and where applicable, to adjacent racks. The rack should be secured using floor and wall fasteners and bracing specified or approved by the rack manufacturer or by industry standards. See the rack manufacturer's installation documentation for precautionary warnings and information before attempting this installation.

Installation Quick Reference

[Table 2-1](#) provides a high-level overview of the installation process. After installation is complete, follow the directions in [Chapter 3, “Configuring the Wireless LAN Solution Engine.”](#)

Table 2-1 Quick Reference

Task	References
Install the WLSE in the rack.	Installing the Wireless LAN Solution Engine in a Rack, page 2-13
Connect to an AC power source.	Connecting the WLSE to the AC Power Source, page 2-19
Connect network and console cables.	Connecting Cables, page 2-19
Power on the WLSE.	Powering On the WLSE, page 2-20

Installing the Wireless LAN Solution Engine in a Rack

Before installing the WLSE in a rack, read [Preparing Your Site for Installation, page 2-7](#) to familiarize yourself with the proper site and environmental conditions. Failure to read and follow these guidelines could lead to an unsuccessful installation and possible damage to the system and components. Perform the steps below when installing and servicing the WLSE:

- Disconnect all power and external cables before installing the system.
- Install the system in compliance with your local and national electrical codes:
 - United States: National Fire Protection Association (NFPA) 70; United States National Electrical Code.
 - Canada: Canadian Electrical Code, Part, I, CSA C22.1.
 - Other countries: If local and national electrical codes are not available, see IEC 364, Part 1 through Part 7.
- Do not work alone under potentially hazardous conditions.
- Do not perform any action that creates a potential hazard to people or makes the equipment unsafe.
- Do not attempt to install the WLSE into a rack that has not been securely anchored in place. Damage to the system and personal injury may result.
- Due to the size and weight of the computer system, never attempt to install the computer system by yourself.

See [Precautions for Rack-Mounting, page 2-10](#) for additional safety information on rack installation.



Warning

To prevent bodily injury when mounting or servicing this unit in a rack, you must take special precautions to ensure that the system remains stable. The following guidelines are provided to ensure your safety:

—This unit should be mounted at the bottom of the rack if it is the only unit in the rack.

—When mounting this unit in a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack.

— If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the unit in the rack.

To install the WLSE in a rack, perform the following steps:

- Step 1** In the rack-mounting kit, locate the adapters that best fit your rack. See [Table 2-2 on page 2-14](#).



Note The rack-mounting instructions in this document are for a 4-post cabinet (recommended).

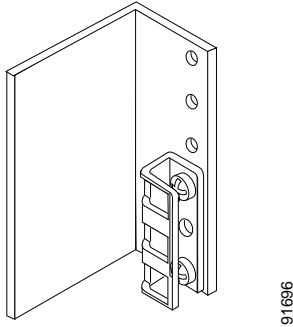
Table 2-2 Adapters for Rack Mounting

Rack Depth (inches)	Front Adapter Part Number	Rear Adapter Part Number(s)
22 5/8 to 23 1/2	059	270 and 350
23 1/2 to 24 1/4	059	200 and 350
24 1/4 to 25 1/8	059	200 and 270
25 1/8 to 25 3/8	290	270 and 350
25 3/8 to 26 1/4	059	350
26 1/4 to 27	059	270
27 to 27 3/4	200	200
27 3/4 to 28 1/2	200	270
28 1/2 to 29 1/4	290	270
29 1/4 to 30	270	200



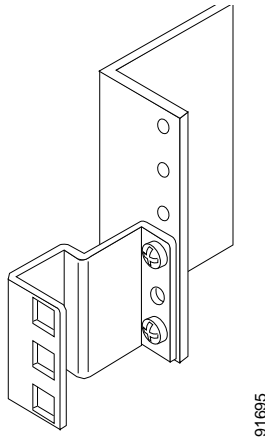
Note In the following illustrations, screws are shown for racks with threaded holes. If your rack has non-threaded holes, install the screw from the front of the rack, and use a nut on the inside against the adapter bracket.

- Step 2** Attach the front adapters to the rails of the rack as shown in the following example.

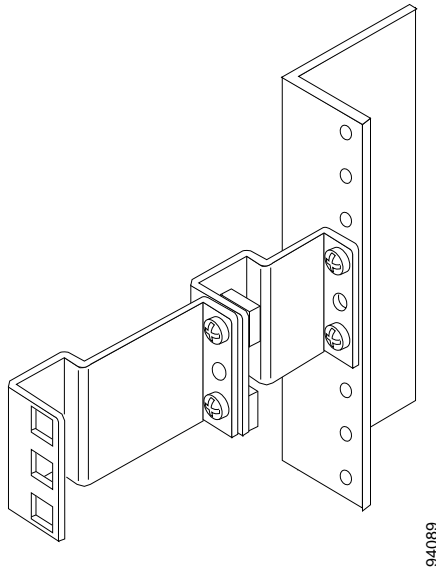


- Step 3** Attach one or two rear adapters to the rails of the rack as shown in the following examples.

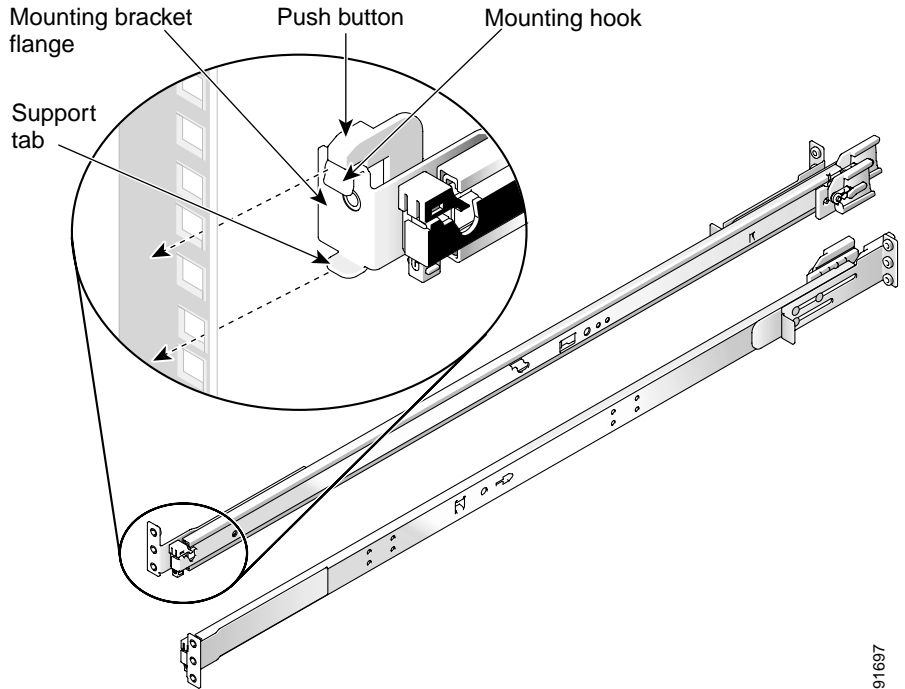
- Attach one adapter for racks with depths of 25 3/8 to 30 inches. See the following example.



- Attach two adapters for racks with depths of 24 1/4 to 25 3/8 inches. Make sure the longer bracket is at the rear. Attach the two brackets to each other by using two cage nuts and two screws. See the following example.

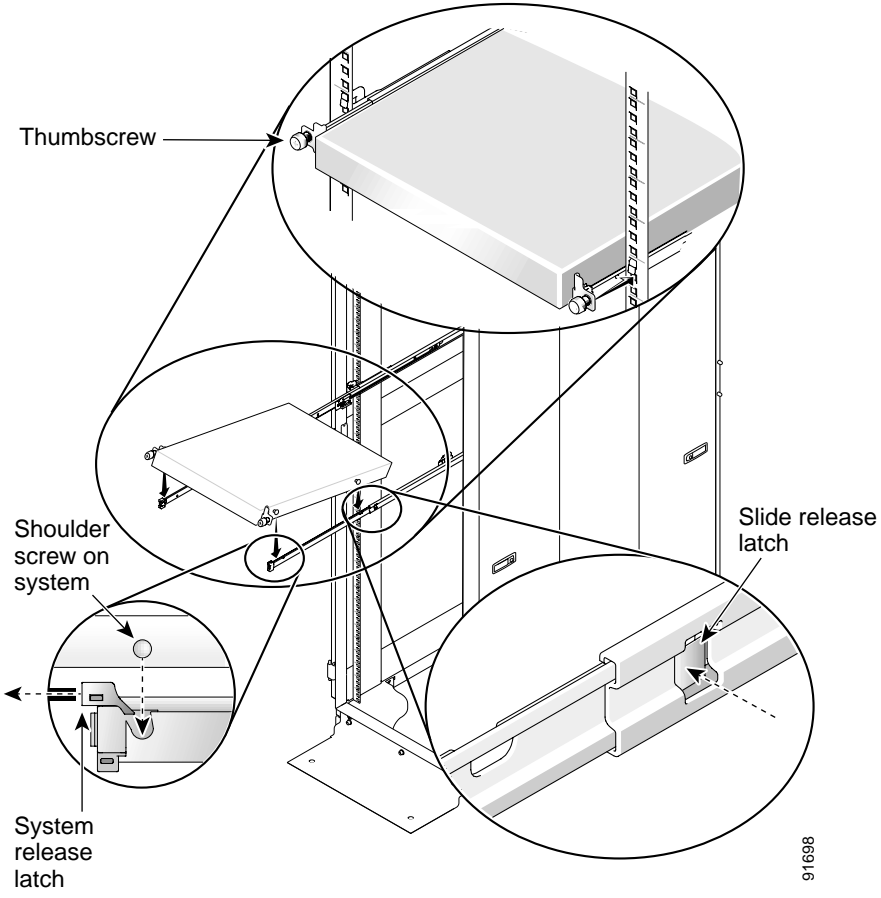


- Step 4** Attach a slide assembly to the adapters on each side of the rack:
- At the front of the cabinet, push the slide assembly forward until the mounting hook enters the square hole on the adapter.
 - Push down the mounting bracket flange until the mounting hook is seated in the square hole and the push button pops out and clicks.
 - At the back of the cabinet, pull back on the mounting flange until the mounting hook is in the square holes on the adapter.
 - Push down on the mounting bracket flange until the mounting hook is seated in the square hole and the push button pops out and clicks.



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- Step 5** Install the WLSE in the slide assembly.
- Remove the front bezel.
 - Tilt the back of the WLSE down while aligning the back screws on its sides with the back slide assembly slots.
 - Engage the screws in the slide assembly slots.
 - Lower the front of the WLSE and engage the front screws on its sides in the front slot behind the system release latch.
 - The system release latch will move forward and then snap back.
 - Use this latch when removing the WLSE from the slide assembly.
 - Press the slide release latch at the side of each slide to move the WLSE completely into the rack.
 - Push in and turn the thumbscrews on each side of the WLSE's front panel to secure it to the rack.
 - Reinstall the front bezel.



Connecting the WLSE to the AC Power Source



Warning

Never defeat the ground conductor or operate the equipment in the absence of a suitably installed ground conductor. Contact the appropriate electrical inspection authority or an electrician if you are uncertain that suitable grounding is available.

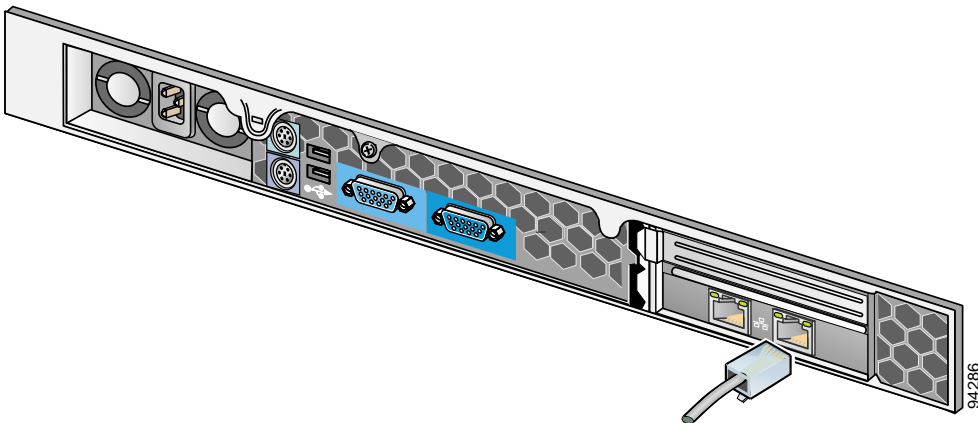
Connect the AC power receptacle to the AC power source with the provided power cable.

Connecting Cables

Use unshielded twisted pair (UTP) copper wire Ethernet cable, with standard RJ-45 compatible plugs, to connect the WLSE to the network.

To connect the cables:

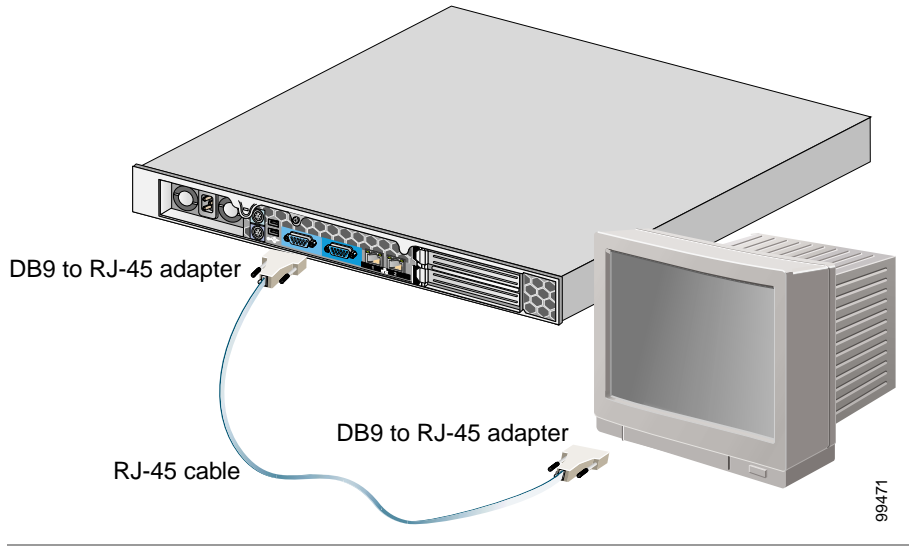
- Step 1** Plug the network connection into the Ethernet port labeled "A." This port corresponds to the Ethernet 0 interface.



- Step 2** Connect a console to the serial port. See [Figure 2-1](#). To connect the console to the terminal port:
- Attach a DB-9 to RJ-45 adapter (provided) to the serial port of the console.

- b. Attach a DB-9 to RJ-45 adapter (provided) to the serial port of the WLSE.
- c. Connect the console to the WLSE using an RJ-45 cable (provided).

Figure 2-1 Connecting the Console to the Terminal



Warning

Do not work on the system or connect or disconnect cables during periods of lightning activity.

Powering On the WLSE

To turn the power on or off, press the power button on the front panel. When you turn the power off, after 30 seconds the WLSE will shut down gracefully.

The system begins booting and sending messages to the console window. When the login prompt appears, you can configure the system; see the instructions in [Chapter 3, “Configuring the Wireless LAN Solution Engine.”](#)



Configuring the Wireless LAN Solution Engine

This chapter describes how to configure the CiscoWorks 1105 and CiscoWorks 1130 WLSEs. It contains the following sections:

- [Configuration Quick Reference, page 3-1](#)
- [Using the Setup Program, page 3-2](#)
- [Configuring Name Resolution, page 3-6](#)
- [Verifying the Configuration, page 3-7](#)
- [Configuring the Web Browser, page 3-8](#)
- [Verifying HTTP and HTTPs Connectivity, page 3-11](#)
- [Network Configuration, page 3-11](#)

Configuration Quick Reference

[Table 3-1](#) provides a high-level overview of the initial configuration process. After configuration is complete, see the *User Guide for the Wireless LAN Solution Engine* or the WLSE online help for information on day-to-day operations.

Table 3-1 Quick Reference

Task	Steps	References
Configure the WLSE.	<ol style="list-style-type: none"> 1. Boot the WLSE and log in. 2. Run the set up program. 	Using the Setup Program, page 3-2
Configure name resolution.	If you are not using a DNS server, remove the name server address from the configuration	Configuring Name Resolution, page 3-6
Verify the configuration.	<ol style="list-style-type: none"> 1. Log in at the system console. 2. Verify configuration. 	Verifying the Configuration, page 3-7
Configure the Web browser.	<ol style="list-style-type: none"> 1. Verify that the client system is using a supported browser. 2. Configure the browser. 	Configuring the Web Browser, page 3-8
Verify HTTP and HTTPS connectivity.	Verify that you can connect to the WLSE via HTTP and HTTPS.	Verifying HTTP and HTTPS Connectivity, page 3-11

Using the Setup Program

Configure the WLSE when you boot the system for the first time, and whenever you manually erase the configuration using the **erase config** CLI command. For more information about this command, see [Appendix B, “Using CLI Commands.”](#)

Press the **Backspace** key or the **Delete** key to delete characters when entering a response to a prompt.



Note

You cannot edit a response after you press the **Enter** key. To change an entered response, you must exit the setup program, run **erase config**, and rerun the setup program.

You can exit the setup program in two ways:

- Press **Ctrl-c**.

The login prompt appears. Log in as the user setup to run the setup program.

- Enter **no** at the final prompt:
Would you like to save this configuration? [yes].

The setup program exits without saving the configuration, then restarts.

To configure the WLSE, perform the following steps:

-
- Step 1** Attach a console to the console port and power on the WLSE:
- For the WLSE 1105, use the serial port on the front panel; do not use the serial port on the back panel as the console port.
 - For the WLSE 1130, use the serial port on the back panel as the console port.
- When the system finishes booting, a login prompt appears on the console.
- Step 2** At the login prompt, enter **setup**.
- When you boot the system for the first time, it is not configured. Logging in as **setup** allows you to configure the system.
- Step 3** Enter responses to the first set of prompts to configure the WLSE's connectivity. [Table 3-2](#) describes how to respond to the prompts. After inputting the required information, press **Enter** to proceed to the next prompt.

Table 3-2 General Configuration

Prompt	Response Description	Sample Response
host name:	System host name.	SolutionEngine
domain name:	System domain name.	cisco.com
<username> password:	Sets the password for the default user admin . Characters you type do not appear on screen. Note Default user admin is reserved and cannot be deleted or changed.	wq1Cvu2pl
confirm passwords	Reenter password to verify that you typed it correctly. Characters you type do not appear on screen.	wq1Cvu2pl
eth0 IP address:	IP address of Ethernet 0 interface. ¹	209.165.200.224
eth0 network mask:	Network mask of Ethernet 0 interface.	255.255.255.224

Table 3-2 General Configuration (continued)

Prompt	Response Description	Sample Response
default gateway IP address:	IP address of default router that connects WLSE to network.	209.165.200.224
DNS server IP address:	IP address of DNS server that WLSE uses for name/address resolution. The setup program does not validate the IP address you enter. If you are not using a DNS server, see the Configuring the WLSE Without a DNS Server, page 3-6 for instructions before proceeding.	209.165.201.1
Would you like to save this configuration? [yes]:	One of the following: <ul style="list-style-type: none"> Type yes and press Enter to save the configuration. The configuration is saved and system reboots. Type no and press Enter to exit without saving configuration and run setup program again. 	Enter

1. Corresponds to the Ethernet port labeled "A" on the WLSE 1130.

Step 4 Answer the next set of prompts to create a self-signed certificate. This certificate will allow you to access the WLSE securely, using HTTPS, until you are able to obtain a certificate from a certificate authority (CA). [Table 3-3](#) describes how to respond to the prompts.



Note If you make a mistake when entering information for the certificate or need to make changes, use the **mkcert** CLI command after completing the setup. For more information, see [erase config, page B-25](#).

Table 3-3 Self-Signed Certificate Creation

Prompt	Response Description	Sample Response
Country Name	2-character code.	US
State or Province Name	Full name of a state or province.	Snake Desert

Table 3-3 Self-Signed Certificate Creation (continued)

Prompt	Response Description	Sample Response
Locality Name	City or locality name.	Snake Town
Organization Name	Company name.	Snake Oil, LTD.
Organizational Unit	Section of the company that is using the WLSE.	Webserver Team
Common Name	Fully qualified domain name (FQDN).	www.snakeoil.dom
Email Address	Email address.	www@snakeoil.dom

- Step 5** After you finish configuring the Wireless LAN Solution Engine, it will reboot. After it finishes rebooting, set up your mail server to send mail to external domains by entering the following command:

```
mailroute {hostname / ip-address}
```

where *hostname* is the hostname of the SMTP server and *ip-address* is the IP address of the SMTP server. If you do not set the mail server, email can only be sent to the local domain. For more information about this command, see [mailroute](#), page B-39.

To change the information in the setup configuration, use the following CLI commands. For more information about these commands, see [Appendix B, “Using CLI Commands.”](#)

- To change the host name, use the **hostname** command.
- To change the domain name, use the **ip domain-name** command.
- To change the DNS server, or add up to 2 additional DNS servers, use the **ip name-server** command.
- To configure or reconfigure an Ethernet port, use the **interface** command.

**Tip**

To change any other part of the WLSE’s setup configuration, use the **erase config** command to erase the previous configuration, and run the setup program again.

Configuring Name Resolution

The WLSE resolves host names by using a Domain Name System (DNS) server, or you can use the **import** CLI command to add individual hosts or a UNIX-style hosts file. If you are using a DNS server, register the system on a DNS server. Use the WLSE's host name as its DNS name. For information on the **import** command, see [import, page B-28](#).

The WLSE does not require name resolution, but if name resolution is not used, the following problems will occur:

- Host names will not resolve.
- Discovery will be slow.
- Connecting to the WLSE via Telnet will be slow. You will be able to connect to the WLSE only after name resolution on the client times out.
- Ping and traceroute commands will result in 100% packet losses in 4 out of 5 ICMP packets. This occurs because the WLSE times out when attempting reverse DNS lookup.
- IP addresses will appear in host name columns.

Configuring the WLSE Without a DNS Server

If you are not using a DNS server, perform the steps described in [Using the Setup Program, page 3-2](#), with the following exception:

Step 1 At the `DNS server ip address` prompt, enter any IP address.

After you finish configuring the WLSE, erase the IP address you entered by entering the following command:

no ip name-server *ip-address*

where *ip-address* is the IP address you entered at the `DNS server ip address:` prompt. For more information about this command, see [ip name-server, page B-35](#).

Verifying the Configuration

While at the console, verify that the WLSE is correctly configured by performing the following steps:

Step 1 At the system console, enter **admin** at the login prompt, and log in with the password you created during setup. You can also use Telnet or SSH to log in as the admin user.

If you need to attach a console:

- For the WLSE 1105, use the serial port on the front panel; do not use the serial port on the back panel as the console port.
- For the WLSE 1130, use the serial port on the back panel as the console port.



Note For security reasons, Telnet is disabled on the WLSE by default. If you want to be able to connect to the CLI interface using Telnet, you can enable it by using the **telnetenable enable** command. For information on this command, see [telnetenable](#), page B-76.

Step 2 If you are using a DNS server, enter the following command to verify that the WLSE can obtain DNS services from the network:

```
# nslookup dns-name
```

where *dns-name* is the DNS name of a host that is registered in DNS. If the system cannot obtain the IP address of the host from DNS, use the **ip name-server** command to specify a working DNS server. For more information on these commands, see [nslookup](#), page B-41 and [ip name-server](#), page B-35.

Step 3 Enter the following command to verify that the system can communicate with the network:

```
# ping ip-address
```

where *ip-address* is the IP address of a host that is accessible on the network. A DNS server is a recommended host to ping because it should always be running and accessible. For more information on this command, see [ping](#), page B-11.

Step 4 Enter the **show config** command to verify that the configuration is as you expected. For more information on this command, see [show config](#), page B-58.

- Step 5** Enter the **show clock** command to verify that the system time and date are correct in Coordinated Universal Time (UTC).
- If the time or date is incorrect, set the correct time and date using the **clock** command.
 - If your network uses NTP, configure the system to use NTP to set the clock.
- For more information about configuring time and date, see [Setting WLSE Date and Time, page 4-9](#). For more information on these commands, see [show clock, page B-12](#) and [show clock, page B-12](#).
- Step 6** Enter the **exit** command to log out.
-

You are now finished using the console. The remaining steps take place at the client system.

Configuring the Web Browser

Before you connect to the WLSE Web interface, make sure you are using a supported browser and that the browser is properly configured.

- [Supported Browsers, page 3-8](#)
- [Configuring Internet Explorer, page 3-9](#)
- [Configuring Netscape Navigator, page 3-10](#)

Supported Browsers

The supported browsers for WLSE 2.0 are:



Note

Using earlier, unsupported versions of Internet Explorer compromises the security of the WLSE.

- Microsoft Internet Explorer 6.0 with Service Pack 1 on Windows 2000, Windows NT, and Windows XP.
- Microsoft Internet Explorer 5.5 with Service Pack 2 on Windows 2000 and Windows NT.
- Japanese Internet Explorer 5.5 with Service Pack 2, or Japanese Internet Explorer 6.0 on Japanese Windows 2000 or Windows NT.
- Netscape Navigator 4.79.
- Japanese Netscape Navigator 4.79 on Japanese Windows 2000 or Japanese Windows NT.

Configuring Internet Explorer

To configure Internet Explorer, perform the following steps:

-
- Step 1** Enable JavaScript:
- a. Select **Tools > Internet Options > Security**.
 - b. Make sure that the Internet icon is selected, and click **Custom Level**.
 - c. Select **Enable active scripting, Allow paste operations via script, and Scripting of Java applets**.
- Step 2** Configure your browser to accept all cookies:
- a. Select **Tools>Internet Options>Security**.
 - b. Make sure that the Internet icon is selected, and click **Custom Level**.
 - c. Scroll to Cookies. Select enable for both “Allow cookies that are stored on your computer,” and “Allow per-session cookies (not stored).”
 - d. Click **OK**.
- Step 3** Change the default font to sans serif for improved readability:
- a. Select **Tools>Internet Options**. A dialog box appears.
 - b. Click the **General** tab, then select **Fonts**. A second dialog box appears.
 - c. Select a sans-serif font (for example, Arial) from the **Web page font** and **Plain text font** lists.
 - d. Click **OK** in both dialog boxes to close them.

The text in the browser window is redrawn using the new fonts. Not all of the fonts will change after this user-defined font option is set.

- Step 4** Windows XP does not come with the Java Plugin installed on Internet Explorer 6.0. This causes problems when updating a WLSE by installing WLSE 2.0 software. If you plan to use a Windows XP client or server to update WLSE software, see the browser configuration information in the procedure for creating a remote repository in the online help or in the User Guide for the CiscoWorks Wireless LAN Solution Engine, 2.0.
-

Configuring Netscape Navigator

To configure Netscape Navigator, perform the following steps:

- Step 1** Enable JavaScript:
- Select **Edit > Preferences > Advanced**.
 - Select **Enable JavaScript** check box.
 - Click **OK**.
- Step 2** Configure Netscape to Navigator accept all cookies:
- Select **Edit > Preferences > Advanced**.
 - Select the **Accept all cookies** radio button.
 - Click **OK**.
- Step 3** Change the default font to a sans serif font for improved readability:
- Select **Edit > Preferences > Appearance > Fonts**.
 - Select a sans-serif font (for example Arial), and a font size, in the **Variable Width Font** and **Fixed Width Font** selection areas.
 - Click **OK**.

The text in the browser window is redrawn using the new fonts. Not all of the fonts will change after this user-defined font option is set.

Verifying HTTP and HTTPS Connectivity

To verify HTTP and HTTPS connectivity, connect to the WLSE using a Web browser and perform the following steps:

-
- Step 1** To verify HTTP connectivity, enter the system IP address in a Web browser, followed by **:1741** (the default port number).
- For example, if the system IP address is 209.165.202.128, enter **http://209.165.202.128:1741** in a Web browser.
- If a login dialog box appears, you have connectivity.
- Step 2** To verify HTTPS connectivity, enter the system IP address in a web browser, prefixed by https. No port number is needed.
- For example, if the system IP address is 209.165.202.128, enter **https://209.165.202.128** in a web browser.
- If a login dialog box appears, you have connectivity.
- Step 3** Enter the user name **admin** and the password you created during setup in the login dialog box.
- The WLSE home page appears.
-

Network Configuration

You must configure the network devices you want to manage so that the WLSE can discover and monitor them. For information on setting up access points, bridges, routers, switches, and AAA servers, see the *Quick Start Guide* shipped with your system, the *User Guide for the Wireless LAN Solution Engine*, or the WLSE's online help.



Administering the Wireless LAN Solution Engine

This chapter describes the major system administration tasks for CiscoWorks 1105 and CiscoWorks 1130 WLSEs.



Note

Many of the tasks in this chapter can be performed by using either the Web interface or the Command Line Interface (CLI). For more information on the Web interface, see the WLSE online help or the *User Guide for the CiscoWorks Wireless LAN Solution Engine, 2.0*. For details on CLI commands, see [Appendix B, “Using CLI Commands.”](#)

This chapter contains information about the following tasks:

- [Logging In and Out, page 4-2](#)
- [Administering User Accounts, page 4-3](#)
- [Backing Up and Restoring the WLSE’s Configuration, page 4-3](#)
- [Upgrading WLSE Software, page 4-5](#)
- [Rebooting the WLSE, page 4-8](#)
- [Shutting Down the WLSE, page 4-8](#)
- [Erasing the System Configuration, page 4-9](#)
- [Setting WLSE Date and Time, page 4-9](#)
- [Configuring the Ethernet Interfaces, page 4-11](#)
- [Administering Management Services, page 4-13](#)

- [Viewing System Information](#), page 4-14
- [Using the Maintenance Image](#), page 4-15
- [Recovering from the Loss of All Administrator Passwords](#), page 4-17
- [Installing a Replacement WLSE](#), page 4-18
- [Copying Configuration Data from One WLSE to Another](#), page 4-19
- [Using the Recovery CD](#), page 4-20

Logging In and Out

You can connect to the WLSE system in the following ways:

- Point a Web browser at the WLSE. Enter the WLSE IP address or hostname followed by **:1741**.

Enter a valid username and password in the login screen. Click **Logout** to log out.

- Telnet to the WLSE or connect a console to the WLSE's console port. Enter a valid username and password at the Login prompt. Enter **exit** to log out.

If you are using the console:

- For the WLSE 1105, use the serial port on the front panel; do not use the serial port on the back panel as the console port.
- For the WLSE 1130, use the serial port on the back panel as the console port.



Note

If you have a CiscoWorks server in your network, you can use Management Connection to add WLSE as an external application link to the CiscoWorks navigation tree. This lets you access WLSE directly from the CiscoWorks navigation tree. For more details, see the document *Integrating Cisco Applications with CiscoWorks2000 Management Connection (CMC)* on Cisco.com.

Administering User Accounts

You can create users, assign roles to them to control their access privileges, and create custom roles.

To create users:

-
- Step 1** In the Web interface, select **Administration > User Admin**.
- Step 2** Click **Help**.
-

For more information on users and roles, see the *User Guide for the Wireless LAN Solution Engine*.



Note

You can also create users by using the **username** CLI command; however, such users do not have access to the Web interface features.

Backing Up and Restoring the WLSE's Configuration

You should backup the WLSE at regular intervals and before software updates or system recoveries. Backing up the WLSE preserves all roles, users, discovery, and configuration information.

Before attempting to backup or restore your WLSE, make sure you have a valid username and password on the system serving as the backup location, the backup directory exists and has the proper permissions for the username and password, and the system allows FTP.

Backup and restore commands use the backup location you have specified.



Note

You can replace one WLSE with another by backing up and restoring the data from the old WLSE to the new one. See [Installing a Replacement WLSE, page 4-18](#).

**Note**

You can restore a backup made on one WLSE to another WLSE. For information, see [Copying Configuration Data from One WLSE to Another, page 4-19](#).

Specifying the Backup Location

Before backing up, you must specify the backup location. The backup location must be on an FTP server.

To use the Web interface to specify the backup location:

-
- Step 1** Select **Administration > Appliance > Backup and Restore > Configure**.
 - Step 2** Click **Test** to verify the reachability of the backup location.
 - Step 3** Click **Help** for complete information on using backup locations.
-

To configure the backup location by using the CLI, use the **backupconfig** command. After you specify the backup location, this location will be used by the **backup**, **listbackup**, and **restore** commands. For more information about this command, see [backupconfig, page B-20](#).

Backing Up the WLSE

To back up the WLSE by using the Web interface, perform the following steps:

-
- Step 1** In the Web interface, select **Administration > Appliance > BackUp and Restore > Backup**.

**Note**

If you have not configured the backup location, a dialog box will appear with the following message: Backup is not configured. Please configure the backup location. To configure the backup location, select the **Configure** option. For more information, see [Specifying the Backup Location, page 4-4](#).

- Step 2** Click **Backup**. The WLSE will be backed up on the configured location.
- Step 3** For more information, click **Help**.
-

To back up the WLSE by using the CLI, use the **backup** command. The WLSE will be backed up to the location you specified in the **backupconfig** command. You can verify the backup location by entering **backup test**. For more information about this command, see [backup, page B-19](#).

Restoring the WLSE

To restore the WLSE configuration from a backup by using the Web interface:

- Step 1** Select **Administration > Appliance > BackUp and Restore > Restore**.
- Step 2** Select the backup you want to restore from the drop down menu, and click **Restore**.
- Step 3** For more information, click **Help**.
-

To restore the WLSE by using the CLI, use the **restore** command. Provide the backup image name as the argument. The **listbackup** command shows all of the images on the configured backup location. For more information about this command, see [restore, page B-49](#).

Upgrading WLSE Software

This section briefly describes the process for installing an upgrade by using the WLSE as the software repository. For the complete step-by-step procedure for installing a software upgrade on the WLSE, see the text file that accompanies upgrade images on Cisco.com.

The basic steps in installing software upgrades are:

- Back up the WLSE—See [Back Up the WLSE, page 4-6](#).
- Download the image—See [Download the WLSE Software Files, page 4-6](#).

- Set up the repository—See [Set Up the Repository](#), page 4-6.
- Define the repository—See [Define the Repository](#), page 4-7.
- Install the image—See [Install the Software Upgrade](#), page 4-7.

You can display the software upgrade history of the WLSE by selecting **Administration > Appliance > Software > Software Update History**. Click on the links to view the installation log files.

Back Up the WLSE

Before upgrading WLSE software, back up the configuration. The upgrade attempts to preserve the WLSE database, but a backup is needed in case of errors during the upgrade. For information—see [Backing Up the WLSE](#), page 4-4.

Download the WLSE Software Files

Download the upgrade files from Cisco.com to an FTP server from one of the following Cisco.com URLs:

<http://www.cisco.com/kobayashi/sw-center/cw2000/crypto/wlan-sol-eng>

<ftp://ftp.cisco.com/cisco/crypto/3DES/cw2000/wlan-sol-eng>



Note

WLSE update images are subject to import/export regulations respecting strong encryption. Before you are allowed to download the image, you may be directed to edit your Cisco.com profile to confirm that you are allowed to download such images.

The upgrade zip file and the info file must be in the same directory on the FTP server. *Do not extract the zip file.*

Set Up the Repository

Log in to the WLSE as the admin user, using the console or Telnet. If you are using the console:

- For the WLSE 1105, use the serial port on the front panel; do not use the serial port on the back panel as the console port.
- For the WLSE 1130, use the serial port on the back panel as the console port.

Use the **repository** CLI command to specify the FTP server:

```
repository source ftp://FTP_server_hostname/path
```

where *path* is the path to the update directory.

Then, list the contents of the directory by entering the following command. This command requires a valid username and password on the remote FTP server.

```
repository list remote
```

Add the image to the local repository:

```
repository add image_name
```

Define the Repository

Using the WLSE Web interface, log in as a user with system administrator privileges.

Select **Administration > Appliance > Software > Define Repository**. Enter the following information:

- Enter `localhost` in the Hostname field.
- Enter 9851 in the Port Number field.
- (Optional) Enter a description in the Description field.

Install the Software Upgrade

Select **Administration > Appliance > Software > Install Software Updates**. Select a software version from the Compatible Updates table, Compatible Reinstallations table, or Complete Images table.

Click **Install**, then click **Confirm** to install the upgrade. After the upgrade finishes, the WLSE login screen appears.

View Software Update History

You can display the software history of the WLSE by selecting **Administration > Appliance > Software > Software Update History**. Click on the links to view the installation log files.

Rebooting the WLSE

You can reboot the WLSE by using either the Web interface or the CLI. Rebooting the system starts its management service, even if the services were stopped prior to the reboot.

To restart the WLSE using the Web interface, perform the following steps:

-
- Step 1 Select **Administration > Appliance > Status > Restart**. The Restart System dialog box appears.
 - Step 2 Click **Yes**. The WLSE will restart.
-

To restart the system using the CLI, enter the **reload** command. The login prompt appears when the reboot is complete. For information about this command, see [reload, page B-80](#).

Shutting Down the WLSE

To shut down the WLSE enter the CLI **shutdown** command before powering off the WLSE. For more information about this command, see [shutdown, page B-73](#).

You can also shut down the WLSE, by briefly pressing the power button; the WLSE will shut down gracefully.



Caution

If you power off the WLSE improperly, you might disable the system.

Erasing the System Configuration

To erase the system configuration and reboot the system, enter the CLI **erase config** command. This command leaves the database and logs in place. To purge the database, use the **reinitdb** command.

After the system reboots, you must reconfigure the system using the setup program, as described in [Using the Setup Program, page 3-2](#).

For more information about these commands, see [erase config, page B-80](#) and [reinitdb, page B-44](#).

Resetting the WLSE to Factory Defaults

To reset the WLSE to factory settings, enter the **erase config** CLI command (see [erase config, page B-25](#)). Then, use the recovery CD to reimage the WLSE (see [Reimaging the WLSE, page 4-20](#)).

Setting WLSE Date and Time

The WLSE uses Universal Coordinated Time (UTC) for keeping the time and date. The WLSE uses the client's local time to display the time and date when connected via the Web interface. The WLSE uses UTC to display the time and date when you are connected via Telnet or a console and when you are viewing log files.

You can set and maintain the system date and time using a Network Time Protocol (NTP) server (the recommended method) or by manually setting the system clock.

You can set the current local (browser) time on the Web interface.

To display the system time, use the **show clock** command. For more information on this command, see [show clock, page B-12](#).

Setting the System Clock Using NTP

NTP is the recommended method for configuring time and date on the system. If your network uses NTP to set the date and time on devices, you can specify the NTP servers on the WLSE.

To specify NTP servers by using the Web interface:

-
- Step 1 Select **Administration** > **Appliance** > **Time/NTP/Name**.
 - Step 2 Click **Help**.
-

To specify NTP servers by using the CLI, enter the following command:

```
ntp server ip-address
```

where *ip-address* is the IP address of an NTP server.

If NTP is not enabled, you can set the system clock to UTC manually as described in [Setting the System Clock Manually, page 4-10](#). For more information about the **ntp server** command, see [ntp server, page B-41](#).



Caution

If you do not set the system clock manually after disabling NTP, the system clock might become inaccurate.

Setting the System Clock Manually

If your network does not use NTP to set the system time on devices and the time is not set correctly, set the date and time to UTC manually by entering the following command in the CLI:

```
clock set hh:mm:ss month day year
```

where *hh:mm:ss* is the current time (for example, 13:32:00), *month* is the current month (for example, January, February), *day* is the day of the month (for example, 31), and *year* is the current year (for example, 2001). For more information about the **clock** command, see [show clock, page B-12](#).

Setting the Current Local Time

Use the Web interface to set the current local (browser) time. The UTC time will be set accordingly.

-
- Step 1** Select **Administration > Appliance > Time/NTP/Name**.
- Step 2** Click **Help**.
-

Configuring the Ethernet Interfaces

The WLSE 1105 uses 10/100 Mbps Ethernet connectors. The WLSE 1130 uses 10/100/1000 Mbps Ethernet connectors. The Ethernet 0 interface is configured during initial setup of the WLSE, and all protocols are enabled on the Ethernet 0 interface.

**Note**

The Ethernet interface labeled “A” on the WLSE 1130 back panel corresponds to Ethernet 0 in software (such as CLI commands). The Ethernet interface labeled “B” corresponds to Ethernet 1 in software.

Configuring Protocols on the Ethernet Interfaces

All protocols are enabled by default on the Ethernet 0 interface. On the Ethernet 1 interface of the WLSE 1130, all protocols except for CDP are enabled.

Any Ethernet interface can be individually configured to allow or prevent connections via the following protocols:

- Cisco Discovery Protocol (CDP)
- Hypertext transfer protocol (HTTP)
- Hypertext transfer protocol secure (HTTPS)
- Internet Control Message Protocol (ICMP)
- Secure shell (SSH) 1 and 2

- Simple network management protocol (SNMP)
- Telnet

To allow or prevent CDP on an interface, use the **cdp** command. For information on this command, see [cdp, page B-21](#). To allow or prevent any of the other protocols on an interface, use the **firewall** command. For information on this command, see [firewall, page B-26](#).

Configuring Interface Parameters

To enable or disable Ethernet interfaces and set parameters on the interfaces (IP address, gateway information, speed, and half/full duplex), use the **interface** command; see [interface, page B-32](#).

Managing Devices on Both Interfaces

The Ethernet 0 interface is configured when you run the setup program during initial setup of the WLSE. If you are using both interfaces to manage devices, you must configure the second interface:

- Make sure CDP is enabled on the Ethernet 1 interface—See [Configuring Protocols on the Ethernet Interfaces, page 4-11](#).
- Configure Ethernet 1 interface parameters—See [Configuring Interface Parameters, page 4-12](#).
- Use the **route** CLI command to configure a static route to the default gateway for the Ethernet 1 interface to reach the networks connected to the Ethernet 1 interface. Otherwise, the WLSE will use only the default gateway configured on the Ethernet 0 interface and will be unable to manage the devices on the networks connected to the Ethernet 1 interface. For more information on the **route** command, see [route, page B-50](#).

Configuring Email

To ensure that email arrives at its proper destination, you can specify an SMTP server. This affects email notifications about firmware and configuration jobs, emailing reports, and emailing fault notifications.

To specify a mail server using the Web interface:

-
- Step 1 Select **Administration > Appliance > Configure Mailroute**.
 - Step 2 Click **Help**.
-

To specify a mail server by using the CLI, use the **mailroute** command. For more information, see [mailroute, page B-39](#).

Administering Management Services

The WLSE allows you to stop and start all management services at once. All commands that affect management services affect all of them, and the logs that collect services information collect information about all of them.

You can stop and restart the management services if the system is not responding correctly. This should cause the services to reset and function properly again. Management services are restarted automatically when you reboot the WLSE.

To stop management services, enter the following CLI command:

```
services stop
```

To start management services, enter the following CLI command:

```
services start
```

To view management services status, enter the following CLI command:

```
services status
```

For information about the **services** command, see [services, page B-51](#).

Viewing System Information

To view system information, use the following CLI commands. Some of this information can be viewed in the Web interface; see **Administration > Appliance > Status > View Log File**.

Table 4-1 Commands for Viewing System Information

Command	Description
show anilog	Displays the ANI log (see show anilog , page B-52).
show auth-cli	Displays the type of authentication used for secure CLI access (see show auth-cli , page B-53).
show auth-http	Displays the type of authentication used for secure HTTP access (see show auth-http , page B-53).
show backupconfig	Displays the current back and restore location and username (see show backupconfig , page B-54).
show bootlog	Displays the messages logged during the last system boot show bootlog , page B-55).
show cdp neighbor	Displays the WLSE's nearest neighbor on the network show cdp neighbor , page B-56).
show cdp run	Displays the CDP configuration of the WLSE (see show cdp run , page B-57).
show collectorlog	Displays the collector log (see show collectorlog , page B-57).
show config	Displays the system configuration (see show config , page B-58).
show daemonslog	Displays the daemons log (see show daemonslog , page B-59).
show dmgtldlog	Displays the daemon manager log (see show dmgtldlog , page B-60).
show webaccesslog	Displays the web access log (see show webaccesslog , page B-61).
show weberror log	Displays the web error log (see show weberrorlog , page B-62).
show websslaccesslog	Displays the Web SSL log (see show websslaccesslog , page B-63).
show import	Displays an imported hosts file (see show import , page B-63).
show install logs	Displays the software updates and images in the repository (see show install logs , page B-64).

Table 4-1 Commands for Viewing System Information (continued)

Command	Description
show ipchains	Displays IP chains for the selected interface (see show ipchains , page B-64).
show hosts	Displays the system hosts file (see show hosts , page B-65).
show maillog	Displays the mail log (see show maillog , page B-65).
show process	Displays statistics for active processes (see show process , page B-14).
show repository	Displays the status or access log of the repository (see show repository , page B-67).
show route	Displays the routes that are currently configured (see show route , page B-68).
show securitylog	Displays the security log (see show securitylog , page B-68).
show snmp-server	Displays the WLSE's SNMP configuration (see show snmp-server , page B-69).
show ssh-version	Displays the type of SSH enabled on the WLSE (see show ssh-version , page B-70).
show syslog	Displays the syslog (see show syslog , page B-70).
show tech	Displays information necessary for Cisco TAC to assist you (see show tech , page B-71).
show telnetenable	Displays Telnet status (see show telnetenable , page B-72).
show tomcatlog	Displays the Tomcat log (see show tomcatlog , page B-72).

Using the Maintenance Image

The WLSE has an operating system image and a default system configuration (hereafter collectively called the maintenance image) stored in flash memory. You can use the maintenance image to boot the system to perform some system administration tasks and disaster recovery (for example, if the filesystem becomes corrupted).

You can run only the following commands while the system is running from the maintenance image: **reload** (see [reload](#), page B-43), **erase config** (see [erase config](#), page B-25), and **fsck** (see [fsck](#), page B-80).

While the maintenance image is running, you can do the following tasks, which you cannot do when the system is booted normally from the disk:

- Recover from loss of all administrative user account passwords.
- Perform disk filesystem integrity checks.

Booting from the Maintenance Image

As a security measure, you can boot from the maintenance image only while connected to the system console.

-
- Step 1** Connect a console to the WLSE's console port, and log on as **admin**.
- For the WLSE 1105, use the serial port on the front panel; do not use the serial port on the back panel as the console port.
 - For the WLSE 1130, use the serial port on the back panel as the console port.
- Step 2** Reboot the system by doing one of the following:
- Enter the **reload** CLI command to reload the system if it is running. For information about this command, see [reload](#), page B-80.
 - Power on the system, if it is powered off.
 - Power the system off and then back on if you cannot log in because you have lost all user account passwords.
- Step 3** When the `LILLO boot :` prompt appears, press the Tab key.
- Step 4** When the `boot :` prompt appears, enter **CiscoBreR**.
- Step 5** After you complete all necessary tasks, reboot the system by entering the **reload** command and allow the system to boot from the disk (the default boot order).
-

Recovering from the Loss of All Administrator Passwords

If you cannot log into the system because you do not have the system administrator account names or passwords, you can recover by booting from the maintenance image, erasing the existing configuration from flash memory, and reconfiguring the system using the setup program.

To recover from the loss of all administrator passwords:

-
- Step 1** Connect a console to the WLSE's console port.
- For the WLSE 1105, use the serial port on the front panel; do not use the serial port on the back panel as the console port.
 - For the WLSE 1130, use the serial port on the back panel as the console port.
- Step 2** Power the system off, then power it back on. The following prompt appears:
- ```
LILO boot:
```
- Step 3** Press the Tab key. The following prompt appears:
- ```
boot:
```
- Step 4** Enter **CiscoBreR**. This puts you in maintenance image mode; the following prompt appears:
- ```
[root@CiscoMaintImage/]#
```
- Step 5** Enter **erase config**. This erases the WLSE's configuration, returns the WLSE to factory defaults, and reloads the WLSE.
- For more information about this command, see [erase config, page B-25](#).
- Step 6** After the WLSE comes up, the setup login prompt appears. Configure the system from the setup program, as described in [Using the Setup Program, page 3-2](#).
-

# Installing a Replacement WLSE

This section describes tasks you should perform when installing a replacement WLSE (replacing an existing WLSE with a new one). If you are simply using a backup from one WLSE to restore data on another WLSE, see [Copying Configuration Data from One WLSE to Another](#), page 4-19.

## Removing the Old WLSE

Before removing the old WLSE:

- 
- Step 1** Log in through the console or use Telnet or SSH. Enter the **show config** command to view the WLSE's configuration. If you are using the console:
- For the WLSE 1105, use the serial port on the front panel; do not use the serial port on the back panel as the console port.
  - For the WLSE 1130, use the serial port on the back panel as the console port.
- Step 2** Record the configuration.
- Step 3** Back up the data from the old WLSE. See [Backing Up and Restoring the WLSE's Configuration](#), page 4-3 for details.
- Step 4** Enter the **shutdown** command.
- Step 5** Power down and remove the old system.
- 

## Installing the Replacement WLSE

To install the replacement WLSE:

- 
- Step 1** Install and power on the new WLSE.
- Use the instructions in the *Quick Start Guide* that you received with the WLSE, or use the instructions in [Chapter 2, "Installing the CiscoWorks 1130 Wireless LAN Solution Engine,"](#) if you have a WLSE 1130.

- Step 2** Run the setup program and complete the configuration of the new WLSE. Use the configuration settings that you recorded from the old system to answer the setup program prompts.
- For information on the setup program and additional configuration steps, use the *Quick Start Guide* that you received with the system or use the instructions in [Chapter 3, “Configuring the Wireless LAN Solution Engine.”](#)
- Step 3** Use the **restore** command to restore the configuration data that you saved when you backed up the old system. Use the backup image name as an argument.
- The **restore** command allows you to access backups that are stored on the configured backup location. Use the **listbackup** command to see all of the available backups.
- Step 4** If you are *not* using the same basic configuration (for example, IP address and hostname) that you used on the old WLSE:
- Run the **erase config** CLI command and allow the WLSE to reboot. For more information on this command, see [erase config, page B-25](#).
  - Run the setup program again to make the necessary changes.
- 

## Copying Configuration Data from One WLSE to Another

You can back up data from one WLSE and copy it to another by using the backup and restore features. If you are replacing one WLSE with another, see [Installing a Replacement WLSE, page 4-18](#).



### Note

You cannot restore a backup from a WLSE 1130 to a WLSE 1105.

---

- Step 1** Back up the data on the original WLSE. For more information, see [Backing Up and Restoring the WLSE’s Configuration, page 4-3](#).
- Step 2** If you have installed a new WLSE and have not configured it yet, run the setup program and complete the configuration.

For information on the setup program and additional configuration steps, use the *Quick Start Guide* that you received with the system or use the instructions in [Chapter 3, “Configuring the Wireless LAN Solution Engine.”](#)

- Step 3** Restore the configuration data from your backup by using the **restore** command. Use the backup image name as the argument.

The **restore** command allows you to access backups that are stored on the configured backup location. Use the **listbackup** command to see all of the available backups.

- Step 4** Run the **erase config** CLI command and allow the WLSE to reboot. For more information on this command, see [erase config, page B-25](#).

- Step 5** Run the setup program again.
- 

## Using the Recovery CD

With the Recovery CD included with your WLSE, you can reimage the WLSE (see [Reimaging the WLSE, page 4-20](#)) or boot from the rescue image (see [Using the Rescue Image, page 4-21](#)). Use the Recovery CD to reimage the WLSE should it become necessary.

## Reimaging the WLSE



### Note

Although every effort has been made to validate the accuracy of the software version on the Recovery CD, you must review the WLSE's software downloads on <http://www.cisco.com> and download any necessary software updates. See the Readme files included with the updates to perform the update procedure.

---



### Caution

This procedure will destroy all data and install a new image. You will need to replace the data by using a configuration backup that you have made.

---

To reimage your WLSE, perform the following steps:

- 
- Step 1** Connect a console to the WLSE's serial port.
- For the WLSE 1105, use the serial port on the front panel; do not use the serial port on the back panel as the console port.
  - For the WLSE 1130, use the serial port on the back panel as the console port.
- Step 2** Log in as the **admin** user, and enter the password created when the WLSE was configured.
- Step 3** Put the Recovery CD in the WLSE's CD-ROM. For the location of the CD-ROM, see [Front Panel Features, page 1-3](#).
- Step 4** Enter the **reload** CLI command. The WLSE will reboot.
- Step 5** At the `Do you wish to continue (Yes/[No]/Rescue)` prompt, enter **yes**. If you do not want to re-image your WLSE, enter **rescue**. For more information about the rescue image, see [Using the Rescue Image, page 4-21](#).
- Step 6** When the WLSE ejects the Recovery CD, remove it.
- Step 7** At the `Do you wish to reload and start the install?(yes/[no])` prompt, enter **yes**. The WLSE reboots, and is re-imaged.
- 

## Using the Rescue Image

The rescue image is similar to the maintenance image, but is accessible via the Recovery CD. The rescue image is mainly used to aid technical support when diagnosing issues. Use the rescue image if you cannot use the maintenance image, but need to. You can use the rescue image to boot the system to perform some system administration tasks and disaster recovery. For more information about the uses of the rescue image, see [Using the Maintenance Image, page 4-15](#).

You can run only the following commands while the system is running the rescue image: **reload**, **erase config**, and **fsck**. For more information about these commands, see [Appendix B, "Using CLI Commands."](#)

To boot from the rescue image, perform the following steps:

- 
- Step 1** Connect a console to the WLSE's serial port.
- For the WLSE 1105, use the serial port on the front panel; do not use the serial port on the back panel as the console port.

- For the WLSE 1130, use the serial port on the back panel as the console port.
- Step 2** Log in as the **admin** user. The **admin** user's password was created when the WLSE was initially configured.
- Step 3** Put the Recovery CD in the WLSE's CD-ROM drive.
- For the location of the WLSE 1130 CD-ROM, see [Front Panel Features, page 1-3](#).
  - For the location of the WLSE 1105 CD-ROM, see the WLSE 1.3 documentation on [Cisco.com](#).
- Step 4** Enter the **reload** command. The WLSE will reboot.
- Step 5** At the `Do you wish to continue (yes/[no]/rescue):` prompt, enter **rescue**. The WLSE will boot from the rescue image.
-



# Troubleshooting

---

This appendix provides troubleshooting information for the CiscoWorks 1105 and CiscoWorks 1130 WLSEs. It includes information about problems related to initial configuration, connecting to the WLSE, and starting the WLSE.

For more troubleshooting information, see the *FAQs and Troubleshooting Guide for the CiscoWorks Wireless LAN Solution Engine, 2.0* on Cisco.com.

The appendix contains information about the following problems:

- [Cannot Download an Upgrade Image, page A-2](#)
- [Cannot Correct Setup Entries, page A-2](#)
- [Cannot Log Into the System, page A-2](#)
- [WLSE Cannot Connect to the Network, page A-3](#)
- [Cannot Connect to the WLSE Using a Web Browser, page A-5](#)
- [System Time or Date Is Incorrect, page A-6](#)
- [System Cannot Boot from the Hard Drive, page A-6](#)
- [Cannot Connect to System with Telnet or Telnet Interaction Is Slow, page A-7](#)

## Cannot Download an Upgrade Image

**Problem:** Image downloads hang.

**Possible Cause:** Scanning software can cause the image download to hang for a long time if the software is configured to scan compressed download files.

**Solution:** Cisco has checked the image zip files and their contents against viruses, so you can turn off this property during image download from Cisco.com.

## Cannot Correct Setup Entries

**Problem:** You entered incorrect text during the installation setup and want to fix the entry.

**Resolution:** Exit the installation by pressing **Ctrl-c**. Then run **erase config** to remove the incorrect installation information and re-run the setup program. If you use the erase config command to erase the previous WLSE configuration, and run the setup program again, you will be required to get a new certificate.

## Cannot Log Into the System

**Problem:** You cannot log into the system.

**Possible causes:**

- You did not run the setup program to create an initial system configuration.
- You lost all the user account passwords.

**Resolution:**

- 
- Step 1** Did you run the setup program after booting the system for the first time?  
If no, run the setup program as described in the [Using the Setup Program, page 3-2](#).  
If yes, continue.

- Step 2** Do you know the password for any system user accounts?
- If no, reconfigure the system to create a new user account. Refer to the [“Recovering from the Loss of All Administrator Passwords”](#) section on page 4-17 for more information.
- If yes, continue.
- Step 3** If you are certain you entered a valid username and password, contact Cisco’s Technical Assistance Center for assistance.
- 

## WLSE Cannot Connect to the Network

**Problem:** The system cannot connect to the network.

**Possible causes:**

- The network cable is not connected to the Ethernet 1 port.
- The Ethernet 1 interface is disabled or misconfigured.
- The system is configured correctly, but the network is down or misconfigured.

**Resolution:**

---

- Step 1** Verify that the network cable is connected to the Ethernet 1 port and the Ethernet indicator is lit.
- If the network cable is not connected, connect it.
  - If the network cable is connected but the Ethernet indicator is not lit, these are the probable causes:
    - The network cable is faulty.
    - The network cable is the wrong type (for example, a cross-over type, rather than the required straight-through type).
    - The port on the default gateway to which the system connects is down.

If the network cable is connected and the Ethernet indicator is on but the system cannot connect to the network, continue.

- Step 2** Use the **ping** command to perform the following tests:
- a. Try to ping a well-known host on the network. A DNS server is a good target host.  
  
If the ping command gets a response, the system is connected to the network. If it cannot connect to a particular host, the problem is either with the network configuration or that host. Contact your network administrator for assistance.  
  
If the ping command does not get a response, continue.
  - b. Attempt to connect to another host on the same subnet as the system.  
  
If the ping command can connect to a host on the same subnet, but cannot connect to a host on a different subnet, the default gateway is probably down.  
  
If the ping command cannot connect to any hosts, continue.
- Step 3** Use the **show interfaces** command to determine if the Ethernet 0 interface is disabled or misconfigured. For more information on the **show interfaces** command, see the *User Guide for the Wireless LAN Solution Engine*. You can access a PDF version of this guide by clicking **View PDF** in the WLSE's online help.  
  
If the Ethernet 1 interface is disabled, enable it. If it is misconfigured, configure it correctly. For more information, refer to "[Configuring the Ethernet Interfaces](#)" section on page 4-11.  
  
If the interface is enabled and correctly configured, continue.
- Step 4** Contact your network administrator to verify that there are no conditions on the network that prevent the system from connecting to the network.  
  
If conditions prevent the system from connecting to the network, have your network administrator correct them.
- Step 5** If no conditions are preventing the system from connecting to the network, contact Cisco's Technical Assistance Center.
-

# Cannot Connect to the WLSE Using a Web Browser

**Problem:** You cannot connect to the system by entering its IP address in a Web browser.

**Possible causes:**

- The system cannot connect to the network.
- HTTP or HTTPS is not enabled
- If connecting via HTTP, the IP address was not appended with **:1741**.
- The client system is not configured. See [Configuring the Web Browser, page 3-8](#).

**Resolution:**

---

**Step 1** Make sure that the system can connect to the network by following the procedure in [WLSE Cannot Connect to the Network, page A-3](#). Attempt to connect the system using a Web browser.

If you cannot connect, continue.

**Step 2** If you are attempting to connect via HTTP, verify that the IP address is appended with **:1741**.

**Step 3** If you are attempting to connect via HTTP, verify that HTTP is enabled. If you are attempting to connect via HTTPS, verify that HTTPS is enabled. For more information, see [Configuring the Ethernet Interfaces, page 4-11](#).

**Step 4** Verify that the browser is configured correctly, and attempt to connect to the WLSE. For more information, see [Configuring the Web Browser, page 3-8](#). If you cannot connect, continue to step 5.

**Step 5** At the system console, or through Telnet, verify that the Web Server and tomcat are running by entering the following:

```
services status
```

If they are running, go to step 7. If they are not running continue to step 6.

If you are using the console:

- For the WLSE 1105, use the serial port on the front panel; do not use the serial port on the back panel as the console port.
- For the WLSE 1130, use the serial port on the back panel as the console port.

- Step 6** Stop the system services by entering the following:
- ```
# services stop
```
- Step 7** Restart the system services by entering the following:
- ```
services start
```
- Step 8** Try to connect the system using a Web browser.  
If you cannot connect, continue to step 9.
- Step 9** Reboot the system by entering the **reload** command.  
For more information on the **reload** command, see the *User Guide for the Wireless LAN Solution Engine*. You can access a PDF version of this guide by clicking **View PDF** in the WLSE's online help.
- Step 10** If you still cannot connect to the system using a Web browser, contact Cisco's Technical Assistance Center for assistance.
- 

## System Time or Date Is Incorrect

**Problem:** The system time or date is incorrect.

**Possible causes:**

- NTP is misconfigured.
- The system clock is set incorrectly.

**Resolution:** Refer to the [“Setting WLSE Date and Time” section on page 4-9](#) for information about maintaining the system time and date.

## System Cannot Boot from the Hard Drive

**Problem:** The system cannot boot from the hard drive during a reboot.

**Possible causes:**

- The disk has a physical error.
- The disk image is corrupted.

**Resolution:** If the WLSE cannot boot from the hard drive, the hard drive needs to be reimaged. Use the Recovery CD to reimage your WLSE. For more information, see [Using the Recovery CD, page 4-20](#).

## Cannot Connect to System with Telnet or Telnet Interaction Is Slow

**Problem:** You cannot connect to the system using Telnet or Telnet interaction is slow, even though the system is connected to the network.

**Possible causes:**

- Telnet is disabled or configured incorrectly.
- The WLSE cannot recognize host names.



**Note**

If you are not using name recognition, slow or non-existent telnet interaction is an expected problem. For more information, see [Configuring Name Resolution, page 3-6](#).

**Resolution:** If the problem is not the network, perform the following steps. Connect to the console port if you cannot Telnet to the WLSE.

If you are using the console:

- For the WLSE 1105, use the serial port on the front panel; do not use the serial port on the back panel as the console port.
- For the WLSE 1130, use the serial port on the back panel as the console port.

**Step 1** Check the Telnet settings to be sure Telnet is enabled and configured correctly. For more information, see the following:

- To check the Telnet settings, or to enable or disable Telnet on specific domains or IP addresses, use the **telnet** CLI command. For more information on this command, see the *User Guide for the Wireless LAN Solution Engine*. You can access a PDF version of this guide by clicking **View PDF** in the WLSE's online help.

- To enable or disable Telnet on individual ports, use the **firewall CLI** command. For more information on this command, see the *User Guide for the Wireless LAN Solution Engine*. You can access a PDF version of this guide by clicking **View PDF** in the WLSE's online help.

**Step 2** If you have specified hosts using the **telnetenable** CLI command, make sure the host from which you are attempting to Telnet is on the list.

**Step 3** If you are using a DNS server, perform the steps

- a. Configure the system to use a functioning DNS server by entering:

```
ip name-server ip-address
```

where *ip-address* is the IP address of the DNS server.

If you are using the import CLI command, proceed to step 4.

- b. Verify that the system can get DNS services from the network by entering the following command:

```
nslookup dns-name {hostname | ip-address}
```

where *dns-name* is the DNS name of a host on the network that is registered in DNS and *hostname* and *ip-address* is the same IP address specified in [Step 2](#). The command returns the IP address of the host.

- c. If the system cannot resolve DNS names to IP addresses, the DNS server it is using is not working properly.

Resolve the network DNS problem, then continue.

**Step 4** If you are using the **import** CLI command to resolve host names, verify that the WLSE can resolve host names by entering the following command:

```
ping hostname
```

where *hostname* is a host name that has been mapped to an IP address, or imported in a host file, using the **import** command.

**Step 5** If the system can resolve DNS names to IP addresses but you still cannot connect to the system using Telnet, or Telnet interaction with the system is extremely slow, contact Cisco's Technical Assistance Center.

---



## Using CLI Commands

---

This appendix summarizes the command line interface (CLI) commands for WLSE 2.0.



### Note

---

When you use CLI commands to make a configuration change, the system configuration is updated immediately.

---

This appendix contains the following sections:

- [Using the CLI, page B-2](#)
- [CLI Conventions, page B-2](#)
- [Command Privileges, page B-2](#)
- [Checking Command Syntax, page B-3](#)
- [Command History Feature, page B-3](#)
- [Help for CLI Commands, page B-3](#)
- [Command Summary, page B-4](#)
- [Command Description Conventions, page B-4](#)
- [Privilege Level 0 Commands, page B-10](#)
- [Privilege Level 15 Commands, page B-17](#)
- [Maintenance Image Commands, page B-79](#)

# Using the CLI

There are two methods for using the CLI:

- Attach a console to the WLSE:
  - For the WLSE 1105, use the serial port on the front panel; do not use the serial port on the back panel as the console port.
  - For the WLSE 1130, use the serial port on the back panel as the console port.
- Access the WLSE using Telnet or SSH.



Note

---

Telnet is disabled by default. Use the **telnetenable** command to enable Telnet. See [telnetenable](#), page B-75.

---

## CLI Conventions

The command-line interface (CLI) uses the following conventions:

- The key combination **^c** or **Ctrl-c** means hold down the **Ctrl** key while you press the **c** key.
- A string is defined as a non-quoted set of characters.
- Use single-quotes (‘) to surround a series of parameters; do not use double-quotes

Do not confuse the WLSE’s CLI with the IOS CLI. Though they are similar, they are not identical.

## Command Privileges

Access to CLI commands is controlled by your user account privilege level. Users with privilege level 15 can use all commands. Users with privilege level 0 can use only a subset of the commands. The command descriptions in this appendix are organized by privilege level.

When booted from the maintenance image, the WLSE has a limited set of commands.

## Checking Command Syntax

The user interface provides several types of responses to incorrect command entries:

- `Command not found`—You entered a command line that does not contain any valid commands.
- `Incomplete command`—You entered a valid command but omitted required options.
- `Invalid input`—You entered a valid command but provided invalid options or parameters.

In addition, some commands have command-specific error messages that notify you that a command is valid, but that it cannot run correctly.

## Command History Feature

The CLI provides a command history feature. To display previously entered commands, press the up arrow key. After pressing the up arrow key, you can press the down arrow key to display the commands in reverse order. To run a command, press the Enter key while the command is displayed on the command line. You can also edit commands before pressing the Enter key.

## Help for CLI Commands

You can obtain help using the following methods:

- For a list of all commands and their syntax, type **help** and press **Enter**.
- For help on a specific command, use either of the following methods:
  - Type the command name, a space, **help**; then press **Enter**. For example, **ntp help**.

- Type **help**, a space, and the command name; then press **Enter**. For example, **help ntp**.

The help contains command usage information and syntax.

## Command Description Conventions

Command descriptions in this document and in the CLI help system use the following conventions:

- Vertical bars (|) separate alternative, mutually exclusive elements.
- Square brackets ([ ]) indicate optional elements.
- Braces ( { } ) indicate a required choice. Braces within square brackets ( [ { } ] ) indicate a required choice within an optional element.
- Boldface indicates commands and keywords that are entered literally as shown.
- Italics indicate arguments for which you supply values.

## Command Summary

[Table B-1](#) summarizes all commands available on the WLSE. For full descriptions of commands, see the following sections:

- [Privilege Level 0 Commands, page B-10](#)
- [Privilege Level 15 Commands, page B-17](#)
- [Maintenance Image Commands, page B-79](#)

Table B-1 Command Summary

| Command                  | Privilege Level  | Description                                                              | For a detailed description, see ...           |
|--------------------------|------------------|--------------------------------------------------------------------------|-----------------------------------------------|
| <b>auth</b>              | 15               | Enables secure remote authentication.                                    | <a href="#">auth</a> , page B-17              |
| <b>backup</b>            | 15               | Backs up WLSE configuration.                                             | <a href="#">backup</a> , page B-18            |
| <b>backupconfig</b>      | 15               | Sets the backup file location for all backup and restore operations.     | <a href="#">backupconfig</a> , page B-19      |
| <b>cdp</b>               | 15               | Enables or disables the Cisco Discovery Protocol (CDP).                  | <a href="#">cdp</a> , page B-20               |
| <b>clock</b>             | 15               | Sets the system date and time.                                           | <a href="#">show clock</a> , page B-11        |
| <b>df</b>                | 15               | Displays the current storage usage on the WLSE.                          | <a href="#">df</a> , page B-22                |
| <b>dumptcp</b>           | 15               | Displays TCP/IP packet content.                                          | <a href="#">dumptcp</a> , page B-23           |
| <b>erase config</b>      | 15 <sup>1</sup>  | Erases the configuration in flash memory and reloads the device.         | <a href="#">erase config</a> , page B-24      |
| <b>exit</b>              | 0                | Logs user out of the WLSE.                                               | <a href="#">exit</a> , page B-10              |
| <b>gethostbyname</b>     | 15               | Displays IP address of a known domain name.                              | <a href="#">gethostbyname</a> , page B-26     |
| <b>fsck</b>              | N/A <sup>2</sup> | Checks and repairs the file system.                                      | <a href="#">fsck</a> , page B-79              |
| <b>firewall</b>          | 15               | Implements port filtering on the WLSE.                                   | <a href="#">firewall</a> , page B-25          |
| <b>hostname</b>          | 15               | Changes the system host name.                                            | <a href="#">hostname</a> , page B-27          |
| <b>import</b>            | 15               | Imports host files or maps IP addresses to host names.                   | <a href="#">import</a> , page B-27            |
| <b>install configure</b> | 15               | Configures the repository for installing software updates on the WLSE.   | <a href="#">install configure</a> , page B-28 |
| <b>install list</b>      | 15               | Lists software updates and images currently available on the repository. | <a href="#">install list</a> , page B-29      |

Table B-1 Command Summary (continued)

| Command                         | Privilege Level | Description                                                                     | For a detailed description, see ...         |
|---------------------------------|-----------------|---------------------------------------------------------------------------------|---------------------------------------------|
| <a href="#">install update</a>  | 15              | Installs software updates and images from the repository.                       | <a href="#">install update</a> , page B-30  |
| <a href="#">interface</a>       | 15              | Configures Ethernet interfaces.                                                 | <a href="#">interface</a> , page B-31       |
| <a href="#">ip domain-name</a>  | 15              | Defines the default domain name.                                                | <a href="#">ip domain-name</a> , page B-33  |
| <a href="#">ip name-server</a>  | 15              | Specifies the address of name servers for name and address resolution.          | <a href="#">ip name-server</a> , page B-34  |
| <a href="#">listbackup</a>      | 15              | Lists all current backups at the configured site.                               | <a href="#">listbackup</a> , page B-35      |
| <a href="#">mail</a>            | 15              | Debugs and tests email settings.                                                | <a href="#">mail</a> , page B-36            |
| <a href="#">mailcntrl clear</a> | 15              | Deletes the mail log, send queue, or user queue.                                | <a href="#">mailcntrl clear</a> , page B-36 |
| <a href="#">mailcntrl list</a>  | 15              | Lists the size of the mail log, user queue, or send queue.                      | <a href="#">mailcntrl list</a> , page B-37  |
| <a href="#">mailroute</a>       | 15              | Forwards email to a specified server.                                           | <a href="#">mailroute</a> , page B-38       |
| <a href="#">mkcert</a>          | 15              | Generates a Certificate Signed Request (CSR) for HTTPS.                         | <a href="#">mkcert</a> , page B-38          |
| <a href="#">nslookup</a>        | 15              | Translates a device name to its IP address or an IP address to its device name. | <a href="#">nslookup</a> , page B-40        |
| <a href="#">ntp server</a>      | 15              | Allows the system clock to be synchronized by a time server.                    | <a href="#">ntp server</a> , page B-40      |
| <a href="#">ping</a>            | 0               | Sends ICMP echo_request packets for diagnosing basic network connectivity.      | <a href="#">ping</a> , page B-10            |
| <a href="#">reload</a>          | 15 <sup>1</sup> | Reboots the system.                                                             | <a href="#">reload</a> , page B-42          |
| <a href="#">reinitdb</a>        | 15              | Reinitializes the database.                                                     | <a href="#">reinitdb</a> , page B-43        |
| <a href="#">repository</a>      | 15              | Configures the WLSE to be a repository server.                                  | <a href="#">repository</a> , page B-44      |

Table B-1 Command Summary (continued)

| Command                           | Privilege Level | Description                                                                                | For a detailed description, see ...          |
|-----------------------------------|-----------------|--------------------------------------------------------------------------------------------|----------------------------------------------|
| <a href="#">repository add</a>    | 15              | Transfers software updates and images from a remote server to the WLSE's local repository. | <a href="#">repository add, page B-45</a>    |
| <a href="#">repository delete</a> | 15              | Deletes software updates and images on the local repository.                               | <a href="#">repository delete, page B-46</a> |
| <a href="#">repository list</a>   | 15              | Lists software updates and images on the local or remote repository.                       | <a href="#">repository list, page B-46</a>   |
| <a href="#">repository server</a> | 15              | Starts, stops, or displays the status of the WLSE's local repository.                      | <a href="#">repository server, page B-47</a> |
| <a href="#">restore</a>           | 15              | Restores backed up configuration from the configured location.                             | <a href="#">restore, page B-48</a>           |
| <a href="#">route</a>             | 15              | Adds a route.                                                                              | <a href="#">route, page B-49</a>             |
| <a href="#">services</a>          | 15              | Lists, starts, or stops management services.                                               | <a href="#">services, page B-50</a>          |
| <a href="#">show anilog</a>       | 15              | Displays the WLSE's ANI log.                                                               | <a href="#">show anilog, page B-51</a>       |
| <a href="#">show auth-cli</a>     | 15              | Displays the type of authentication used for secure CLI access.                            | <a href="#">show auth-cli, page B-52</a>     |
| <a href="#">show auth-http</a>    | 15              | Displays the type of authentication used for secure HTTP access.                           | <a href="#">show auth-http, page B-52</a>    |
| <a href="#">show backupconfig</a> | 15              | Displays the current backup and restore configuration.                                     | <a href="#">show backupconfig, page B-53</a> |
| <a href="#">show bootlog</a>      | 0               | Displays the messages logged during the last system boot.                                  | <a href="#">show bootlog, page B-54</a>      |
| <a href="#">show cdp neighbor</a> | 15              | Displays the WLSE's nearest neighbor on the network.                                       | <a href="#">show cdp neighbor, page B-55</a> |
| <a href="#">show cdp run</a>      | 15              | Displays the Cisco Discovery Protocol (CDP) configuration.                                 | <a href="#">show cdp run, page B-56</a>      |
| <a href="#">show clock</a>        | 0               | Displays system time in Coordinated Universal Time (UTC).                                  | <a href="#">show clock, page B-11</a>        |

Table B-1 Command Summary (continued)

| Command                              | Privilege Level | Description                                                                  | For a detailed description, see ...              |
|--------------------------------------|-----------------|------------------------------------------------------------------------------|--------------------------------------------------|
| <a href="#">show collectorlog</a>    | 15              | Displays the WLSE's collector log.                                           | <a href="#">show collectorlog</a> , page B-56    |
| <a href="#">show config</a>          | 15              | Displays WLSE configuration.                                                 | <a href="#">show config</a> , page B-57          |
| <a href="#">show daemonslog</a>      | 15              | Displays WLSE's daemons log.                                                 | <a href="#">show daemonslog</a> , page B-58      |
| <a href="#">show dmgtddlog</a>       | 15              | Displays WLSE's daemon manager log.                                          | <a href="#">show dmgtddlog</a> , page B-59       |
| <a href="#">show domain-name</a>     | 0               | Displays WLSE's domain name                                                  | <a href="#">show domain-name</a> , page B-12     |
| <a href="#">show webaccesslog</a>    | 15              | Displays WLSE's Web access log.                                              | <a href="#">show webaccesslog</a> , page B-60    |
| <a href="#">show weberrorlog</a>     | 15              | Displays WLSE's Web error log.                                               | <a href="#">show weberrorlog</a> , page B-61     |
| <a href="#">show websslaccesslog</a> | 15              | Displays WLSE's Web SSL log.                                                 | <a href="#">show websslaccesslog</a> , page B-62 |
| <a href="#">show import</a>          | 15              | Displays imported host files.                                                | <a href="#">show import</a> , page B-62          |
| <a href="#">show install logs</a>    | 15              | Displays software updates and images available on the configured repository. | <a href="#">show install logs</a> , page B-63    |
| <a href="#">show interfaces</a>      | 0               | Displays information about the WLSE's network interface .                    | <a href="#">show interfaces</a> , page B-13      |
| <a href="#">show ipchains</a>        | 15              | Displays IP chains for the selected interface.                               | <a href="#">show ipchains</a> , page B-63        |
| <a href="#">show hosts</a>           | 15              | Displays WLSE's host file.                                                   | <a href="#">show hosts</a> , page B-64           |
| <a href="#">show maillog</a>         | 15              | Displays WLSE's mail log.                                                    | <a href="#">show maillog</a> , page B-64         |
| <a href="#">show process</a>         | 0               | Displays information about processes running on the system.                  | <a href="#">show process</a> , page B-13         |
| <a href="#">show repository</a>      | 15              | Displays the status or the access log of a configured repository.            | <a href="#">show repository</a> , page B-66      |

Table B-1 Command Summary (continued)

| Command                  | Privilege Level | Description                                                                           | For a detailed description, see ...          |
|--------------------------|-----------------|---------------------------------------------------------------------------------------|----------------------------------------------|
| <b>show route</b>        | 15              | Displays the routes currently configured.                                             | <a href="#">show route, page B-67</a>        |
| <b>show securitylog</b>  | 15              | Displays WLSE's secure log information.                                               | <a href="#">show securitylog, page B-67</a>  |
| <b>show snmp-server</b>  | 15              | Displays WLSE's SNMP configuration.                                                   | <a href="#">show snmp-server, page B-68</a>  |
| <b>show ssh-version</b>  | 15              | Displays type of SSH enabled.                                                         | <a href="#">show ssh-version, page B-69</a>  |
| <b>show syslog</b>       | 15              | Displays syslog information.                                                          | <a href="#">show syslog, page B-69</a>       |
| <b>show tech</b>         | 15              | Displays information necessary for Cisco's Technical Assistance Center to assist you. | <a href="#">show tech, page B-70</a>         |
| <b>show telnetenable</b> | 15              | Displays WLSE's Telnet status.                                                        | <a href="#">show telnetenable, page B-71</a> |
| <b>show tomcatlog</b>    | 15              | Displays WLSE's Tomcat log.                                                           | <a href="#">show tomcatlog, page B-71</a>    |
| <b>show version</b>      | 0               | Displays information about current software installed on WLSE.                        | <a href="#">show version, page B-14</a>      |
| <b>shutdown</b>          | 15              | Shuts down system in preparation for powering it off.                                 | <a href="#">shutdown, page B-72</a>          |
| <b>snmp-server</b>       | 15              | Configures an SNMP agent.                                                             | <a href="#">snmp-server, page B-73</a>       |
| <b>ssh</b>               | 15              | Connects to an external host by using SSH.                                            | <a href="#">ssh, page B-74</a>               |
| <b>ssh-version</b>       | 15              | Enables Secure Shell (SSH) 1, SSH 2, or both SSH 1 and SSH 2.                         | <a href="#">ssh-version, page B-74</a>       |
| <b>telnet</b>            | 15              | Telnets to an external host.                                                          | <a href="#">telnet, page B-75</a>            |
| <b>telnetenable</b>      | 15              | Configures Telnet access.                                                             | <a href="#">telnetenable, page B-75</a>      |

*Table B-1 Command Summary (continued)*

| Command           | Privilege Level | Description                                                        | For a detailed description, see ...   |
|-------------------|-----------------|--------------------------------------------------------------------|---------------------------------------|
| <b>traceroute</b> | 0               | Displays route to a specified host and identifies faulty gateways. | <a href="#">traceroute, page B-15</a> |
| <b>username</b>   | 15              | Creates new user account or changes account properties.            | <a href="#">username, page B-76</a>   |
| <b>webtimeout</b> | 15              | Changes the session timeout for the Web interface.                 | <a href="#">webtimeout, page B-78</a> |

1. This command is also available in the maintenance image.
2. This command is available only in the maintenance image.

# Privilege Level 0 Commands

This section describes the privilege level 0 commands.

## exit

To log out of the system, use the following command:

```
exit
```

### Syntax Description

This command has no arguments or keywords.

### Example

The following command logs you out of the system:

```
exit
```

## ping

To send ICMP echo\_request packets for diagnosing basic network connectivity, use the following command.

```
ping [-c count] [-i wait] [-s packetsize] [-n] { hostname | ip-address }
```

### Syntax Description

|                   |                                                                                   |
|-------------------|-----------------------------------------------------------------------------------|
| <b>c</b>          | Sets the number of echo packets to send.                                          |
| <i>count</i>      | Number of echo packets to send.                                                   |
| <b>i</b>          | Sets the amount of time to wait between sending each packet.                      |
| <i>wait</i>       | Amount of time to wait between sending each packet, in seconds. The default is 1. |
| <b>s</b>          | Sets the size of each echo packet.                                                |
| <i>packetsize</i> | The size of each echo packet, in bytes. The default is 56.                        |

|                   |                               |
|-------------------|-------------------------------|
| <i>hostname</i>   | Host name of system to ping.  |
| <i>ip-address</i> | IP address of system to ping. |
| <b>n</b>          | Disables reverse DNS lookup.  |

## Usage Guidelines

To use this command with the *hostname* argument, DNS must be configured on the system.

To force the time-out of a nonresponsive host or to eliminate a loop cycle, press **Ctrl-c**.

## Example

This command sends 4 echo packets to the host otherhost with a wait time of 5 seconds between each packet:

```
ping -c 4 -i 5 209.165.200.224

PING 209.165.200.224 (209.165.200.224) from 209.165.201.0 : 56(84)
bytes of data.
64 bytes from dns-sj1.cisco.com (209.165.200.224): icmp_seq=0 ttl=246
time=16.3 ms
64 bytes from dns-sj1.cisco.com (209.165.200.224): icmp_seq=1 ttl=246
time=2.0 ms
64 bytes from dns-sj1.cisco.com (209.165.200.224): icmp_seq=2 ttl=246
time=2.1 ms
64 bytes from dns-sj1.cisco.com (209.165.200.224): icmp_seq=3 ttl=246
time=2.1 ms
```

## show clock

To display the system date and time in Coordinated Universal Time (UTC), use the following command.

```
show clock
```

## Syntax Description

This command has no arguments or keywords.

## Usage Guidelines

For more information about the system time, see [Setting WLSE Date and Time, page 4-9](#).

## Example

This command displays the system date and time:

```
show clock
12:43:47 Jun 20 2001
```

## Related Commands

```
clock
ntp server
```

# show domain-name

To display the system domain name, use the following command.

```
show domain-name
```

## Syntax Description

This command has no arguments or keywords.

## Example

This command displays the system domain name:

```
show domain-name
cisco.com
```

## show interfaces

To display information about the system network interface, use the following command.

### **show interfaces**

#### Syntax Description

This command has no arguments or keywords.

#### Example

This command displays information about system network interfaces:

```
show interfaces
eth0 Link encap:Ethernet HWaddr 00:02:B3:35:FD:CC
 inet addr:209.165.200.224 Bcast:209.165.201.0
 Mask:255.255.255.224
 UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
 RX packets:80309 errors:0 dropped:0 overruns:0 frame:0
 TX packets:22451 errors:0 dropped:0 overruns:0 carrier:0
 collisions:0 txqueuelen:100
 Interrupt:5 Base address:0xef00 Memory:d0c7e000-d0c7ec40
```

#### Related Commands

### **interface**

## show process

To display information about processes running on the system (including the status of the database), use the following command.

### **show process [ page ]**



#### Note

---

If the db2sync process is listed, the database is running.

---

## Syntax Description

**page** Displays command output one screen at a time. Press the Return key to display the next output screen. Press **Ctrl-c** to exit paged output and return to the command prompt.

## Example

This command displays information about processes running on the system:

```
show process page
PID PPID ELAPSED SZ STARTED TTY COMMAND
 1 0 4-20:04:35 277 Fri Jun 15 16:54:03 2001 ? init
 2 1 4-20:04:35 0 Fri Jun 15 16:54:03 2001 ? kflushd
 3 1 4-20:04:35 0 Fri Jun 15 16:54:03 2001 ? kupdate
 4 1 4-20:04:35 0 Fri Jun 15 16:54:03 2001 ? kpiod
 5 1 4-20:04:35 0 Fri Jun 15 16:54:03 2001 ? kswapd
 6 1 4-20:04:28 0 Fri Jun 15 16:54:10 2001 ? kreiserfsd
 81 1 4-20:04:25 0 Fri Jun 15 16:54:13 2001 ? kreiserfsd
 82 1 4-20:04:25 0 Fri Jun 15 16:54:13 2001 ? kreiserfsd
 83 1 4-20:04:25 0 Fri Jun 15 16:54:13 2001 ? kreiserfsd
 84 1 4-20:04:25 0 Fri Jun 15 16:54:13 2001 ? kreiserfsd
 85 1 4-20:04:24 0 Fri Jun 15 16:54:14 2001 ? kreiserfsd
199 1 4-20:04:23 290 Fri Jun 15 16:54:15 2001 ? watchdog
213 1 4-20:04:23 342 Fri Jun 15 16:54:15 2001 ? idled
402 1 4-20:04:17 290 Fri Jun 15 16:54:21 2001 ? syslogd
411 1 4-20:04:17 360 Fri Jun 15 16:54:21 2001 ? klogd
517 1 4-20:04:15 327 Fri Jun 15 16:54:23 2001 ? crond
531 1 4-20:04:15 286 Fri Jun 15 16:54:23 2001 ? inetd
540 1 4-20:04:14 585 Fri Jun 15 16:54:24 2001 ? sshd
585 1 4-20:04:09 842 Fri Jun 15 16:54:29 2001 ? dmgted.lnx
-----more-----
```

## show version

To display information about the current software on the system, use the following command.

```
show version
```

## Syntax Description

This command has no arguments or keywords.

## Example

This command displays the current software on the system:

```
show version
Copyright (c) 1999-2000 by Cisco Systems, Inc.
Build Version (166) Mon Jun 11 16:56:23 PDT 2001
Uptime: 4 days 20 hours 6 mins
Linux/UID32 version 2.2.16-13bipsec.uid32 (gcc version egcs1
```

## traceroute

To display the network route to a specified host and identify faulty gateways, use the following command.

```
traceroute [-f first_ttl] [-m max_ttl] [-w waittime] host [packetlength]
```

### Syntax Description

|                     |                                                                                                   |
|---------------------|---------------------------------------------------------------------------------------------------|
| <b>-f</b>           | (Optional) Sets the time-to-live used in the first outgoing probe packet.                         |
| <i>first_ttl</i>    | Time-to-live value of the first outgoing probe packet. The default is 1 hop.                      |
| <b>-m</b>           | (Optional) Sets the maximum time-to-live (maximum number of hops) used in outgoing probe packets. |
| <i>max_ttl</i>      | Maximum time-to-live for outgoing probe packets. The default is 30 hops.                          |
| <b>-w</b>           | (Optional) Sets the time to wait for a response to a probe, in seconds.                           |
| <i>waittime</i>     | Time to wait for a response to a probe, in seconds. The default is 5.                             |
| <i>host</i>         | Name or IP address of host to which to connect.                                                   |
| <i>packetlength</i> | (Optional) The length of the packet to send, in bytes. The default and minimum value is 40.       |

## Usage Guidelines

The command displays a list of the hosts that receive probe packets as they travel to the destination host, in the order that the receiving hosts receive the packets. Asterisks (\*) appear as the list entry for hosts that do not respond to probing correctly.

## Example

This command displays the network route to the host otherhost with a packet time-to-live value of 2, a wait time of 5 seconds, and 50-byte packets:

```
traceroute -m 20 -w 10 cisco.com 50
traceroute to example.com (209.165.200.224), 20 hops max, 50 byte
packets
 1 ex1.com (209.165.200.225) 0.981 ms 0.919 ms 0.926 ms
 2 ex2.com (209.165.200.254) 1.528 ms 0.747 ms 0.661 ms
 3 ex3.com (209.165.200.255) 0.887 ms 0.770 ms 0.744 ms
 4 ex4.com (209.165.201.0) 0.932 ms 0.789 ms 0.679 ms
 5 ex5.com (209.165.201.1) 1.066 ms 1.052 ms 0.983 ms
 6 ex6.com (209.165.201.30) 1.472 ms 1.247 ms 1.847 ms
 7 ex7.com(209.165.201.31) 1.738 ms 1.424 ms 1.658 ms
 8 ex8.com (209.165.202.128) 3.728 ms 2.429 ms 2.804 ms
 9 ex9.com (209.165.202.129) 6.283 ms 5.499 ms 3.285 ms
10 ex10.com (209.165.202.158) 9.926 ms 73.463 ms 3.895 ms
11 ex11.com (209.165.202.159) 70.967 ms * 47.106 ms
```

## Related Commands

### ping

# Privilege Level 15 Commands

This section describes the privilege level 15 commands. Only users with privilege level 15 can run these commands.

## auth

Use the following command to enable secure remote authentication.

```
auth { cli | http } { local | tacacs secret server1 [server2] | radius secret server1 [server2] | nt domain pdc [bdc] }
```

### Syntax Description

|                |                                                                                              |
|----------------|----------------------------------------------------------------------------------------------|
| <b>cli</b>     | Enables authentication using the Command Line Interface (CLI).                               |
| <b>http</b>    | Enables authentication using Hypertext Transfer Protocol (HTTP).                             |
| <b>local</b>   | Enables local authentication.                                                                |
| <b>tacacs</b>  | Enables authentication using the Terminal Access Controller Access Control System (TACACS).  |
| <b>radius</b>  | Enables authentication using Remote Dial-In User Service (RADIUS).                           |
| <b>nt</b>      | Enables authentication from an NT domain controller.                                         |
| <i>secret</i>  | Shared secret code of server.                                                                |
| <i>server1</i> | IP address or device name of server from which authentication will occur.                    |
| <i>server2</i> | IP address or device name of optional secondary server from which authentication could occur |
| <i>domain</i>  | NT domain name.                                                                              |
| <i>pdc</i>     | Name of the Primary Domain Controller (PDC).                                                 |
| <i>bdc</i>     | Name of the Backup Domain Controller (BDC).                                                  |

## Example

This command enables secure remote authentication from a remote server, using TACACS.

```
auth http tacacs tr5e43 209.165.200.224
```

## backup

Use the following command to back up the WLSE.

```
backup [test]
```

### Syntax Description

|             |                                                                          |
|-------------|--------------------------------------------------------------------------|
| <b>test</b> | Tests the configured backup hostname, username, password, and directory. |
|-------------|--------------------------------------------------------------------------|

### Usage Guidelines

To configure the backup location, use the **backupconfig** command.

## Example

The following command backs up the WLSE:

```
backup
```

### Related Commands

**backupconfig**

**listbackup**

**restore**

**show backupconfig**

# backupconfig

Use the following command to specify the host for all backup and restore operations. To clear the backup and restore configuration information, use the **no backupconfig** command.

```
backupconfig { hostname } { username } { password } [directory]
```

```
no backupconfig
```

## Syntax Description

|                  |                                                                                |
|------------------|--------------------------------------------------------------------------------|
| <i>hostname</i>  | Host name or IP address of the host system.                                    |
| <i>username</i>  | Username of host system.                                                       |
| <i>password</i>  | Password of the host system.                                                   |
| <i>directory</i> | Path to specific backup directory, if different from user's default directory. |

## Example

The following command will configure the backup and restore operations to backup to and restore from host 209.165.200.224, set the username to user1, and set the password to pass:

```
backupconfig 209.165.200.224 user1 pass
```

The following command clears all backup and restore configuration information:

```
no backupconfig
```

## Related Commands

```
backup
listbackup
restore
show backupconfig
```

# cdp

Use the following command to configure the Cisco Discovery Protocol (CDP). CDP allows a Cisco device to recognize, and be recognized by, other Cisco devices.

```
cdp { run [port] | timer seconds / holdtime seconds }
```

```
no cdp { run [port] | timer | holdtime }
```

## Syntax Description

|                 |                                                                                                                                                                                                                                                                                                                                                   |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>run</b>      | Start CDP; starts the WLSE sending out signals to other devices.                                                                                                                                                                                                                                                                                  |
| <b>timer</b>    | Set CDP packets retransmission time; sets the amount of time, in seconds, that CDP signals are sent.                                                                                                                                                                                                                                              |
| <b>holdtime</b> | Set CDP packet information hold time; sets the amount of time a device will recognize another device without receiving a signal. For example, if your system's holdtime is set to 30 seconds, and another device that has already been recognized by yours does not send a signal within that 30 seconds, your system will cease to recognize it. |
| <i>port</i>     | Ethernet port on which CDP will be enabled. Acceptable values are eth0-5. The default Ethernet port is port 0. On the WLSE 1130, eth0 corresponds to the port labeled A on the back panel, and eth1 corresponds to the port labeled B.                                                                                                            |
| <i>seconds</i>  | Amount of time, in seconds, that the system takes to either transmit the CDP packet information or to hold another system's CDP packet information.                                                                                                                                                                                               |

## Usage Guidelines

If you are using the **no cdp** command, the **timer** and **holdtime** values are set to their default values.

## Example

This command sets the CDP packet's retransmission time at 10 seconds.

```
cdp timer 10
```

This command sets the CDP packet's retransmission to its default time.

```
no cdp timer
```

## clock

To set the system date and time, use the following command. Read the usage guidelines before using this command.

```
clock {set hh:mm:ss month day year}
```

### Syntax Description

|                 |                                                                                                                                                             |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>set</b>      | Sets the system clock.                                                                                                                                      |
| <i>hh:mm:ss</i> | Current time (for example, 13:32:00).                                                                                                                       |
| <i>month</i>    | Current month. You can enter full month names or abbreviations that include at least the first 3 characters of the month name (for example, jan, feb, mar). |
| <i>day</i>      | Day of the month (for example, 1 to 31).                                                                                                                    |
| <i>year</i>     | Current year (for example, 2000).                                                                                                                           |

### Usage Guidelines

When resetting the time, you must stop and restart WLSE services. Otherwise, scheduled configuration and firmware jobs will not run properly. To reset the time:

- 
- Step 1** Stop services:
- ```
services stop
```
- Step 2** Change the time.
- Step 3** Start services:
- ```
services start
```
-

To set the date and time, use the **set** option.

If you configure the system to use Network Time Protocol (NTP), you do not need to set the system clock manually using the **clock** command. When setting the clock, enter the current time in Coordinated Universal Time (UTC).

For more information about the system time, see [Setting WLSE Date and Time, page 4-9](#).

## Example

This command sets the date and time:

```
clock set 16:00:00 dec 11 2001
```

```
Tue Dec 11 16:00:00 UTC 2001
```

## Related Commands

**ntp server**

**show clock**

## df

To display the current storage usage on the WLSE, use the following command.

**df**

## Usage Guidelines

This command is primarily intended as a debugging tool for problems with full partitions.

## Example

The following command displays the current storage usage on the WLSE:

```
df
Filesystem Size Used Avail Use% Mounted on
/dev/sda12 151M 59M 92M 39% /
/dev/sda1 49M 2.8M 44M 6% /boot
/dev/sda7 985M 24M 911M 3% /extra
/dev/sda8 601M 32M 569M 5% /home
```

```

/dev/sda6 1001M 136M 865M 14% /opt
/dev/sda13 9.7G 32M 9.7G 0% /tftpboot
/dev/sda9 601M 32M 569M 5% /tmp
/dev/sda10 591M 212M 350M 38% /usr
/dev/sda5 2.9G 450M 2.5G 15% /var

```

## dumptcp

This command displays TCP/IP network protocol packet content.

```

dumptcp proto { snmp snmp-trap ip icmp tcp udp | port port }
[interface eth[ernet]0-5] [host host [host2 host2]]

```

### Syntax Description

|                           |                                                                                                                                                                                                                                               |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>proto</b>              | Name of protocol. Enter <b>snmp</b> , <b>snmp-trap</b> , <b>ip</b> , <b>icmp</b> , <b>tcp</b> , or <b>udp</b> to specify the protocol for which you want to view the packet content. You must specify either a protocol or a port.            |
| <b>port</b>               | Use the port number to specify the protocol to observe, instead of specifying the protocol name. You must specify either a protocol or a port.                                                                                                |
| <i>port</i>               | The port number.                                                                                                                                                                                                                              |
| <b>interface eth[0-5]</b> | The interface to observe; <b>eth0</b> corresponds to Ethernet port 0, and <b>eth1</b> corresponds to Ethernet port 1. On the WLSE 1130, eth0 corresponds to the port labeled A on the back panel, and eth1 corresponds to the port labeled B. |
| <b>host, host2</b>        | The host(s) to observe.                                                                                                                                                                                                                       |
| <i>host</i>               | The host name(s).                                                                                                                                                                                                                             |

### Usage Guidelines

You can either specify a protocol by name or specify a port; you must specify one or the other. Optionally, you can specify the interface and specify one or two hosts to observe.

The command allows you to continuously observe the packets. Enter **Ctrl C** to terminate the command.

## Examples

The following command listens displays the SNMP packets in the interface:

```
dump tcp proto snmp interface eth1
```

The following command listens to packets from port 161 only with abc.com as either the source or destination host:

```
dump tcp port 161 host abc.com
```

## erase config

To erase the configuration in flash memory and reload the device, use the following command.

```
erase config
```

### Syntax Description

This command has no arguments or keywords.

### Usage Guidelines

When you enter the command, you are prompted for confirmation. Enter **yes** to confirm, or press **Enter** to accept the default response **no**.



---

**Caution**

When you confirm this command, the system configuration is erased and the system reboots automatically. The system will not operate until you reconfigure it.

---

When the system reboots, you must reconfigure it with the setup program. For information about using the setup program, see [Using the Setup Program, page 3-2](#).

### Example

This command erases the system configuration:

```
erase config
```

```
This will erase your configuration, return device t
```

```
o factory defaults, and reload the device
Do you want to continue?[no]:yes
```

## firewall

This command implements port filtering on the WLSE.

```
firewall eth [0-5] [public | private | none] | [icmp telnet ssh snmp
https 1741 repository tftp traceroute]
```

### Syntax Description

|                   |                                                                                                                                                                                                                                                                             |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>eth [0-5]</b>  | Port to be configured. Acceptable values are eth0-eth5; <b>eth0</b> corresponds to Ethernet port 0, and <b>eth1</b> corresponds to Ethernet port 1. On the WLSE 1130, eth0 corresponds to the port labeled A on the back panel, and eth1 corresponds to the port labeled B. |
| <b>public</b>     | Denies access via ICMP, Telnet, SNMP, and the HTTP 1741 port.                                                                                                                                                                                                               |
| <b>none</b>       | Disables the firewall on an interface.                                                                                                                                                                                                                                      |
| <b>private</b>    | Denies no access.                                                                                                                                                                                                                                                           |
| <b>icmp</b>       | Denies Internet Control Message Protocol (ICMP) ping messages.                                                                                                                                                                                                              |
| <b>telnet</b>     | Denies incoming Telnet connections.                                                                                                                                                                                                                                         |
| <b>ssh</b>        | Denies incoming SSH connections.                                                                                                                                                                                                                                            |
| <b>snmp</b>       | Denies incoming SNMP requests.                                                                                                                                                                                                                                              |
| <b>https</b>      | Denies all connections to the SSL HTTP port.                                                                                                                                                                                                                                |
| <b>1741</b>       | Denies all connections to the HTTP 1741 port.                                                                                                                                                                                                                               |
| <b>repository</b> | Disables the local software repository from access from the network.                                                                                                                                                                                                        |
| <b>traceroute</b> | Prevents the WLSE from responding to traceroute commands.                                                                                                                                                                                                                   |
| <b>tftp</b>       | Disables TFTP access.                                                                                                                                                                                                                                                       |

## Usage Guidelines

To configure an Ethernet port for secured public access, use the **public** option.

To configure an Ethernet port for local access, via a LAN or VLAN, use the **private** option.

To *disable* ICMP, Telnet, SSH, SNMP, HTTPS, or to deny connections to the SSL HTTP port or the HTTP 1741 port, use the corresponding option.

## Example

The following is an example of a secure Ethernet port configuration:

- Ethernet 0 port is connected to the Internet, and is configured to be accessible only via HTTPS by entering the following command:

```
firewall eth0 public ssh 1741
```

- Ethernet 1 port is connected to an internal LAN or VLAN, and is configured to be accessible via any of the supported protocols by entering the following command:

```
firewall eth1 private
```

An on-site user has full access to the WLSE, but an external user can only access it using a secure connection.

## gethostbyname

Use the following command to display the IP address of a known domain name.

```
gethostbyname host
```

## Syntax Description

|      |                      |
|------|----------------------|
| host | Domain name of host. |
|------|----------------------|

## Example

This command displays the IP address of example.com

```
gethostbyname example.com
209.165.200.224
```

## hostname

To change the system host name, use the following command.

```
hostname name
```

### Syntax Description

*name* New hostname for the WLSE. The name is case-sensitive and may be from 1 to 24 alphanumeric characters (A-Z, a-z, 0-9) plus the minus sign (-).

### Example

The following example changes the hostname to sandbox:

```
hostname sandbox
```

## import

To import host files, or to map IP addresses to hostnames, use the following command:

```
import {host hostname ipaddress} | {hosts ftp-host username password
path}
```

```
no import {host hostname ipaddress} | {hosts}
```

### Syntax Description

|                  |                                                 |
|------------------|-------------------------------------------------|
| <b>host</b>      | Maps one IP address to a hostname.              |
| <i>hostname</i>  | Hostname to map IP address to.                  |
| <b>hosts</b>     | Imports host files from an FTP-accessible host. |
| <i>ipaddress</i> | IP address to map Hostname to.                  |
| <i>password</i>  | Password used to access an FTP-accessible host. |
| <i>path</i>      | Path to an FTP-accessible host.                 |
| <i>ftp-host</i>  | IP address of an FTP-accessible host.           |

*username* username use to access an FTP-accessible host.

## Usage Guidelines

To map a single hostname to an IP address:

**import host** *hostname ipaddress*

To import host files from an external, FTP-accessible server:

**import hosts** *ftp-host username password path*

To remove an individual IP address from a host file:

**no import host** *hostname ipaddress*

To remove an imported host file:

**no import hosts**

## Example

This command imports host files from the FTP-accessible server ftpserver\_1. Ftpserver\_1 has the username admin, the password pass, and the path /ftpserver\_1/hosts.

```
import hosts ftpserver_1 admin pass /ftpserver_1/hosts
```

This command deletes the hosts imported in the example above:

```
no import hosts
```

## install configure

To define the repository that the WLSE uses to install software updates and images, use the following command. A repository is a remote or local server from where a system can download software updates and images. Only HTTP is supported.

**install configure** {**URL** *URL Value* | **default** | **save**}

## Syntax Description

**URL** Sets the URL of the repository.

|                  |                                                                                                                                |
|------------------|--------------------------------------------------------------------------------------------------------------------------------|
| <i>URL Value</i> | The URL of the repository. The URL should take the form of <code>http://host:port/path</code> (the path is not a requirement). |
| <b>default</b>   | Configures the Wireless LAN Solution Engine to be its own repository. The URL is <code>http://localhost:9851</code> .          |
| <b>save</b>      | Saves the current configuration in the <code>install.ini</code> file.                                                          |

## Example

The following command configures the WLSE to use `http://209.165.200.22`, with port 9851, as a repository:

```
install configure URL http://209.165.200.224:9851
```

## Related Commands

**install update**

**install list**

# install list

To list software updates and images currently available on the configured repository, use the following command. A repository is a remote or local server from where a system can receive software.

**install list [all | full | page | updates]**

## Syntax Description

|             |                                                                                                                                                                              |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>all</b>  | Displays all software updates and images on a configured repository. This command displays the name, the version, the requirements, the type, and a summary of the software. |
| <b>full</b> | Displays only the complete images on a configured repository. This command displays the name, the version, the requirements, the type, and a summary of the image.           |
| <b>page</b> | Displays only the names of all software updates and images on a configured repository. All other information is omitted.                                                     |

**updates** Displays only the updates on a configured repository. This command displays the name, the version, the requirements, the type, and a summary of the update.

## Example

Enter the following command to display a list of all available software updates and images on a configured repository:

```
install list all
Name Version Requires Type Summary
EX-1.02 1.02 HSE-1.0 UPDATE Hosting Solution...
EX-1.1aR 1.1aR HSE-1.1 UPDATE Hosting Solution...
EX-1.1a 1.1a HSE-1.1 UPDATE Hosting Solution...
EX-1.0a 1.0a HSE-1.0 UPDATE Hosting Solution...
EX-1.0aR 1.0aR HSE-1.0 UPDATE Hosting Solution...
EX-1.0-ROB 1.0 HSE-1.0 COMPLETE Hosting Solution...
EX-1.0 1.0 HSE-1.0 COMPLETE Hosting Solution...
```

## Related Commands

**install configure**

**install update**

## install update

To install a software update or image, use the following command.

```
install update package name
```

## Syntax Description

*Package Name* Name of the software update or image to be installed. To see the names of software updates and images available for installation, use the **install list** command. For more information, see [install list, page B-29](#).

## Example

The following command installs the update EX-2.0:

```
install update EX-2.0
```

## Related Commands

**install configure**

**install list**

## interface

To configure an Ethernet interface, use the following command.

```
interface eth[ernet][0-5] { [up | down] | ipaddress netmask
 [default-gateway address] [up | down] }
 [auto | speed [10 | 100 | 1000]] duplex [half | full]
```

## Syntax Description

|                  |                                                                                                                                                                                                                                                                                                                                 |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>eth[0-5]</b>  | Name of the interface port to be configured. Acceptable values are eth0-eth5; <b>eth0</b> corresponds to Ethernet port 0, and <b>eth1</b> corresponds to Ethernet port 1. On the WLSE 1130, eth0 corresponds to the port labeled A on the back panel, and eth1 corresponds to the port labeled B.                               |
| <b>up</b>        | Enables the interface (the default).<br><br>If you include the <i>ipaddress</i> parameter and want to enable the interface in the same command, either enter the <b>up</b> parameter after <i>ipaddress</i> and its required parameters, or do not specify the <b>up</b> or <b>down</b> parameters ( <b>up</b> is the default). |
| <b>down</b>      | Disables the interface.<br><br>If you include the <i>ipaddress</i> parameter and want to disable the interface in the same command, enter the <b>down</b> parameter after <i>ipaddress</i> and its required parameters.                                                                                                         |
| <i>ipaddress</i> | The IP address of the interface.                                                                                                                                                                                                                                                                                                |

|                           |                                                                              |
|---------------------------|------------------------------------------------------------------------------|
| <i>netmask</i>            | The netmask of the interface IP address.                                     |
| <b>default-gateway</b>    | The IP address of the default gateway that connects the WLSE to the network. |
| <i>address</i>            | The default gateway IP address.                                              |
| <b>up</b>                 | See the preceding description of <b>up</b> .                                 |
| <b>down</b>               | See the preceding description of <b>down</b> .                               |
| <b>auto</b>               | Allow the interface speed to be set automatically.                           |
| <b>speed</b>              | Set the interface speed to 10, 100, or 1000 megabits.                        |
| <b>duplex half   full</b> | Set interface to half- or full-duplex mode.                                  |

## Default

When you enter the **interface** command, the interface that you specify is enabled by default. If you want to disable an enabled interface or leave a disabled interface disabled, you must specify the **down** option.

## Usage Guidelines

If you change the IP address or hostname, follow these steps to make sure that applications can connect to the WLSE:

- 
- Step 1** Stop and restart management services by entering:
- ```
# services stop  
# services start
```
- Step 2** Verify that management applications can still connect to the WLSE.
- Step 3** Reconnect any applications that cannot connect to it using the system's new IP address or hostname.
-

Example

This command disables the Ethernet 1 interface:

```
interface eth1 down
```

This command sets the Ethernet 0 IP address, netmask, and gateway IP address:

```
interface eth0 209.165.200.224 255.255.255.224 default-gateway  
209.165.201.31 up
```

ip domain-name

To define a default domain name, use the following command. To remove the default domain name, use the **no** form of the command. A default domain name allows the system to resolve any unqualified host names. Any IP hostname that does not contain a domain name will have the configured domain name appended to it. If you are using a DNS server, this appended name is resolved by the DNS server, and then added to the host table.

```
ip domain-name name
```

```
no ip domain-name name
```

Syntax Description

name Domain name (for example, cisco.com).

Example

This command defines the default domain name cisco.com:

```
ip domain-name cisco.com
```

This command removes the default domain name:

```
no ip domain-name
```

Related Commands

```
ip name-server
```

ip name-server

To specify the addresses of up to three name servers for name and address resolution, use the following command. To remove a name server, use the **no** form of the command.

```
ip name-server ip-address
```

```
no ip name-server ip-address
```

Syntax Description

ip-address Name server IP address (maximum of 3).

Usage Guidelines

Use the **ip name-server** command to point the system to a specific DNS server. You may configure up to three servers.

If you attempt to configure a fourth name server, the following error message appears:

```
# Name-server table is full.
```

The system must be able to contact a functional DNS server to operate correctly. If it does not, in most cases it will not correctly process requests from management applications that use it. If the system cannot obtain DNS services from the network, Telnet connections to the system will fail or Telnet interaction with the system will become extremely slow.

Example

This command assigns a name server for the system to use for name-to-address resolution:

```
ip name-server 209.165.200.224
```

This command disables the name server; the system will not use it for name-to-address resolution:

```
no ip name-server 209.165.200.224
```

Related Commands

ip domain-name

listbackup

Use the following command to list all current backups at the configured site.

listbackup

Syntax Description

This command has no arguments or keywords.

Example

The following command lists all current backups at the configured site:

```
listbackup
ex1_06042001_170640: Hostname: ex1 Date: 06042001 time: 1700
ex1_06052001_124543: Hostname: ex1 Date: 06052001 time: 1243
ex1_06052001_155148: Hostname: ex1 Date: 06052001 time: 1558
ex1_06202001_145704: Hostname: ex1 Date: 06202001 time: 1454
```

Related Commands

backup

backupconfig

restore

show backupconfig

mail

To debug and test email settings, use the following command.

```
mail [ to user@host [ debug ]]
```

Syntax Description

to *user@host* Sends email to the specified recipient.

debug Debugs any email problems.

Entering the **mail** command with no arguments allows you to read email.

Example

The following command sends an email message:

```
mail to operator@sj_wlse  
Subject: test  
This is a test mail  
.  
Cc:
```



Note

You must end the mail message with a period (.) on a line by itself.

mailcntrl clear

To delete the mail log, send queue, or user queue, use the following command.

```
mailcntrl clear {log | sendqueue | userqueue}
```

Syntax Description

log Clears the WLSE's email log.

sendqueue Clears the WLSE's send queue.

userqueue Clears the WLSE's user queue.

Example

The following command clears the WLSE's email log.

```
mailcntrl clear log
```

Related Commands

```
mailcntrl list
```

mailcntrl list

To list the size of the mail log, user queue, or the send queue, use the following command.

```
mailcntrl list {logsize | sendqueuesize | userqueuesize}
```

Syntax Description

logsize	Size of the mail log.
sendqueuesize	Size of the sendqueue.
userqueuesize	Size of the userqueue.

Example

The following command displays the size of the WLSE's email log.

```
mailcntrl list logsize  
Mail log files total size: 4.0k
```

Related Commands

```
mailcntrl clear
```

mailroute

To forward email to a specified SMTP server, use the following command to specify the server. If no server is specified, the WLSE will use DNS to resolve the correct email server in your local domain. To stop forwarding mail to the SMTP server, use the **no mailroute** command to remove the mail server information.

```
mailroute {hostname | ip-address}
```

```
no mailroute
```

Syntax Description

<i>hostname</i>	Host name of an email server.
<i>ip-address</i>	IP address of an email server.

Example

The following command forwards email to a server with the hostname mailserver:

```
mailroute mailserver
```

mkcert

Use this command to generate a Certificate Signed Request (CSR) for enabling secure socket layer protocol (SSL), which provides a secure HTTPS connection between Web clients and the WLSE.

When you initially set up the WLSE, a private key, a self-signed certificate, and a certificate signing request (CSR) are generated. This set up procedure enables SSL.

The unsigned certificate expires in one year; use the **mkcert** command or the Web interface to obtain a permanent, signed certificate.



Note

When you wish to establish an SSL connection to the WLSE, use the https prefix instead of http when entering the URL into the browser. Do not append a port number to the URL.

Syntax Description

mkcert Creates a CSR.

Usage Guidelines

When you run **mkcert**, the following prompts are displayed. For some fields, there is a default name. If you enter a period (.), the field will be left blank.

Prompt	Response
1. Country Name 2. State or Province Name 3. Locality Name	Country, state or province, and city in which the WLSE is located. Use the 2-character code for the country and the full names of state or province and city.
4. Organization Name	Full name of the organization that owns the WLSE.
5. Organizational Unit Name	(Optional) Section of the organization that is using the WLSE.
6. Common Name	Fully qualified domain name of the organization that owns the WLSE.
7. Email Address	Email address of the organization that owns the WLSE.

After generating the certificate, view it in the Web interface (**Administration > Security > SSL (HTTPS)**). Copy everything between the BEGIN CERTIFICATE REQUEST and END CERTIFICATE REQUEST lines and send it to a certificate authority (such as Verisign). Use the authority's procedure for sending the certificate.

When you receive the signed certificate:

-
- Step 1** Copy the certificate into an ASCII file on a client system.
 - Step 2** Using the WLSE Web interface on the same client, select **Administration > Security > SSL (HTTP)**.
 - Step 3** Enter the path to the certificate or click **Browse** to locate it. Then click **Submit Certificate**.

Step 4 To use the new certificate, restart the WLSE by running the following commands:

```
services stop
services start
```

nslookup

To translate a device name to its IP address or an IP address to its device name, use the following command.

```
nslookup {dns-name | ip-address}
```

Syntax Description

<i>dns-name</i>	Device name of a host on the network.
<i>ip-address</i>	IP address of a host on the network.

Example

The following command translates the device name hostname to its IP address:

```
nslookup hostname
Server: dns.ex1.com
Address: 209.165.200.224

Name:    ex1.com
Address: 209.165.201.0
```

ntp server

To configure the Network Time Protocol (NTP) and allow the system clock to be synchronized by a time server, use the following command. To disable this function, use the **no** form of this command.

```
ntp server ip-address
```

```
no ntp server ip-address
```

Syntax Description

ip-address IP address of the NTP time server providing clock synchronization.

Usage Guidelines

Use the **ntp server** command to synchronize the system clock with the specified NTP server. If you configure multiple NTP servers, the system will synchronize with the first working NTP server it finds. There is no limit to the number of NTP servers that you can configure.

The **ntp server** command validates the NTP server that you specify. The possible results are:

- If the server is a valid NTP server, a message similar to the following appears:

```
# 19 Jan 00:43:48 ntpdate[1437]: step time server 209.165.200.224
offset 999.257304
```

- If no NTP server with the name or IP address you specified exists, a message similar to the following appears:

```
# 19 Jan 00:43:40 ntpdate[1431]: no server suitable for
synchronization found
```

In this case, remove the NTP server by using the **no** form of the command, then configure a valid NTP server.

- If the system time is set to a time later than the time on the NTP server, a message similar to the following appears:

```
# 19 Jan 00:43:58 ntpdate[1265]: Can't adjust the time of day:
Invalid argument.
```

In this case, the **ntp server** command is entered into the system configuration, but NTP will not function. Follow these steps to remove the command and configure NTP correctly:

-
- Step 1** Remove the **ntp server** command from the configuration by entering the **no** form of the command. For example:

```
no ntp server ip-address
```

where *ip-address* is the IP address of the NTP server.

- Step 2** Set the system clock to a time that is behind the time on the NTP server using the **clock set** command. For more information about the clock command, refer to [show clock](#), page B-11.
- Step 3** Enter the **ntp server** command again to configure the NTP server on the system. For example:
- ```
ntp server ip-address
```
- 

## Example

This command configures the system to use an NTP server:

```
ntp server 209.165.201.0
```

This command configures the system to stop using the NTP server:

```
no ntp server 209.165.201.0
```

## Related Commands

**clock**

# reload

To reboot the system, use the following command.

**reload**

## Usage Guidelines

You are prompted to verify the reload. Enter **yes** to confirm or **no** to cancel the reload.



### Caution

All processes running on the system stop when you run the **reload** command. The WLSE will not respond while it is reloading.

---

## Example

This command reboots the system:

```
reload
```

## Related Commands

**shutdown**

# reinitdb

To reinitialize the database, use the following command.

**reinitdb**



Note

---

This command stops and restarts system services.

---

## Syntax Description

This command has no arguments or keywords.

## Usage Guidelines

This command erases all information contained within the database and stops and restarts system services.

## Example

This command reinitializes the database:

```
reinitdb
```

## Related Command

**services**

# repository

To configure the WLSE to be a repository server, use the following command. A repository is a remote or local server from where a system can receive software updates and images.

**repository source** *URL*

## Syntax Description

**source** Sets the location from where the local repository downloads software updates and images.

*URL* The IP address of an external server containing software updates and images.

## Usage Guidelines

The **repository** command allows the WLSE to be a repository both for itself and for external systems.

The **repository** command only configures the WLSE to be a repository. To configure the WLSE to install software updates and images from this repository, see [install configure, page B-28](#).

## Example

To configure the WLSE to be a repository, and to download software updates and images from `http://209.165.200.224`, enter the following command:

```
repository source ftp://209.165.200.224
```

## Related Commands

**repository add**

**repository delete**

**repository list**

**repository server**

## repository add

To transfer software updates and images from a remote server to the WLSE's local repository, use the following command.

```
repository add package
```

### Syntax Description

*package*                      Name of the software update or image to be transferred.

### Usage Guidelines

You will be prompted to enter a username and password if they are needed to access the remote server.

### Example

To transfer the update EX\_2.0 from an update server to the local repository, enter the following command:

```
repository add ex_2.0
```

### Related Commands

**repository**

**repository delete**

**repository list**

**repository server**

## repository delete

To delete software updates and images on the WLSE's local repository, use the following command. A repository is a remote or local server from where a system can receive software updates and images.

**repository delete** [*package* | **all**]

### Syntax Description

**all** Deletes all software updates and images in the local repository.

*package* Name of the software update or image to be deleted.

### Example

The following command deletes the update EX\_2.0 from the local repository:

```
repository delete EX_2.0
```

### Related Commands

**repository**

**repository add**

**repository list**

**repository server**

## repository list

To list software updates and images on the configured local or remote repository, use the following command.

**repository list** { **local** | **remote** } [ **detail** ] [ **page** ]

### Syntax Description

**local** Lists software updates and packages on the local repository.

**remote** Lists software updates and packages on a remote repository.

|               |                                                                |
|---------------|----------------------------------------------------------------|
| <b>detail</b> | Includes details of the software updates and images displayed. |
| <b>page</b>   | Displays the software updates and packages on page at a time.  |

### Example

To list the software updates and images available on the configured local repository, with details and one page at a time, enter the following command:

```
repository list local detail page
```

### Related Commands

- repository**
- repository add**
- repository delete**
- repository server**

## repository server

To start, stop, or view the status of the WLSE's local repository, use the following command. A repository is a remote or local server from where a system can receive software updates and images.

```
repository server [stop | start | status]
```

### Syntax Description

|               |                                              |
|---------------|----------------------------------------------|
| <b>stop</b>   | Stops the local repository.                  |
| <b>start</b>  | Starts the local repository.                 |
| <b>Status</b> | Displays the status of the local repository. |

### Example

The following command stops the local repository:

```
repository server stop
```

## Related Commands

**repository**  
**repository add**  
**repository delete**  
**repository list**

## restore

Use the following command to restore a backed up configuration of the WLSE.

```
restore restore_name
```

## Syntax Description

*restore\_name*            Name of backup to be used to restore the WLSE.

## Usage Guidelines

After you restore a backup, all current domains, roles, users, and discovery configuration information will be erased.

You can restore configuration data from one WLSE to another; for example, if you want to replace one WLSE with another. For more information see, [Installing a Replacement WLSE, page 4-18](#) and [Copying Configuration Data from One WLSE to Another, page 4-19](#).

## Example

The following command will restore a backed up configuration:

```
restore backup1
```

## Related Commands

**backup**  
**backupconfig**  
**listbackup**

**show backupconfig**

## route

To add a route through a gateway device, use the following command. To delete a route, use the **no** version of the command.

```
route { network address } netmask { network netmask }
 gateway { gateway address }
```

```
no route { network address } netmask { network netmask }
```

### Syntax Description

|                        |                                               |
|------------------------|-----------------------------------------------|
| <b>netmask</b>         | Sets value of the network netmask.            |
| <b>gateway</b>         | Sets the IP address of the router or gateway. |
| <i>network address</i> | IP address of the network.                    |
| <i>network netmask</i> | Value of the network netmask.                 |
| <i>gateway address</i> | IP address of router or gateway.              |

### Example

The following command adds a route:

```
route 209.165.201.0 netmask 255.255.255.224 gateway 209.165.200.224
```

The following command deletes the above route:

```
no route 209.165.201.0 netmask 255.255.255.224
```

# services

To list, start, or stop the management services running on the system, use the following command.

```
services [status | start | stop]
```

## Syntax Description

|               |                                          |
|---------------|------------------------------------------|
| <b>status</b> | Displays the management services status. |
| <b>start</b>  | Starts the management services.          |
| <b>stop</b>   | Stops the management services.           |

## Usage Guidelines

Management services are the software installed on the system by network management applications. Use this command to stop and restart the management services if the system is not responding correctly to a management application. This should cause the services to reset and function properly again.

## Example

This command stops management services:

```
services stop
```

This command starts management services:

```
services start
```

This command shows services status:

```
services status
Process= HSECollector
 State = Running but busy flag set
 Pid = 588
 RC = 0
 Signo = 0
 Start = 06/15/01 16:54:32
 Stop = Not applicable
 Core = Not applicable
 Info = HSECollector started.

Process= HSEANIServer
```

```

State = Running but busy flag set
Pid = 589
RC = 0
Signo = 0
Start = 06/15/01 16:54:32
-----more-----

```

## Related Commands

**show process**

## show anilog

To display the WLSE's ANI log, use the following command.

```
show anilog [page] | include MatchString1 [MatchString2]
```

## Syntax Description

|                     |                                                                                                                                                                                  |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>page</b>         | Displays command output one screen at a time. Press the Return key to display the next output screen. Press <b>Ctrl-c</b> to exit paged output and return to the command prompt. |
| <b>include</b>      | Filters the command output to display only the records that contain the specified string of characters.                                                                          |
| <i>matchstring1</i> | String of characters to search for in the command output.                                                                                                                        |
| <i>matchstring2</i> | (Optional) Another string of characters to search for in the command output.                                                                                                     |

## Example

The following command displays the WLSE's ANI log, one page at a time:

```

show anilog page
/var/adm/CSCOets/log/ani.log
SNMPThrPool: Instantiated ex.lib.snmp.lib.timer.DynamicThreadPool, mi
n=15, max=48, maxIdleSecs=240
2001/12/20 13:43:12 main ani MESSAGE DBConnection: Created new
Database connecti
on [hashCode = 45981573]
2001/12/20 13:43:38 main ani MESSAGE ServletServiceModule: Moxie
Servlet Engine

```

```
is ready to receive requests
2001/12/20 15:43:39 HSEStatusPoll ani MESSAGE DBConnection: Created
new Database
 connection [hashCode = 85057415]
2001/12/20 17:43:39 HSEStatusPoll ani MESSAGE DBConnection: Created
new Database
 connection [hashCode = 396959623]
2001/12/20 19:43:39 HSEStatusPoll ani MESSAGE DBConnection: Created
new Database
--More--
```

## show auth-cli

To display the type of authentication used for secure CLI access, use the following command.

```
show auth-cli
```

### Syntax Description

This command has no arguments or keywords.

### Example

This command and response shows that the WLSE's local authentication is being used for the CLI:

```
show auth-cli
local
```

## show auth-http

To display the type of authentication used for secure HTTP access, use the following command.

```
show auth-http
```

### Syntax Description

This command has no arguments or keywords.

## Example

This command and response shows that the WLSE's local authentication is being used for the CLI:

```
show auth-http
local
```

## show backupconfig

The following command displays the current backup and restore configuration.

```
show backupconfig
```

## Syntax Description

This command has no arguments or keywords.

## Usage Guidelines

If the backup configuration has not been set, the host and username fields display NONE.

## Example

The following command displays the current backup and restore configuration:

```
show backupconfig
Hostname: 209.165.201.0
Username: user1
```

## Related Commands

**backup**

**backupconfig**

**listbackup**

**restore**

# show bootlog

To display the messages logged during the last system boot, use the **show bootlog** command.

**show bootlog [ page ]**

## Syntax Description

**page** Displays command output one screen at a time. Press the **return** key to display the next output screen. Press **Ctrl-c** to exit paged output and return to the command prompt.

## Example

This command displays the messages logged during the last system boot:

```
show bootlog page
Linux/UID32 version 2.2.16-13bipsec.uid32 (gcc version egcs1
Console: colour VGA+ 80x25
Calibrating delay loop... 1133.77 BogoMIPS
start low memory: 0xc0001000 i386_endbase: 0xc009f000
addresses range:: 0xc0f00000 0xc1000000
start memory: c04f8000 end_memory: d0000000
Memory: 257688k/262144k available (988k kernel code, 416k reserved,
2992k data,)
Dentry hash table entries: 262144 (order 9, 2048k)
Buffer cache hash table entries: 262144 (order 8, 1024k)
Page cache hash table entries: 65536 (order 6, 256k)
vmdump: setting dump_execute() as dump_function_ptr ...
VFS: Diskquotas version dquot_6.4.0 initialized
CPU: Intel Pentium III (Coppermine) stepping 06
Checking 386/387 coupling... OK, FPU using exception 16 error
reporting.
Checking 'hlt' instruction... OK.
POSIX conformance testing by UNIFIX
mtrr: v1.35a (19990819) Richard Gooch (rgooch@atnf.csiro.au)
PCI: PCI BIOS revision 2.10 entry at 0xfda95
PCI: Using configuration type 1
-----more-----
```

## Related Commands

**reload**

**clock**

## show cdp neighbor

To display the WLSE's nearest neighbor on the network, use the following command.

**show cdp neighbor**

## Syntax Description

This command has no arguments or keywords.

## Usage Guidelines

CDP neighbor information is usually broadcasted at 3- to 5-minute intervals, so there may be a delay in displaying neighbor information.

## Example

This command shows the nearest neighbor on the network.

```
show cdp neighbor
cdp neighbor device: Switch
 device type: cisco WS-C2924-XL
 port: FastEthernet0/12
 address: 209.165.201.0
```

## show cdp run

To display the Cisco Discovery Protocol (CDP) configuration, use the following command.

```
show cdp run
```

### Syntax Description

This command has no arguments or keywords.

### Example

This command displays the CDP configuration:

```
show cdp run
CDP protocol is enabled ...
 broadcasting interval is every 60 seconds.
 time-to-live of cdp packets is 180 seconds.

 CDP is enabled on port eth0.
```

## show collectorlog

To display the WLSE's collector log, use the following command.

```
show collectorlog [page] | include matchstring1 [matchstring2]
```

### Syntax Description

|                     |                                                                                                                                                                                  |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>page</b>         | Displays command output one screen at a time. Press the Return key to display the next output screen. Press <b>Ctrl-c</b> to exit paged output and return to the command prompt. |
| <b>include</b>      | Filters the command output to display only the records that contain the specified string of characters.                                                                          |
| <i>matchstring1</i> | String of characters to search for in the command output.                                                                                                                        |
| <i>matchstring2</i> | (Optional) Another string of characters to search for in the command output.                                                                                                     |

## Example

The following command displays the WLSE's collector log, one page at a time:

```
show collectorlog page
/var/adm/CSCOets/log/collector.log
2001/12/20 13:43:18 main HSECollector MESSAGE CollectorMain: Waiting
for databas
e to be ready
2001/12/20 13:43:21 main HSECollector MESSAGE CollectorMain: Database
is ready
SNMPThrPool: Instantiated ex.lib.snmp.lib.timer.DynamicThreadPool, mi
n=15, max=48, maxIdleSecs=0
2001/12/20 13:43:29 main HSECollector MESSAGE ServletServiceModule:
Moxie Servle
t Engine is ready to receive requests
2001/12/20 13:43:30 PeriodicSchedulerRun:FaultCleanup HSECollector
MESSAGE Colle
ctorDBUtils: DB.TableCleanupCommand=[VACUUM]
2001/12/20 13:43:30 PeriodicSchedulerRun:FaultCleanup HSECollector
MESSAGE Colle
ctorDBUtils: DB.TableUpdateStatsCommand=[VACUUM ANALYZE]
2001/12/21 10:39:52 Moxie Servlet Engine:Pooled Thread:1 HSECollector
MESSAGE Se
rvletContextAdaptor: Collector: init
```

## show config

To display the system configuration, use the following command.

```
show config
```

### Syntax Description

This command has no arguments or keywords.

### Example

This command displays the system configuration:

```
show config
hostname ex1
interface ethernet0 209.165.201.0 255.255.255.224 default-gateway
209.165.202.128
interface ethernet1 down
```

```

interface ethernet2 down
interface ethernet3 down
interface ethernet4 down
interface ethernet5 down
ip domain-name embu-doc
ip name-server 209.165.202.158
username admin epassword ***** privilege 15

```

## show daemonslog

To display the WLSE's daemons log, use the following command.

```
show daemonslog [page] | include matchstring1 [matchstring2]
```

### Syntax Description

|                     |                                                                                                                                                                                  |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>page</b>         | Displays command output one screen at a time. Press the Return key to display the next output screen. Press <b>Ctrl-c</b> to exit paged output and return to the command prompt. |
| <b>include</b>      | Filters the command output to display only the records that contain the specified string of characters.                                                                          |
| <i>matchstring1</i> | String of characters to search for in the command output.                                                                                                                        |
| <i>matchstring2</i> | (Optional) Another string of characters to search for in the command output.                                                                                                     |

### Example

The following command displays the WLSE's daemons log, one page at a time:

```

show daemonslog page
/var/adm/CSCOets/log/daemons.log
[dmgrDbg] getenv(PX_DBG)=NULL
[dmgrDbg] getenv(PX_MY_DEBUG)=NULL
[dmgrDbg] getenv(PX_MY_TRACE)=NULL
[dmgrDbg] getenv(PX_DBG_LEVEL)=NULL
[dmgrDbg][Thu Dec 20 13:42:53 2001]##### INFO ##### re-evaluate
DbgLevel=0x0
++>>it(1) = 8077978 <HSECollector>
++>>it(1) = 8077898 <HSEANIServer>
++>>it(1) = 8077428 <PostgreSQL>
++>>it(1) = 8077228 <WebServer>
++>>it(1) = 8077328 <Tomcat>

```

```

++>>it(1) = 80770d8 <ExcepReporter>
++>>it(1) = 8076fc8 <CDPbrdcast>
++>>it(1) = 8076e58 <PerfMon>
#!/bin/sh -v
#!/bin/sh -v

if ["$NMSROOT" = ""]; then
 NMSROOT=/opt/CSCOets
 export NMSROOT
fi

cd $NMSROOT
--More--

```

## show dmgtlog

To display the WLSE's daemon manager log, use the following command.

```
show dmgtlog [page] | include matchstring1 [matchstring2]
```

### Syntax Description

|                     |                                                                                                                                                                                  |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>page</b>         | Displays command output one screen at a time. Press the Return key to display the next output screen. Press <b>Ctrl-c</b> to exit paged output and return to the command prompt. |
| <b>include</b>      | Filters the command output to display only the records that contain the specified string of characters.                                                                          |
| <i>matchstring1</i> | String of characters to search for in the command output.                                                                                                                        |
| <i>matchstring2</i> | (Optional) Another string of characters to search for in the command output.                                                                                                     |

### Example

The following command displays the daemon manager log, one page at a time:

```

show dmgtlog page
/var/adm/CSCOets/log/dmgt.log
Dec 20 13:42:56 ex dmgt[712]: #3001:TYPE=INFO:Using port: tcp/42340.
Dec 20 13:42:56 ex dmgt[714]: #3007:TYPE=INFO:Started application(HSEC
ollector) "/bin/nice -n 19 /opt/CSCOets/bin/collector" pid=715.
Dec 20 13:42:56 ex dmgt[714]: #3007:TYPE=INFO:Started application(HSEA
--More--

```

## show webaccesslog

To display the WLSE's Web access log, use the following command.

```
show webaccesslog [page] | include matchstring1 [matchstring2]
```

### Syntax Description

|                     |                                                                                                                                                                                  |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>page</b>         | Displays command output one screen at a time. Press the Return key to display the next output screen. Press <b>Ctrl-c</b> to exit paged output and return to the command prompt. |
| <b>include</b>      | Filters the command output to display only the records that contain the specified string of characters.                                                                          |
| <i>matchstring1</i> | String of characters to search for in the command output.                                                                                                                        |
| <i>matchstring2</i> | (Optional) Another string of characters to search for in the command output.                                                                                                     |

### Example

The following command displays the Web access log, one page at a time:

```
show webaccesslog page
/var/adm/CSCOets/log/access_log
209.165.200.224 - - [21/Dec/2001:10:38:54 +0000] "GET / HTTP/1.0" 302
276 "-" "Moz
illa/4.76 [en]C-CCK-MCD (Windows NT 5.0; U)"
209.165.200.224 - - [21/Dec/2001:10:38:54 +0000] "GET
/perl/login-form.cgi HTTP/1.
0" 200 2268 "-" "Mozilla/4.76 [en]C-CCK-MCD (Windows NT 5.0; U)"
209.165.200.224 - - [21/Dec/2001:10:38:55 +0000] "GET /icons/hse.gif
HTTP/1.0" 200
5554 "http://209.165.201.0:1741/perl/login-form.cgi" "Mozilla/4.76
[en]C-CCK-MC
D (Windows NT 5.0; U)"
209.165.200.224 - - [21/Dec/2001:10:38:55 +0000] "GET
/icons/left_top.gif HTTP/1.0
" 200 324 "http://209.165.201.0:1741/perl/login-form.cgi"
"Mozilla/4.76 [en]C-CC
K-MCD (Windows NT 5.0; U)"
--More--
```

## show weberrorlog

To display the WLSE's Web error log, use the following command.

```
show weberrorlog [page] | include matchstring1 [matchstring2]
```

### Syntax Description

|                     |                                                                                                                                                                                  |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>page</b>         | Displays command output one screen at a time. Press the Return key to display the next output screen. Press <b>Ctrl-c</b> to exit paged output and return to the command prompt. |
| <b>include</b>      | Filters the command output to display only the records that contain the specified string of characters.                                                                          |
| <i>matchstring1</i> | String of characters to search for in the command output.                                                                                                                        |
| <i>matchstring2</i> | (Optional) Another string of characters to search for in the command output.                                                                                                     |

### Example

The following command displays the Web error log, one page at a time:

```
show weberrorlog page
/var/adm/CSCOets/log/error_log
[Thu Dec 20 13:43:00 2001] [error] (22)Invalid argument: <Perl>:
Invalid command
'secret', perhaps mis-spelled or defined by a module not included in
the server
configuration
[Thu Dec 20 13:43:00 2001] [error] (22)Invalid argument: <Perl>:
Invalid command
'line', perhaps mis-spelled or defined by a module not included in
the server c
onfiguration
[Thu Dec 20 13:43:00 2001] [error] (22)Invalid argument: <Perl>:
```

## show websslaccesslog

To display the WLSE's Web SSL log, use the following command.

```
show websslaccesslog [page] | include matchstring1 [matchstring2]
```

### Syntax Description

|                     |                                                                                                                                                                                  |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>page</b>         | Displays command output one screen at a time. Press the Return key to display the next output screen. Press <b>Ctrl-c</b> to exit paged output and return to the command prompt. |
| <b>include</b>      | Filters the command output to display only the records that contain the specified string of characters.                                                                          |
| <i>matchstring1</i> | String of characters to search for in the command output.                                                                                                                        |
| <i>matchstring2</i> | (Optional) Another string of characters to search for in the command output.                                                                                                     |

### Example

The following command displays the Web SSL log, one page at a time:

```
show websslaccesslog page
```

## show import

To display an imported host file, use the following command.

```
show import hosts
```

### Syntax Description

|              |                                                    |
|--------------|----------------------------------------------------|
| <i>hosts</i> | Name of server that host files were imported from. |
|--------------|----------------------------------------------------|

### Example

This command displays the imported host file.

```
show import ftpserver_1
```

## show install logs

This command displays the software updates and images available on the configured repository.

```
show install logs [short | long] [page]
```

### Syntax Description

|              |                                                                                                  |
|--------------|--------------------------------------------------------------------------------------------------|
| <b>short</b> | Displays only the names of software updates and images on the configured repository              |
| <b>long</b>  | Displays the names and descriptions of software updates and images on the configured repository. |
| <b>page</b>  | Displays command output one screen at a time.                                                    |

### Example

The following command displays the software updates and images available on the configured browser, one screen at a time:

```
show install updates page
2
NAME=EX-2.0a
```

## show ipchains

This command displays the IP chains for the selected interface.

```
show ipchains eth[0-5]
```

### Syntax Description

|                   |                                                                                                                                                                                                                                                                                                   |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>eth[ 0-5 ]</b> | Name of the interface port to be configured. Acceptable values are eth0-eth5; <b>eth0</b> corresponds to Ethernet port 0, and <b>eth1</b> corresponds to Ethernet port 1. On the WLSE 1130, eth0 corresponds to the port labeled A on the back panel, and eth1 corresponds to the port labeled B. |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Example

The following command displays the IP chains for the ethernet 0 interface:

```
show ipchains eth0
Chain ineth0 (1 references):
target prot opt source destination
ports
ACCEPT tcp -y--l- anywhere ex.help any -> telt
ACCEPT tcp ----- anywhere ex.help any -> telt
ACCEPT tcp ----- anywhere ex.help any -> 3345
ACCEPT tcp -y--l- anywhere ex.help any -> ssh
```

## show hosts

The following command displays the WLSE's host file.

```
show hosts [page]
```

### Syntax Description

**page** Displays command output one screen at a time.

### Example

The following command displays the host file one page at a time:

```
show hosts page
```

## show maillog

To display the WLSE's mail log, use the following command.

```
show maillog [page] | include matchstring1 [matchstring2]
```

### Syntax Description

**page** Displays command output one screen at a time. Press the Return key to display the next output screen. Press **Ctrl-c** to exit paged output and return to the command prompt.

|                     |                                                                                                         |
|---------------------|---------------------------------------------------------------------------------------------------------|
| <b>include</b>      | Filters the command output to display only the records that contain the specified string of characters. |
| <i>matchstring1</i> | String of characters to search for in the command output.                                               |
| <i>matchstring2</i> | (Optional) Another string of characters to search for in the command output.                            |

## Example

The following command displays the collector log, one page at a time:

```
show maillog page
/var/log/maillog
Dec 21 04:02:06 ex sendmail[11643]: EAA11643: from=root, size=307, class=0, pri=30307, nrcpts=1, msgid=<200112210402.EAA11643@ex.help>, relay=root@localhost
Dec 21 04:02:06 ex sendmail[11660]: EAA11643: SYSERR(root): Cannot execute /usr/bin/procmail: No such file or directory
Dec 21 04:02:06 ex sendmail[11643]: EAA11643: to=root, ctladdr=root (0/0), delay=00:00:06, xdelay=00:00:00, mailer=local, stat=Operating system error
```

## show proc

To display the WLSE's active process statistics, use the following command.

```
show proc [page]
```

## Syntax Description

**page** Displays command output one screen at a time.

## Example

The following command displays the active process statistics one page at a time:

```
show proc page
PID ELAPSED SZ STARTED TTY COMMAND
1 22:29:10 277 Thu Dec 20 13:42:29 2001 ? init
2 22:29:10 0 Thu Dec 20 13:42:29 2001 ? kflushd
3 22:29:10 0 Thu Dec 20 13:42:29 2001 ? kupdate
4 22:29:10 0 Thu Dec 20 13:42:29 2001 ? kpiod
5 22:29:10 0 Thu Dec 20 13:42:29 2001 ? kswapd
6 22:29:03 0 Thu Dec 20 13:42:36 2001 ? kreiserfsd
```

```

 85 22:29:00 0 Thu Dec 20 13:42:39 2001 ? kreiserfsd
 86 22:29:00 0 Thu Dec 20 13:42:39 2001 ? kreiserfsd
 87 22:28:59 0 Thu Dec 20 13:42:40 2001 ? kreiserfsd
 88 22:28:59 0 Thu Dec 20 13:42:40 2001 ? kreiserfsd
 89 22:28:59 0 Thu Dec 20 13:42:40 2001 ? kreiserfsd
 208 22:28:57 290 Thu Dec 20 13:42:42 2001 ? watchdog
 322 22:28:51 342 Thu Dec 20 13:42:48 2001 ? idled
 510 22:28:51 290 Thu Dec 20 13:42:48 2001 ? syslogd
 519 22:28:50 361 Thu Dec 20 13:42:49 2001 ? klogd
 637 22:28:48 327 Thu Dec 20 13:42:51 2001 ? crond
 651 22:28:48 286 Thu Dec 20 13:42:51 2001 ? inetd
 17076 18:23 364 Fri Dec 21 11:53:16 2001 ? _ in.telnetd
 17077 18:23 575 Fri Dec 21 11:53:16 2001 0 | _ login
-----more-----

```

## show repository

To display the status or the access log of a configured repository, use the following command.

```
show repository {[status | access-log]} [page]
```

### Syntax Description

|                   |                                                 |
|-------------------|-------------------------------------------------|
| <b>status</b>     | Displays the status of the local repository     |
| <b>access-log</b> | Displays the access-log of the local repository |
| <b>page</b>       | Displays command output one screen at a time.   |

### Example

This command displays the status of the configured repository:

```

show repository status
Repository Source: 171.69.212.146:9851
repository is running.

```

## show route

To display the routes currently configured, use the following command.

**show route**

### Syntax Description

This command has no arguments or keywords.

### Example

This command displays the currently configured routes

```
show route
Destination Gateway Genmask Flags Metric Ref Use Iface
209.165.200.224 0.0.0.0 255.255.255.224 UH 0 0 0 eth0
209.165.200.225 0.0.0.0 255.255.255.224 U 0 0 0 eth0
209.165.200.254 0.0.0.0 255.255.255.224 U 0 0 0 lo
209.165.202.128 0.0.0.0 255.255.255.224 UG 0 0 0 eth0
```

## show securitylog

To display the WLSE's security log information, use the following command.

**show securitylog [ page ] | include *matchstring1* [ *matchstring2* ]**

### Syntax Description

|                     |                                                                                                                                                                                  |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>page</b>         | Displays command output one screen at a time. Press the Return key to display the next output screen. Press <b>Ctrl-c</b> to exit paged output and return to the command prompt. |
| <b>include</b>      | Filters the command output to display only the records that contain the specified string of characters.                                                                          |
| <i>matchstring1</i> | String of characters to search for in the command output.                                                                                                                        |
| <i>matchstring2</i> | (Optional) Another string of characters to search for in the command output.                                                                                                     |

## Example

The following command displays the security log, one page at a time:

```
show securitylog page
/var/log/secure
Dec 20 13:45:23 ex in.tftpd[1381]: connect from 209.165.200.224
Dec 20 13:45:27 ex in.tftpd[1383]: connect from 209.165.200.224
Dec 20 13:45:31 ex in.tftpd[1385]: connect from 209.165.200.224
Dec 20 13:45:35 ex in.tftpd[1387]: connect from 209.165.200.224
Dec 20 13:45:39 ex in.tftpd[1389]: connect from 209.165.200.224
Dec 20 13:45:44 ex in.tftpd[1391]: connect from 209.165.200.224
Dec 20 13:45:48 ex in.tftpd[1393]: connect from 209.165.200.224
Dec 20 13:45:52 ex in.tftpd[1395]: connect from 209.165.200.224
Dec 20 13:45:56 ex in.tftpd[1397]: connect from 209.165.200.224
Dec 20 13:46:00 ex in.tftpd[1399]: connect from 209.165.200.224
Dec 20 13:46:04 ex in.tftpd[1412]: connect from 209.165.200.224
Dec 20 13:46:27 ex in.tftpd[1424]: connect from 209.165.200.224
Dec 20 13:46:31 ex in.tftpd[1426]: connect from 209.165.200.224
Dec 20 13:46:35 ex in.tftpd[1428]: connect from 209.165.200.224
Dec 20 13:46:39 ex in.tftpd[1430]: connect from 209.165.200.224
Dec 20 13:46:43 ex in.tftpd[1432]: connect from 209.165.200.224
Dec 20 13:46:47 ex in.tftpd[1434]: connect from 209.165.200.224
--More--
```

## show snmp-server

The following command displays the WLSE's SNMP configuration:

```
show snmp-server
```

### Syntax Description

This command has no arguments or keywords.

## Example

The following command displays the WLSE's SNMP configuration:

```
show snmp-server
RW community string: private
 RO community string: public
 sysLocation: your site information
 sysContact: your contact information
 trap-forwarding is disabled
```

## show ssh-version

The following command displays the type of SSH that is enabled:

```
show ssh-version
```

### Syntax Description

This command has no arguments or keywords.

### Example

This command displays the type of SSH that is enabled:

```
show ssh-version
SSH1, SSH2
```

## show syslog

To display syslog information, use the following command.

```
show syslog [page] [include matchstring1 [matchstring2]]
```

### Syntax Description

|                     |                                                                                                                                                                                  |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>page</b>         | Displays command output one screen at a time. Press the Return key to display the next output screen. Press <b>Ctrl-c</b> to exit paged output and return to the command prompt. |
| <b>include</b>      | Filters the command output to display only the records that contain the specified string of characters.                                                                          |
| <i>matchstring1</i> | String of characters to search for in the command output.                                                                                                                        |
| <i>matchstring2</i> | (Optional) Another string of characters to search for in the command output.                                                                                                     |

### Usage Guidelines

To filter command output to include only the records that contain the specified string(s) of characters, use the **include** option with one or two character strings to search for.

If you include two strings, the command outputs only those records that contain both character strings.

## Example

This command displays syslog information:

```
show syslog
Jun 20 16:04:23 ex syslogd 1.3-3: restart.
Jun 20 16:04:23 ex syslog: syslogd startup succeeded
Jun 20 16:04:23 ex kernel: klogd 1.3-3, log source = /proc/kmsg start.
Jun 20 16:04:23 ex kernel: Inspecting /boot/System.map-2.2.16-13bipse2
Jun 20 16:04:23 ex syslog: klogd startup succeeded
-----more-----
```

## Related Command

**interface**

## show tech

Use the following command to display information necessary for Cisco's Technical Assistance Center to assist you:

```
show tech [page]
```

## Syntax Description

**page** Displays command output one screen at a time. Press the Return key to display the next output screen. Press **Ctrl-c** to exit paged output and return to the command prompt.

## Example

This command displays system information necessary for Cisco's Technical Assistance Center to assist you.

```
show tech page
/bin/cat: /var/log/secure: Permission denied
Copyright (c) 1999-2000 by Cisco Systems, Inc.
Build Version (166) Mon Jun 11 16:56:23 PDT 2001
Linux/UID32 version 2.2.16-13bipsec.uid32 (gcc version egcs1
Uptime: 0 days 18 hours 35 mins
```

```

2 Ethernet interfaces
hostname ex
interface ethernet0 209.165.200.224 255.255.255.224 default-gateway
209.165.202.128
ip name-server 209.165.201.0
username admin epassword ***** privilege 15
eth0 Link encap:Ethernet HWaddr 00:02:B3:35:FD:CC
 inet addr:209.165.200.224 Bcast:209.165.201.31
Mask:255.255.255.224
-----more-----

```

## show telnetenable

To display the WLSE's Telnet status, use the following command.

```
show telnetenable
```

### Syntax Description

This command has no arguments or keywords.

### Example

The following command shows whether Telnet is enabled or disabled:

```

show telnetenable
telnet enable for: ALL

```

## show tomcatlog

To display the WLSE's Tomcat log, use the following command.

```
show tomcatlog [page] | include matchstring1 [matchstring2]
```

### Syntax Description

|             |                                                                                                                                                                                  |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>page</b> | Displays command output one screen at a time. Press the Return key to display the next output screen. Press <b>Ctrl-c</b> to exit paged output and return to the command prompt. |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                     |                                                                                                         |
|---------------------|---------------------------------------------------------------------------------------------------------|
| <b>include</b>      | Filters the command output to display only the records that contain the specified string of characters. |
| <i>matchstring1</i> | String of characters to search for in the command output.                                               |
| <i>matchstring2</i> | (Optional) Another string of characters to search for in the command output.                            |

## Example

The following command displays the tomcat log, one page at a time:

```
show tomcatlog page
/var/adm/CSCOets/log/tomcat.log
2001-12-20 01:43:06 - ContextManager: Adding context Ctx(/examples)
2001-12-20 01:43:06 - ContextManager: Adding context Ctx(/admin)
Starting tomcat. Check logs/tomcat.log for error messages
2001-12-20 01:43:06 - ContextManager: Adding context Ctx()
getUIProperties(): unhandled error could be a bad ui.properties
java.lang.NullPointerException
 at java.io.Reader.<init>(Reader.java:68)
 at java.io.InputStreamReader.<init>(InputStreamReader.java:96)
--More--
```

## shutdown

To shut down the system in preparation for powering it off, use the following command.

### shutdown

#### Syntax Description

This command has no arguments or keywords.

#### Usage Guidelines

All processes running on the WLSE will stop, and it will not respond until you power it off and back on.

You are prompted to verify the shutdown. Enter **yes** to continue, or **no** to cancel the shutdown.

**Caution**


---

Never power the system off without running the **shutdown** command first. Doing so can destroy data and prevent the system from booting.

---

**Example**

This command shuts down the system:

```
shutdown
```

**Related Commands**

```
reload
```

**snmp-server**

To configure an simple network management protocol (SNMP) agent, use the following command.

```
snmp-server { community community-name [RO | RW] | location
sysLocation-info | contact sysContact-info }
```

```
no snmp-server { community community-name | location | contact }
```

**Syntax Description**

|                         |                                                            |
|-------------------------|------------------------------------------------------------|
| <b>community</b>        | sets the community strings that permit access to the SNMP. |
| <i>community-name</i>   | the community name string.                                 |
| <b>RO</b>               | read only.                                                 |
| <b>RW</b>               | read / write.                                              |
| <b>location</b>         | sets the system location string.                           |
| <i>sysLocation-info</i> | the location string.                                       |
| <b>contact</b>          | sets the contact string.                                   |
| <i>sysContact-info</i>  | the contact string.                                        |

## Example

This command sets an SNMP contact string:

```
snmp-server contact Dial System Operator at Beeper # 27345
```

## ssh

To use SSH to connect to an external host, use the following command.

```
ssh [options] host [command]
```

## Syntax Description

|                |                                                                                                        |
|----------------|--------------------------------------------------------------------------------------------------------|
| <i>options</i> | Standard SSH options. For a list of these options, enter the <b>ssh</b> command without any arguments. |
| <i>host</i>    | Name or IP address of host to which to connect.                                                        |
| <i>command</i> | Command for the external host to execute.                                                              |

## Example

Enter the following command to connect to an external host using SSH:

```
ssh 209.165.200.224
```

## ssh-version

Use the following command to enable Secure Shell (SSH) 1, SSH 2, or both SSH 1 and SSH 2.

```
ssh-version { ssh1 | ssh2 | both }
```

## Syntax Description

|             |                             |
|-------------|-----------------------------|
| <b>ssh1</b> | Enables SSH 1               |
| <b>ssh2</b> | Enables SSH 2               |
| <b>both</b> | Enables both SSH 1 and SSH2 |

## Example

This command enables ssh1:

```
ssh-version ssh1
```

## telnet

To Telnet to an external host, use the following command.

```
telnet { hostname | ip-address } [portnumber]
```

### Syntax Description

|                   |                                    |
|-------------------|------------------------------------|
| <i>hostname</i>   | Hostname of the external device.   |
| <i>ip-address</i> | IP address of the external device. |
| <i>portnumber</i> | portnumber of the external device. |

## Example

Enter the following command to telnet to port 9851 of a system with the IP address 209.165.200.224:

```
telnet 209.165.200.224 9851
```

## telnetenable

To configure Telnet access, use the following command.

```
telnetenable { enable [ip-addresses | domains] | disable | status }
```

### Syntax Description

|                |                                       |
|----------------|---------------------------------------|
| <b>enable</b>  | Enables Telnet access to the system.  |
| <b>disable</b> | Disables Telnet access to the system. |
| <b>status</b>  | Displays current access status.       |

|                     |                                                                                                                                                                                       |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>ip-addresses</i> | IP addresses of systems allowed Telnet access. If this argument is used, no other machines will be allowed access. Multiple IP address are allowed.                                   |
| <i>domains</i>      | Domains of systems allowed Telnet access. If this argument is used, machines with domains other than the specified domain will be denied Telnet access. Multiple domains are allowed. |

## Default

The default is **disable**.

## Usage Guidelines

To enable Telnet access to the system for *all* IP source addresses, use the **telnetenable enable** command alone. To enable *specific* IP addresses, use the **telnetenable enable** command followed by the IP addresses.

## Example

This command enables Telnet for all IP source addresses:

```
telnetenable enable
```

## username

To create a new user account or change an account's properties, use the following command. Use the **no** form of the command to remove a user account.

```
username name password password [privilege { 0 | 15 }]
```

```
no username name
```

## Syntax Description

|                 |                                                                                                   |
|-----------------|---------------------------------------------------------------------------------------------------|
| <i>name</i>     | Name of the user account to create or remove. The user name can be up to 32 characters in length. |
| <b>password</b> | Specifies a password for the account. Passwords can be from 5 to 8 characters in length.          |

|                  |                                                            |
|------------------|------------------------------------------------------------|
| <i>password</i>  | The password for the account.                              |
| <b>privilege</b> | (Optional) Specifies the account privilege level.          |
| <b>0</b>         | Gives the account level 0 privileges. This is the default. |
| <b>15</b>        | Gives the account level 15 privileges.                     |

## Usage Guidelines

Use the **no** form of the command to remove a user account. The default privilege level is 0 if you do not provide the privilege option.

For the allowable characters in the user name and password, see the naming guidelines appendix in the Web interface online help or in the *User Guide for the CiscoWorks Wireless LAN Solution Engine*.

Users that you create by using this command do not automatically have the HTTP access that is required for using the WLSE's web interface. To provide such users with HTTP access:

- 
- Step 1** Log into the Web interface as admin or as another user with system administrator privileges.
  - Step 2** Select **Administration > User Admin**, then select **Manage Users**.
  - Step 3** For each user you added by using the CLI:
    - a. Select the username, then select the relevant role(s).
    - b. Click **Modify**.
- 

For more information about managing users, see online help or the *User Guide for the Wireless LAN Solution Engine*.

## Example

This command creates a user account named user1 with password password1 and privilege level 15:

```
username user1 password password1 privilege 15
```

This command removes the user account:

```
no username user1
```

## webtimeout

Sets the timeout period for the Web interface. After the timeout expires, you are logged out. The default is 30 minutes (1800 seconds).

**webtimeout** [ **status** | **time** *seconds* | **default** ]

### Syntax Description

|                            |                                                                          |
|----------------------------|--------------------------------------------------------------------------|
| <b>status</b>              | Shows the current web session timeout setting.                           |
| <b>time</b> <i>seconds</i> | Sets the web session timeout period.                                     |
| <b>default</b>             | Resets the web session timeout to the default 30 minutes (1800 seconds). |

### Example

```
webtimeout time 3600 seconds
```

# Maintenance Image Commands

This section describes the commands that are available when the system is booted from the maintenance image. For more information about the maintenance image, refer to the *Installation and Configuration Guide for the Wireless LAN Solution Engine*.

## erase config

This command is identical to the level-15 **erase config** command. For a description, see [erase config, page B-24](#).

## fsck

To check and repair the filesystem, use the following command.

```
fsck
```

### Syntax Description

This command has no arguments or keywords.

### Usage Guidelines

This command might prompt you for confirmation before making certain repairs.

### Example

The following command checks and repairs the filesystem:

```
fsck
```

## reload

This command is identical to the level 15 **reload** command. For a description, see [reload, page B-42](#).

## Technical Specifications

*Update these specs.*

Table B-1 provides the Wireless LAN Solution Engine's (WLSE) specifications.

**Table B-1** WLSE Technical Specifications

| Component               | Specifications                                                            |
|-------------------------|---------------------------------------------------------------------------|
| CPU                     | ??                                                                        |
| Hard drive              | ??                                                                        |
| Serial ports            | Two 9-pin connectors                                                      |
| RJ-45 ports             | RJ-45 connectors for connection to integrated 10/100 Ethernet controllers |
| AC power supply wattage | 125 W                                                                     |
| AC power supply voltage | 100 to 120 VAC / 200 to 240 VAC, 50 / 60 Hz                               |
| System battery          | CR2032 3-V lithium coin cell                                              |
| Height                  | 4.3 cm (1.7 inches)                                                       |
| Width                   | 42.5 cm (16.7 inches)                                                     |
| Depth                   | 55 cm (22 inches)                                                         |
| Weight                  | 10 kg (23 lb) maximum                                                     |
| Operating temperature   | 10° to 35°C (50° to 95°F)                                                 |
| Storage temperature     | -40° to 65°C (-40° to 149°F)                                              |

**Table B-1 WLSE Technical Specifications (continued)**

| <b>Component</b>                        | <b>Specifications</b>                                                                                                                               |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating relative humidity             | 8% to 80% (noncondensing) with a humidity gradation of 10% per hour                                                                                 |
| Storage relative humidity               | 5% to 95% (noncondensing)                                                                                                                           |
| Operating maximum vibration             | 0.25 G (half-sine wave) at a sweep of 3 to 200 Hz for 15 minutes                                                                                    |
| Storage maximum vibration               | 0.5 G at 3 to 200 Hz for 15 minutes                                                                                                                 |
| Operating maximum shock                 | Six consecutively executed shock pulses in the positive and negative x, y, and z axes (one pulse on each side of the system) of 41 G for up to 2 ms |
| Storage (non-operational) maximum shock | Six consecutively executed shock pulses in the positive and negative x, y, and z axes (one pulse on each side of the system) of 71 G for 2 ms       |
| Operating altitude                      | -16 to 2000 m (-50 to 6500 ft)                                                                                                                      |
| Storage altitude                        | -16 to 10,600 m (-50 to 35,000 ft)                                                                                                                  |



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