Island Router CLI Reference Guide 2.3.2

Overview

This is the Command Line Interface (CLI) reference guide for Island Router firmware version 2.3.2.

The Command Line Interface (CLI) provides a low-level interface for the configuration and monitoring of the Island router. It is accessed via the SSH protocol on TCP port 22. On some Island models, the CLI can also be accessed through a serial port.

When logging in to the CLI, two different user names are available: “admin” and “user”. The admin account has full privileges and access to all CLI commands. The user account is a read-only account which cannot access any commands that change the system configuration.

Before the CLI can be accessed, the SSH password must be set via the Island app. This sets the password for the “admin” user. The password for the “user” login can be set by the admin user using the CLI password command.

The CLI can also be accessed using SSH public key authentication. Authorized keys can be configured using the configure authorized-keys CLI command.

CLI command names and most keywords cay be abbreviated using the shortest unique prefix. For example, `show interface summary` can be abbreviated as `sh int sum` or even `sh in su`, but not as `s int sum` since the leading "s" is ambiguous.

Most CLI commands take effect immediately when issued, but are not saved to non-volatile storage until the write memory command is issued. In other words, the write memory command makes the current running configuration permanent by copying it to the startup configuration. Note, however, that any configuration changes made through the app cause the running configuration to be immediately saved to non-volatile storage, including any changes made using the CLI.

Context Sensitive Help

Information on the available options for a CLI command can be obtained by ending a partial command line with a question mark (“?”). This will cause CLI to print out the available options for the remainder of the command line.

For example:

```
>backup ?
  interval <secs> File rotation interval
  url      <URL>  File upload URL
```

```
>backup url ?
  url <URL>  File upload URL
```

A CLI command line with only a question mark will result in a list of all CLI commands available to the user.

URL Format

Some commands (e.g., write network) require a URL argument to identify a remote file or directory. The format for a URL argument is:

```
scheme://[username[:password]@]host[:port]/[path]
```

Supported schemes for most commands are http, https, ftp, ftps, sftp, scp, smb, and tftp.

The host parameter may be an IP address or a domain name.

The optional port parameter is not supported on all protocols.

Password Encryption and Public Key Authentication

In general, clear text passwords such as in a URL argument are stored internally in an encrypted form so that they are unreadable when the system configuration is displayed. In some cases, an entire command parameter may be encrypted when there is special sensitivity involved. Encrypted strings begin with a tilde (“~”) character.

The system supports SSH public key authentication for all commands that use the SSH protocol, including the ssh command and any file transfer commands using the scp and sftp schemes. This eliminates the need to specify passwords inside a URL.

The show ssh-client-keys command can be used to obtain the user’s public key from the local system so that it can be added to the list of authorized keys on the remote system.

Command Scheduler

Certain commands (e.g., backup interval) cause an action to occur at regular intervals. In most cases, the start time is not specified by the user, but is calculated by the system. In those cases, the actual clock times for command execution are calculated based on midnight (local system time) on the day the command was issued. For intervals of one week or greater, the times are calculated based on midnight (00:00) Wednesday.

Examples:

Interval	Actual Execution Times
4 hours	00:00, 04:00, 08:00, 12:00, 16:00, and 20:00 each day
18 hours	00:00 and 18:00 on the first day and 12:00 on the second day
36 hours	00:00 on the first day and 12:00 on the second day
9 days	Every 9 days starting at 00:00 on Wednesday

Commands

This section describes the syntax and usage of each CLI command. The commands are listed in alphabetical order.

auto-update

The auto-update command controls whether the Island will automatically update its firmware to the latest available version, and when the updates will occur.

auto-update days

Set the day(s) of the week to perform automatic updates of the system firmware

Syntax

```
auto-update days all|none|<day> [<day> [...]]
```

Syntax Description

Keyword	Description
`all`	Specifies that updates may occur on any day of the week. Mutually exclusive with `none` and <day>.
`none`	Disables automatic updates. Mutually exclusuve with `all` and <day>.
day	Specifies that updates may occur only on the specified day(s) of the week. Must be one of `monday`, `tuesday`, `wednesday`, `thursday`, `friday`, `saturday`, or `sunday`. Multiple days may be specified separated by spaces. Mutually exclusive with `all` and `none`.

Defaults

Updates will be performed at 3:00 AM local time on any day of the week by default.

Usage Guidelines

The Island periodically checks to see if newer firmware is available. This command sets the day(s) of the week on which new firmware is allowed to be automatically installed.

If automatic updates are disabled using the command `auto-update days none`, the Island will still periodically check for firmware updates, and the app will indicate that newer firmware is available, but it will not be installed automatically. In this case, the user can install the update using the update command or the Island app.

Firmware updates may or may not interrupt packet routing, depending on the nature and extent of the update. Some updates will not interrupt routing at all, some may cause a short (5-10 second) interuption, and some may require a full reboot of the router.

Examples

```
auto-update days thursday friday
```

Related Commands

auto-update time >

auto-update time

Set the time of day to perform automatic updates of the system firmware

Syntax

```
auto-update <hh:mm>
```

Syntax Description

Keyword	Description
hh	The hour of the day (local system time) in the range 0 to 23.
mm	The minute with the hour (local system time) in the range 0 to 59.

Defaults

Updates will be performed at 3:00 AM local time on any day of the week by default.

Usage Guidelines

This command specifies the time of day at which the Island will automatically update to the latest firmware.

Examples

```
auto-update time 4:30
```

Related Commands

auto-update days

timezone

backup

The backup command configures automatic backups of the Island configuration and statistics to a remote file server.

backup interval

Sets how often an automatic system backup is performed.

Syntax

```
[no] backup interval <seconds>
```

Syntax Description

Keyword	Description
`no`	(Optional) Returns the backup interval to its default value.
seconds	The interval at which the backup file should be written, in seconds.

Defaults

The interval defaults to 3600 seconds (1 hour).

Usage Guidelines

This command determines how often automatic system backups will be performed.

The system aligns the start time for the backup process relative to midnight on the day the command is issued or the system reloaded. For example, if the interval is set to 8 hours, backups will occur daily at 12 AM, 8 AM, and 4 PM every day. If the interval is set to 18 hours, backups will occur at 12 AM and 6 PM on the first day, and 12 PM and 6 AM on the second day, then repeat.

Refer to the Command Scheduler section for more information.

Examples

```
backup interval 86400
```

Related Commands

- backup url
- write network
- configure network

backup url

Enables the automatic backup function and specifies the destination of the backup file.

Syntax

```
[no] backup url <url>
```

Syntax Description

Keyword	Description
`no`	(Optional) Disables automatic backup.
url	Specifies the backup file destination.

Defaults

No automatic backup is performed by default.

Usage Guidelines

The backup URL can refer to either a remote file or remote directory. If the URL ends in any character other than a slash (“/”), it is assumed to refer to a file name. The backup is written to that file, overwriting it if it already exists.

If the URL ends in a slash, the system assumes it is pointing to a directory. In this case, the system will create a new file with the following format: hostname-YYYYMMDD-HHMMSS.backup.

If the URL contains a password, it is encrypted so that it is not readable in the configuration file.

Refer to the URL Format page for more information on the syntax of the url parameter.

Examples

```
backup url scp://jane:d9fAq@192.168.38.7/myIsland.backup
```

Related Commands

- backup interval
- write network
- configure network

clear connections

Delete all existing firewall state table entries.

Syntax

```
clear connections
```

Syntax Description

This command has no arguments.

Defaults

Usage Guidelines

This command deletes all existing connections (i.e., firewall state table entries). It is primarily for testing, and should be used with care since it will immediately terminate all active Internet connections through the Island.

Examples

```
clear connections
```

Related Commands

clear dhcp-client

Force a renewal of all IP addresses learned from DHCP.

Syntax

```
clear dhcp-client
```

Syntax Description

This command has no arguments.

Defaults

Usage Guidelines

This command causes the Island to request an immediate renewal of all IP addresses learned through DHCP.

Examples

```
clear dhcp-client
```

Related Commands

clear dump

Deletes a crash dump file, or all crash dump files.

Syntax

```
clear dump <file>|all
```

Syntax Description

Keyword	Description
file	Deletes the specified dump file
`all`	Deletes all dump files

Defaults

None; a file name or `all` must be specified.

Usage Guidelines

Dump files are created when a software module terminates unexpectedly. They may be analyzed by Island support to determine the cause of a failure. This command is used to delete dump files that are no longer needed.

Examples

```
clear dump pkgeng.core
```

Related Commands

show dumps

write dump

clear everything

Returns an Island to factory-default condition.

Syntax

```
clear everything
```

Syntax Description

This command has no arguments.

Defaults

Usage Guidelines

This command returns an Island to a factory-fresh condition. All configuration, logs, statistics, and security keys will be deleted. The current firmware version will be retained, but all rollback checkpoints will be deleted.

The user will be prompted for confirmation before the command is executed.

When this command completes, the system will power off automatically. Power must be removed and re-applied in order to restart the system.

Examples

```
clear everything
```

Related Commands

clear network

clear pin

clear log

Clears the internal system log.

Syntax

```
clear log
```

Syntax Description

This command has no arguments.

Defaults

Usage Guidelines

This command clears the internal system log buffer in memory. It does not affect the log entries written to disk.

Examples

```
clear log
```

Related Commands

show log

clear network

Resets all network interface options and places the interfaces into automatic configuration mode.

Syntax

```
clear network
```

Syntax Description

This command has no arguments.

Defaults

Usage Guidelines

This command deletes all configuration information, both learned and manually-configured, from all network interfaces and sets the interfaces autoconfiguration mode to `full`.

The user will be prompted before the command is executed unless command confirmation has been disabled with no login confirm.

Examples

```
clear network
```

Related Commands

clear everything >

clear package

Removes an installable package from the system.

Syntax

```
clear package <name>
```

Syntax Description

Keyword	Description
name	The name of the package to be deleted

Defaults

None; a package name must be specified.

Usage Guidelines

Island supports installable software packages to implement optional features. The `clear package` command deletes an installed package from the system.

Examples

```
clear package pingurl
```

Related Commands

show packages

update

clear pin

Deletes the PIN used to access Island from the app.

Syntax

```
clear pin
```

Syntax Description

This command has no arguments.

Defaults

Usage Guidelines

This command deletes the PIN used to access the Island using the app. The app will prompt the user for a new PIN on the next access.

Examples

```
clear pin
```

Related Commands

clear everything

clear ssh client-keys

Regenerates local SSH client keys.

Syntax

```
clear ssh client-keys [admin|user]
```

Syntax Description

Keyword	Description
`admin`	Regenerate keys for the admin user
`user`	Regenerate keys for the read-only user.

Defaults

If neither `admin` nor `user` is specified, the keys for both users are regenerated.

Usage Guidelines

This command is used to delete and regenerate the local SSH client keys.

SSH client keys can be used for public key authentication with the ssh command as well as commands that use the scp protocol (e.g., `write net scp://…`).

Examples

```
clear ssh client-keys admin
```

Related Commands

show ssh-client-keys

clear ssh host-keys

Regenerates the local ssh host keys.

Syntax

```
clear ssh host-key [ed25519|rsa]
```

Syntax Description

Keyword	Description
`ed25519`	Regenerate the ED25519 host key.
`rsa`	Regenerate the RSA host key.

Defaults

If no options are specified, all SSH host key types are regenerated.

Usage Guidelines

This command is used to delete and regenerate the local SSH host keys.

The host keys are used by remote clients to authenticate connections to the local system.

Examples

```
clear ssh host-key
clear ssh host-key ed25519
```

Related Commands

clear ssh known-hosts

Delete the SSH host key for a remote host or for all remote hosts.

Syntax

```
clear ssh known-hosts <host>|all
```

Syntax Description

Keyword	Description
host	The host for which the SSH key is to be deleted.
`all`	Deletes the SSH host key for all known hosts.

Defaults

None; either a host or `all` must be specified.

Usage Guidelines

This command allows the user to delete the remote SSH host key for a single host, or for all known hosts.

Examples

```
clear ssh known-hosts server17.example.com
clear ssh known-hosts all
```

Related Commands

ssh

configure known-hosts

clear syslog

Deletes a system log file.

Syntax

```
clear syslog [<directory>] <file>
```

Syntax Description

Keyword	Description
directory	(Optional)The log directory containing the log file.
file	The name of the file to be deleted.

Defaults

If is not specified, the top-level log directory is assumed.

Usage Guidelines

This command deletes a system log file.

To see a list of system log files, use the `show syslog ?` command.

Examples

```
clear syslog backup.log
clear syslog slog 20240514-151755
```

Related Commands

show syslog

write syslog

clear update

Stop and clean up from an incomplete update.

Syntax

```
clear update
```

Syntax Description

This command has no arguments.

Defaults

Usage Guidelines

Under rare circumstances, an update may fail to complete, and will show indefinitely as pending or running. This command will stop the pending or running update.

Examples

```
clear update
```

Related Commands

update >

clear vpn-keys

Regenerates the public/private key pair used for VPNs.

Syntax

```
clear vpn-keys
```

Syntax Description

This command has no arguments.

Defaults

Usage Guidelines

This command is used to delete and regenerate the local Island's public/private key pair used to establish secure connections with VPN peers.

Note that this will stop all communications with existing VPN peers until the new public key is provided to them. It will also prevent the mobile app from establishing a remote connection to the Island until it obtains the new public key, either by connecting via a LAN or by pasting the new public key in Tours. It will not affect the mobile app's ability to connect directly via a local LAN.

Examples

```
clear vpn-keys
```

Related Commands

show public-key

compact

Compacts the internal database to reclaim unusable space.

Syntax

```
compact
```

Syntax Description

This command has no arguments.

Defaults

Usage Guidelines

The space used by deleted records within the internal database is not always immediately reuseable due to the nature of the database. Over time, the database can accumulate a significant amount of unuseable space, resulting in decreased performance and additional disk space usage.

This command reclaims the unuseable space within the database by rebuilding it.

Examples

```
compact
```

Related Commands

configure authorized-keys

Edits the list of authorized public keys for authentication of incoming SSH connections.

Syntax

```
configure authorized-keys [admin|user]
```

Syntax Description

Keyword	Description
`admin`	Edit authorized keys for the administrative user.
`user`	Edit authorized keys for the read-only user.

Defaults

If neither user is specified, the keys for the administrative user are edited.

Usage Guidelines

This command edits the list of authorized public keys for SSH authentication on inbound connections. The list contains one key per line in the OpenSSH authorized_keys file format.

Editing is done using the vim text editor ↗.

Examples

```
config authorized-keys admin
```

Related Commands

- show config authorized-keys

configure known-hosts

Edits the list of known SSH keys for remote hosts.

Syntax

```
configure known-hosts
```

Syntax Description

This command has no arguments

Defaults

Usage Guidelines

This command allows the user to edit the list of known SSH keys for remote hosts. The file format is that used by the OpenSSH suite.

Editing is done using the vim text editor↗.

Examples

```
config known-hosts
```

Related Commands

- show config known-hosts
- ssh

configure network

Restores the system from a backup file.

Syntax

```
configure network [noconfig] <url>
```

Syntax Description

Keyword	Description
`noconfig`	If specified, indicates that the primary show run configuration should not be restored. All other data are restored.
url	Specifies the backup file to be restored.

Defaults

Usage Guidelines

This commands reloads the entire system configuration from a backup file previously created with the write network or backup url commands.

Refer to the URL Format section of this document for more information on the syntax of the url parameter.

Examples

```
config network scp://jane:d9fApC@192.168.38.7/mybackup
```

Related Commands

backup

write network

configure terminal

Enters configuration mode

Syntax

```
configure terminal
```

Syntax Description

This command has no arguments

Defaults

Usage Guidelines

Because configuration commands can be entered at any time, this command is unnecessary, but is provided for those familiar with other systems that require its use.

Examples

```
config terminal
```

Related Commands

configure network

show running-config

description

Sets optional description text for an interface.

Syntax

```
[no] description <string>
```

Syntax Description

Keyword	Description
`no`	Removes the description from the interface.
string	An arbitrary text string describing the interface. If the string contains whitespace, it must be enclosed in quotes.

Defaults

Interfaces have no description by default.

Usage Guidelines

This command allows the user to set an optional description for an interface.

This command is valid only in interface context.

Examples

```
description "Guest network"
```

Related Commands

interface

duplex

Sets the duplex mode of an Ethernet interface.

Syntax

```
[no] duplex auto|half|full
```

Syntax Description

Keyword	Description
`no`	(Optional) Returns the interface duplex to its default value.
`auto`	The interface duplex mode is set via auto-negotiation.
`half`	The interface is placed into half-duplex mode.
`full`	The interface is placed into full-duplex mode.

Defaults

Interface duplex is set via auto-negotiation by default.

Usage Guidelines

This command can be used to force the duplex setting on an interface if autonegotiation is unavailable or undesirable.

If duplex is explicitly configured for an interface, the interface speed should also be explicitly configured. In other words, auto-negotiation should be enabled or disabled identically for both speed and duplex.

This command is valid only in interface context.

Examples

```
duplex full
```

Related Commands

- interface
- speed

end

Exits interface context and returns to global context.

Syntax

```
end
```

Syntax Description

This command has no arguments

Defaults

The CLI is initially in global context when invoked.

Usage Guidelines

This command is used to return the CLI to global context after being placed into interface context with the interface command.

Examples

```
end
```

Related Commands

interface

ethernet polling

Specify the number of CPU cores dedicated to Ethernet polling.

Syntax

```
[no] ethernet polling auto|<n>
```

Syntax Description

Keyword	Description
`no`	(Optional) Returns the number cores for polling to its default value.
`auto`	The number of cores is selected automatically.
n	Use the specified number of cores for Ethernet polling. The allowed range is from 1 to the total number of CPU cores minus 1.

Defaults

The number of cores is selected automatically by default.

Usage Guidelines

Normally, the system automatically determines the number of CPU cores to dedicate to Ethernet polling. This command is provided for diagnostic purposes, and should be used only as directed by Island support.

Examples

```
ethernet polling 2
ethernet polling auto
```

Related Commands

exit

Exit interface context or disconnect the CLI session.

Syntax

`exit`

Syntax Description

This command has no arguments

Defaults

Usage Guidelines

If the CLI is in interface context, this command exits to global context. If the CLI is already in global context, this command ends the CLI session.

Examples

```
exit
```

Related Commands

help

Displays a summary of available commands, or help for a specific command.

Syntax

```
help <command>
```

Syntax Description

Keyword	Description
command	The name of a specific command.

Defaults

Usage Guidelines

With no parameters, this command displays a simple list of available commands. If a command is specified, the syntax for that command is displayed.

For more detailed help on command syntax, use the question mark (“?”) for context sensitive help.

Examples

```
help
```

Related Commands

Context Sensitive Help >

history

Manage a history file instance.

Syntax

```
[no] history <instance> [<command>]
```

Syntax Description

Keyword	Description
`no`	(Optional) Deletes the specified history instance.
instance	The history instance to be created or modified. If the specified instance does not exist, it will be created unless the no keyword was also specified. Must be alphanumeric.
command	One of “empty”, “filter”, “interval”, “output-format”, “rename”, “url”, or “utc”. The command is required unless the `no` parameter is specified.

Defaults

Usage Guidelines

This command is used to create, modify, or delete a history file instance.

Island maintans a record of all device-related activity such as Internet access and session data counters, online and offline events, etc. These “history” events are stored internally in a compact binary format, and can be displayed with the show history command.

History data can formatted and saved in files to be transferred to a remote file server on a periodic basis. A history “instance” refers to a set of named history configuration commands that control the creation, format, transfer, and other characteristics of the associated history files.

The creation of history files is enabled with the history interval command. Therefore **when creating a new history instance, it is usually preferrable to issue all other desired history commands such as history output-format and history filter before issuing the history interval command**, otherwise the system may create one or more initial history files with improper characteristics.

History files are automatically deleted upon successful transfer to the remote system. To see the list of history files waiting to be transferred, use the show syslog history command.

An entire history instance can be deleted by entering this command with the `no` prefix. This will delete all unsent history files and all configuration commands associated with the instance.

Examples

```
no history myhist2
```

Related Commands

- history empty
- history filter
- history interval
- history output-format

history rename

history url

history utc

show history

show syslog

history empty

Controls whether empty history files are to be created.

Syntax

```
[no] history <instance> empty
```

Syntax Description

Keyword	Description
`no`	(Optional) Empty history files will not be created.
instance	The history instance to be modified. If the specified instance does not exist, it will be created unless the no keyword was also specified. Must be alphanumeric.

Defaults

By default, the system will not create empty history files.

Usage Guidelines

Once a history instance has been defined, history files will be created peridically based on the setting of the history interval command. By default, no history file is created for an interval if there were no history records generated during that interval. This command specifies that history files should always be created for an interval, even if the file contains no records.

Examples

```
history myhist2 empty
```

Related Commands

history filter

Restricts the types of activities logged to history files.

Syntax

```
[no] history <instance> filter <string>
```

Syntax Description

Keyword	Description
`no`	(Optional) Removes the history filter.
instance	The history instance to be modified. If the specified instance does not exist, it will be created unless the no keyword was also specified. Must be alphanumeric.
string	The filter string.

Defaults

All history events are logged by default.

Usage Guidelines

Using the history filter command, you can restrict the types of activties that are logged to the history files. The filter syntax is:

`<field><op><value>[<cong>…]`

Field

The field paramater specifies the field with the history records to test. Valid fields are listed below.

Note that the contextual help for this command may list additional field names that are reserved for diagnostic purposes or for future use.

Field names are case-insensitive.

Field	Description
time	The timestamp on the record. The timestamp format for string comparisons is "YYYY-MM-DDTHH:MM:SS.mmm" (e.g., "2024-06-01T19:23:47.316").
type	The record type; one of "associate", "disassociate", "access", "session", or "comment".
count	For "associate" and "disassociate" records, this is a reference count. For session records with the "fin" flag set, it is the session duration in nanoseconds.
flags	A bit field of flags associated with the record. Valid values for Island include "nonrender" (4), "secure" (16), "blocked" (32), "allowed" (64), and "fin" (128).
mac	The source MAC address of the packet or device associated with the record.
ip	The source IP address of the packet or device associated with the record.
port	The source TCP/UDP port number of the packet or device associated with the record.
destIP	The destination IP address of the packet associated with the record.
destPort	The destination TCP/UDP port number of the packet associated with the record.
sourceName	The name of the interface (e.g., "en0") associated with the device on an "associate" or "disassociate" record.
cat	The numerical value of the website category associated with the record. The cat field is a bit mask, and is therefore usually best tested using the "&" operator.

comment	A text string containing miscellaneous information associate with some records.
country	A two-letter code (e.g., "US") representing the country in which the remote IP address is registered.

Op

The comparison operator.

Operator	Description
=	Matches if the field value is exactly the same as the comparison value. This can be either a string or a numeric comparson depending on the field and the value.
!=	Matches if the field value is not exactly the same as the comparison value. This can be either a string or a numeric comparson depending on the field and the value.
<	Matches if the field value is numerically less than the comparison value.
<=	Matches if the field value is numerically less than or equal to the comparison value.
>	Matches if the field value is numerically greater than the comparison value.
>=	Matches if the field value is numerically greater than or equal to the comparison value.
&	Performs a bitwise test.

Value

The value to compare against. This can be a string, a regular expression, or a numeric value. Strings must be enclosed in quotes if they contain special characters.

Regular expressions are delineated with a slash (e.g., `mac=/^B4:AE:2B/`). Regular expressions are valid only with the "=" and "!=" operators.

Cong

Joins multiple comparison expressions together.

Operator	Description
| (vertical bar)	Logical "or"
& (ampersand)	Logical "and"
, (comma)	Logical "and"

Examples

```
history myhist2 filter "type=associate&mac=00:00:5E:00:53:D2"
history blockedlist filter "flags=/blocked/"
```

Related Commands

history interval

Enables the generation of history files, and sets how often a new history file is created.

Syntax

```
[no] history <instance> interval <seconds>
```

Syntax Description

Keyword	Description
`no`	(Optional) Removes the interval for the specified instance.
instance	The history instance to be modified. If the specified instance does not exist, it will be created unless the no keyword was also specified. Must be alphanumeric.
seconds	The interval at which a new history file should be created, in seconds. The interval must be specified in order to enable history logging. The minimum interval is 60 seconds.

Defaults

History files are not written by default.

Usage Guidelines

This command enables the generation of history files for the specified instance, and specifies how often, in seconds, the current history file will be closed and a new file started.

The actual interval between files may be longer than specified if there are no events to log immediately after closing the previous history file. This does not apply if the history empty command has been given.

If the `no` keyword is specified, the current history file will be closed and no new history files will be created for this instance. Existing unsent history files will be retained until they are successfully transferred.

Examples

```
history myhist2 interval 3600
```

Related Commands

history output-format

Sets the output format for history log records.

Syntax

```
[no] history <instance> output-format <template>
```

Syntax Description

Keyword	Description
`no`	(Optional) Reverts to the default output format.
instance	The history instance to be modified. If the specified instance does not exist, it will be created unless the no keyword was also specified. Must be alphanumeric.
template	The history output format template, described below.

Defaults

The default output format is: "%d? %12t?? sub=%s?? mac=%m?? ip=%21ys?? dest=%21yd?? proto=%L?? policy=%P(%p)?? category=%C(%c)?? group=%G(%g)?? rule=%U(%u)?? button=%b?? count=%n?? stage=%S?? waited=%w?? rxbytes=%xr?? txbytes=%xt?? desc=%E?? ident=%I?? comment=%O?? host=%ah?? country=%N?? cat=%Mh?? flags=%f?? method=%am?? path=%ap?? version=%av?? timeOffset=%J?"

Note that the default format includes fields which are not used in the current product.

Usage Guidelines

The output format template consists of arbitrary text containing field substitutions. These substitutions begin with a percent sign ("%"). The list of valid substitutions is shown in the table below.

The percent sign may optionally be followed by a decimal minimum field width. The field value will be left-justified within the specified width.

A substitution, along with any surrounding text, may optionally be enclosed in question mark characters. This will cause all text between the question marks to be suppressed if no substitution is made.

The contextual help for this command may include subsitutions for fields that are not used in the current product. Only the currently supported subsitutions are included in this table.

Subsitution	Description
%d[(format)]	Date and time formatted using strftime↗. The default format is "%Y/%m/%d %T".
%D	Date and time formatted as "yyyy-mm-ddThh:mm:ss.xxx(Z|+/-HH:MM)".
%f	Event flags
%h	Destination host name
%H	Island host name
%i	Source IP addres
%m	Source MAC address
%Mh	Destination host category list
%N	Country code
%O	Comment
%rn	Interface name
%R	Constant random number
%t	Event type
%xr	Bytes received
%xt	Bytes transmitted
%%	Percent sign

Predefined formats:

all	All attributes in "tag=value" format
csv	All attributes in CSV format
syslog	Structured syslog
usyslog	Unstructured syslog
json	JSON
raw	Raw binary

Examples

```
history output-format json
history output-format "%d type=%12t mac=%m? host=%60h?? category=%Mh?"
```

Related Commands

history rename

Rename an existing history instance.

Syntax

```
history <instance> rename <newname>
```

Syntax Description

Keyword	Description
instance	The history instance to be renamed.
newname	The new name for the history instance.

Defaults

None; all parameters must be specified.

Usage Guidelines

This command allows an existing history instance to be given a new instance name. Once renamed, all references to the history instance must be done using the new instance name.

Renameing a history instance will cause the current history file (if any) to be closed and a new one started.

Examples

```
history myhist2 rename myhist3
```

Related Commands

history url

Specifies a remote directory to which history files will be written.

Syntax

```
[no] history <instance> url [<url>]
```

Syntax Description

Keyword	Description
`no`	Removes the specified history URL.
instance	The history instance to be modified. If the specified instance does not exist, it will be created unless the no keyword was also specified. Must be alphanumeric.
url	This URL to which history files are to be written. Required unless the `no` parameter is specified.

Defaults

The default is to not write history files to a remote system

Usage Guidelines

This command specifies the destination for files produced for this history instance.

The URL must point to a remote directory. Each history file will be written to a unique file in that directory. The file name format is:

`history.YYYYMMDDHHMMSSmmm-nnnnnnnnnn`

where “YYYYMMDDHHMMSSmmm” is the date and time including milliseconds and “nnnnnnnnnn” is the number of records in the file.

The path portion of the URL is ignored for the "tcp://" or "udp://" real-time streaming schemes.

Refer to the URL Format section of this document for more information on the syntax of the url parameter.

Examples

```
history myhist3 url scp://jane:d9fzC@10.14.2.7/history
```

Related Commands

history utc

Causes history file names and the timestamps contained within to be in UTC.

Syntax

```
[no] history <instance> utc
```

Syntax Description

Keyword	Description
`no`	(Optional) Use the local time zone instead of UTC.
instance	The history instance to be modified. If the specified instance does not exist, it will be created unless the no keyword was also specified. Must be alphanumeric.

Defaults

The default is to use the local time zone for history file names and timestamps.

Usage Guidelines

This command causes UTC time to be used for history file names and for any dates and times in the history records.

Examples

```
history myhist3 utc
```

Related Commands

hostname

Specifies a name for the Island.

Syntax

```
[no] hostname <string>
```

Syntax Description

Keyword	Description
`no`	(Optional) Deletes the existing hostname.
string	An alphanumeric string of up to 63 characters, beginning with a letter.

Defaults

The system host name is empty by default.

Usage Guidelines

An Island may be given a unique and descriptive name to distinguish it from other Islands. The hostname will be used as the CLI prompt. It is also used to when auto-generating file names for some commands (e.g., backup url).

Examples

```
hostname dallas-island-02
```

Related Commands

interface

Selects an interface and places the CLI into interface context, or deconfigures an interface.

Syntax

```
[no] interface <string>
```

Syntax Description

Keyword	Description
`no`	(Optional) Causes the specified interface to be deconfigured.
string	The name of the interface to be configured.

Defaults

The CLI is in global context by default.

Usage Guidelines

This command must be given before issuing any commands that modify an interface. The specified interface remains the “selected” interface until another interface command or the end command is issued.

The “no” form of this command deletes all configuration information, both learned and manually-configured, from the specified interface. For physical interfaces (e.g., Ethernet), the interface is placed into automatic configuration mode. For virtual interfaces, the interface is deleted from the system.

Examples

```
interface en0
no interface vlan14
```

Related Command

- duplex
- ip (interface context)
- speed

ip (interface context)

The following "ip" commands are used to configure network parameters on an interface. They are valid only in interface context as set with the interface command.

ip address

Assigns an IP address to an interface.

Syntax

```
[no] ip address <address>/<bits>
```

Syntax Description

Keyword	Description
`no`	(Optional) Removes the IP address from the interface.
address	The IP address to be assigned to the interface.
bits	The number of bits in the network portion of the address.

Defaults

By default, Island will either obtain an IP address for an interface using DHCP (if the DHCP client is enabled on the interface) or will assign an arbitrary /24 private network (RFC1918) network address.

Usage Guidelines

This command assigns an IPv4 or IPv6 address to an interface. Only one IPv4 and one IPv6 address may be assigned to a given interface.

This command does not automatically set the interface mode to manual or disable the DHCP client on the interface. However, if the DHCP client is enabled, the specified IP address will be overwritten if an address is later obtained from a DHCP server. To ensure a manually-configured IP address is not changed, set the interface mode to `lan`, or set it to `manual` and disable the DHCP client.

This command is valid only in interface context.

Examples

```
ip address 172.16.2.20/24
ip address 2001:db8:1e:4::29/64
```

Related Commands

- interface
- ip autoconfig
- ip dhcp-client

ip autoconfig

Sets the configuration mode for an interface.

Syntax

```
ip autoconfig disabled|full|lan|lan-no-dhcp|manual|static-wan|wan
```

Syntax Description

Keyword	Description
`disabled`	Disable the interface.
`full`	Automatically set the interface configuration.
`lan`	Configure the interface for a typical LAN where Island is the DHCP server.
`lan-no-dhcp`	Configure the interface for a LAN where the Island is not the DHCP server.
`manual`	Disable automatic configuration on the interface. This mode will be enabled automatically if certain ip interface commands are issued.
`static-wan`	Configure the interface for a WAN with a static address.
`wan`	Configure the interface for a WAN with a dynamic (i.e., DHCP) address.

Defaults

The default is full automatic configuration.

Usage Guidelines

When autoconfig is set to `full` on an interface (the default), the Island will determine if the interface is connected to a local area network (LAN) or to the Internet (WAN), and will set all other interface parameters as appropriate for the type of connection detected. This mode works well in most cases, and is useful for initial installation. Once installation is complete, it is generally recommended to select one of the other modes as appropriate for each interface.

When set to `manual`, automatic configuration is disabled, and the current interface configuration is written to the running configuration. Individual interface ip commands may then be modified as needed. This configuration is the most flexible but requires that each interface configuration option be set appropriately. It can be used for unusual situations where the predefined interface modes (described below) are not sufficient.

When using manualmode, users may find it convenient to first set the interface mode to one of the modes listed below first, before switching to manual mode, to provide a convenient starting point for all interface settings. Note that the interface must be active (up) in order for the current interface settings to be retained when the mode is switched to manual.

The remainder of the modes are used to set the interface configuration appropriate for the most common network scenarios. The available modes are as follows:

- `lan`: This mode is for a typical LAN where Island should be the DHCP server. Island's DHCP server is enabled, the DHCP client is disabled, and the DHCP monitor is enabled.
- `lan-no-dhcp`: This mode is the same as `lan` except Island's DHCP server and DHCP monitor is disabled, and the DHCP client is enabled. This mode is used when another DHCP server is used for the network.
- `wan`: This mode is for a typical WAN connection where Island obtains its IP address from the provider using DHCP.
- `static-wan`: This mode is for a WAN connection where Island is assigned a static IP address.

Note that issuing most interface-context ip commands will cause the interface mode to be set to `manual`. When this happens, the remaining interface configuration options with their current values will be written to the running configuration, and can be modified as needed. Refer to the documentation for a specific command to determine if that command will force the interface mode to `manual`.

This command is valid only in interface context.

Examples

```
ip autoconfig lan
ip autoconfig static-wan
```

Related Commands

interface >

ip autovlan

Enables or disables automatic VLAN provisioning for an interface.

Syntax

```
[no] ip autovlan off|on
```

Syntax Description

Keyword	Description
`no`	(Optional) This is the same as `ip autovlan off.`
`off`	Disables automatic VLAN provisioning.
`on`	Enables automatic VLAN provisioning.

Defaults

Automatic VLAN provisioning is enabled by default.

Usage Guidelines

When automatic VLAN provisioning is enabled, Island will create a new VLAN interface whenever a packet is received with an 802.1Q VLAN Identifier that does not match an existing VLAN interface.

This command is valid only in interface context. Entering it will set the interface mode to `manual`.

Examples

```
ip autovlan off
```

Related Commands

- interface
- ip autoconfig

ip arp-scan

Enables or disables periodic ARP scanning an interface.

Syntax

```
[no] ip arp-scan off|on
```

Syntax Description

Keyword	Description
`no`	(Optional) This is the same as `ip arp-scan off`.
`off`	Disables ARP scanning.
`on`	Enables ARP scanning.

Defaults

ARP scanning is enabled on LAN interfaces but disabled on WAN interfaces by default.

Usage Guidelines

When ARP scanning is enabled on an Interface, Island will periodically send ARP requests to every valid IP address on the interface network. This allows Island to discover all devices on the network, even those that are not otherwise sending any traffic through the Island.

This command is valid only in interface context. Entering it will set the interface mode to `manual`.

Examples

```
ip arp-scan off
```

Related Commands

- interface
- ip autoconfig

ip arp-spoof

Enables or disables ARP spoofing on an interface.

Syntax

```
[no] ip arp-spoof off|on
```

Syntax Description

Keyword	Description
`no`	(Optional) This is the same as `ip arp-spoof off.`
`off`	Disables ARP spoofing.
`on`	Enables ARP spoofing.

Defaults

ARP spoofing is disabled by default.

Usage Guidelines

When ARP spoofing is enabled, Island will send “spoofed” ARP responses to all clients presenting itself as the owner of the default gateway’s IP address.

ARP spoofing allows Island to insert itself into a network with an existing default gateway using a single interface. It forces all Internet-bound traffic from LAN clients to be sent to itself. Island will apply all configured security filters and other features before forwarding the packet to the actual default gateway.

This mode essentially provides all features of the Island without replacing an exiting gateway. However, it can cause problems with some hosts and security devices, and should therefore be used with caution.

This command is valid only in interface context. Entering it will set the interface mode to `manual`.

Examples

```
ip arp-spoof on
```

Related Commands

- interface
- ip autoconfig

ip priority

Defines the priority of a WAN connection relative to other WAN connections.

Syntax

```
[no] ip priority <n>
```

Syntax Description

Keyword	Description
`n`	The priority of the interface. Must be an integer between 1 and 4, with 1 being the highest priority and 4 being the lowest.

Defaults

The default interface priority is 1.

Usage Guidelines

Island supports multiple WAN connections. The interface priority determines which WAN connection(s) outgoing traffic will use when multiple WAN connections are present and active.

Outbound connections will normally use the highest priority active WAN interface. If multiple active WAN interfaces have the same priority, outbound connections will be distributed between them.

This command is valid only in interface context. Entering it does not change the configuration mode of the interface.

Examples

```
ip arp-spoof on
```

Related Commands

interface

ip dhcp6-client

Enables or disables the DHCPv6 client on an interface.

Syntax

```
[no] ip dhcp6-client off|on
```

Syntax Description

Keyword	Description
`no`	(Optional) This is the same as `ip dhcp6-client off.`
`off`	Disables the DHCPv6 client on the interface.
`on`	Enables the DHCPv6 client on the interface.

Defaults

The DHCPv6 client is enabled by default on WAN interfaces and disabled on LAN interfaces.

Usage Guidelines

The DHCPv6 client is responsible for obtaining an IPv6 address and related options from a DHCPv6 server and assigning it to an interface.

If the DHCPv6 client is not enabled, or if a DHCPv6 server is not available, the IPv6 address is assigned based on the type of interface. On WAN interfaces, it will be assigned using Stateless Address Auto-Configuration (SLAAC). On LAN interfaces, Island will us either a delegated prefix selected from one of the WAN providers (if available) or will assign a Unique Local Address (ULA).

This command is valid only in interface context. Entering it will set the interface mode to `manual`.

Examples

```
ip dhcp6-client on
```

Related Commands

interface >

ip dhcp6-server

Enables or disables the DHCPv6 server on an interface.

Syntax

```
[no] ip dhcp6-server off|on
```

Syntax Description

Keyword	Description
`no`	(Optional) This is the same as `ip dhcp6-server off.`
`off`	Disables the DHCPv6 serveron the interface.
`on`	Enables the DHCPv6 serve on the interface.

Defaults

The DHCPv6 server is enabled on LAN interfaces and disabled on WAN interfaces by default.

Usage Guidelines

This command enables the DHCPv6 server on the interface. Island does not assign IPv6 addresses via DHCP; instead, hosts will use Stateless Address Autoconfiguration ↗ (SLAAC) to obtain their IPv6 address. Island's DHCPv6 server provides DNS and other requested information to IPv6 clients.

This command is valid only in interface context. Entering it will set the interface mode to `manual`.

Examples

```
ip dhcp6-server on
```

Related Commands

interface

ip dhcp-client

Enables or disables the DHCP client on an interface.

Syntax

```
[no] ip dhcp-client off|on
```

Syntax Description

Keyword	Description
`no`	(Optional) This is the same as `ip dhcp-client off`.
`off`	Disables the DHCP client on the interface.
`on`	Enables the DHCP client on the interface.

Defaults

The DHCP client is enabled on WAN interfaces and disabled on LAN interfaces by default.

Usage Guidelines

This command enables the DHCP client on an interface, allowing Island to obtain the IPv4 address and other options from an external DHCP server.

This command is valid only in interface context. Entering it will set the interface mode to `manual`.

Examples

```
ip dhcp-client on
```

Related Commands

interface

ip dhcp-lease

Sets the DHCP lease time on an interface.

Syntax

```
[no] ip dhcp-lease <seconds>
```

Syntax Description

Keyword	Description
`no`	(Optional) Resets the DHCP lease time to the default value.
seconds	The DHCP lease time in seconds.

Defaults

The default lease time is 1800 seconds (30 minutes).

Usage Guidelines

The default lease time for addresses assigned by Island's DHCP server is 30 minutes. This allows devices to respond reasonably quickly to network address changes.

Although rare, some devices cannot handle such a short lease time. This command can be used to change the DHCP lease time to a different value.

This command is valid only in interface context. Entering it does not change the configuration mode of the interface.

Examples

```
ip dhcp-lease 3600
```

Related Commands

- interface
- ip dhcp-server
- ip dhcp-scope

ip dhcp-monitor

Enables or disables the DHCP monitor service on an interface.

Syntax

```
[no] ip dhcp-monitor off|on
```

Syntax Description

Keyword	Description
`no`	(Optional) This is the same as `ip dhcp-client off.`
`off`	Disables the DHCP monitor on the interface.
`on`	Enables the DHCP monitor on the interface.

Defaults

The DHCP monitor is enabled on LAN interfaces and disabled on WAN interfaces by default.

Usage Guidelines

The DHCP monitor service watches for rogue DHCP servers on an interface and issues a warning if one is found.

If both DHCP monitor and DHCP client are enabled on the same interface, DHCP client has precedence and DHCP monitor will be not run.

This command is valid only in interface context. Entering it will set the interface mode to `manual`.

Examples

```
ip dhcp-monitor on
```

Related Commands

- interface
- ip dhcp-client

ip dhcp-scope

Defines the range of IPv4 addresses available to DHCP clients.

Syntax

```
[no] ip dhcp-scope [<low>]-[<high>]
```

Syntax Description

Keyword	Description
low	The decimal value of the host portion of the first IP address in the scope.
high	The decimal value of the host portion of the last IP address in the scope.

Defaults

In the abscence of this command, the default DHCP scope is "50-". Otherwise, the defaul low value is 1 and the default high value is the last available host address on the network.

Usage Guidelines

This command defines the range of IPv4 addresses assignable to DHCP clients. The low value is the host portion of the first assigneable address in the scope. If omitted, the default low value is 1.

The high value is the host portion of the last assignable address in the scope. If omitted, the default high value is the host portion of the last assignable address in the interface's network range. Note that the highest address in a network is reserved for broadcasts, and will never be assigned by the DHCP server.

Since these values are the decimal value of the *host* portion (only) of the IP address, the high value may exceed 254 for networks larger than /24. For example, the highest assignable value for a /22 IPv4 network (i.e., 10 bits of host address) would be 1022.

This command is valid only in interface context. Entering it does not change the configuration mode of the interface.

Examples

```
ip dhcp-scope 100-
ip dhcp-scope 100-510
```

Related Commands

ip dhcp-server >

ip dhcp-server

Enables or disables the DHCP server on an interface.

Syntax

```
[no] ip dhcp-server off|on
```

Syntax Description

Keyword	Description
`no`	(Optional) This is the same as `ip dhcp-server off`.
`off`	Disables the DHCP server on the interface.
`on`	Enables the DHCP server on the interface.

Defaults

The DHCP server is enabled on LAN interfaces and disabled on WAN interfaces by default.

Usage Guidelines

The DHCP server is responsible for assigning IPv4 address and related options to clients on a connected network.

This command is valid only in interface context. Entering it will set the interface mode to `manual`.

Examples

```
ip dhcp-server on
```

Related Commands

- interface
- ip dhcp-lease
- ip dhcp-scope

ip ident4

Enables or disables fingerprinting of IPv4 devices on an interface.

Syntax

```
[no] ip ident4 off|on
```

Syntax Description

Keyword	Description
`no`	(Optional) This is the same as `ip ident4 off.`
`off`	Disables fingerprinting of IPv4 devices on the interface.
`on`	Enables fingerprinting of IPv4 devices on the interface.

Defaults

Devices fingerprinting is enabled on LAN interfaces and disabled on WAN interfaces by default.

Usage Guidelines

This command enables or disables "fingerprinting" of IPv4 devices on an interface. Fingerprinting uses protocols such as SSDP and mDNS to gather information about devices on the network to aid in the identification of new and unknown devices.

This command is valid only in interface context. Entering it will set the interface mode to `manual`.

Examples

```
ip ident4 off
```

Related Commands

- interface
- ip ident6

ip ident6

Enables or disables fingerprinting of IPv6 devices on an interface.

Syntax

```
[no] ip ident6 off|on
```

Syntax Description

Keyword	Description
`no`	(Optional) This is the same as `ip ident6 off`.
`off`	Disables fingerprinting of IPv6 devices on the interface.
`on`	Enables fingerprinting of IPv6 devices on the interface.

Defaults

Devices fingerprinting is enabled on LAN interfaces and disabled on WAN interfaces by default.

Usage Guidelines

This command enables or disables "fingerprinting" of IPv6 devices on an interface. Fingerprinting uses protocols such as SSDP and mDNS to gather information about devices on the network to aid in the identification of new and unknown devices.

This command is valid only in interface context. Entering it will set the interface mode to `manual`.

Examples

```
ip ident6 off
```

Related Commands

- interface
- ip ident4

ip mtu

Sets the maximum transmission unit (MTU) on an interface.

Syntax

```
ip mtu <n>
```

Syntax Description

Keyword	Description
n	The MTU size in bytes.

Defaults

The default MTU is 1,500 bytes for Ethernet interfaces and 1,408 bytes for WireGuard VPN interfaces.

Usage Guidelines

This command sets the maximum transmission unit (MTU) for an interface.

This command is valid only in interface context. Entering it does not change the configuration mode of the interface.

Examples

```
ip mtu 1300
```

Related Commands

interface

ip nat4

Enables or disables IPv4 Network Address Translation (NAT) on an interface.

Syntax

```
[no] ip nat4 off|on
```

Syntax Description

Keyword	Description
`no`	(Optional) This is the same as `ip nat4 off.`
`off`	Disables IPv4 NAT on the interface.
`on`	Enables IPv4 NAT on the interface.

Defaults

IPv4 Network Address Transnation is enabled on WAN interfaces and disabled on LAN interfaces by default.

Usage Guidelines

When Network Address Translation (NAT) is enabled on an interface, the source IP address of transmitted packets is changed to the Island's IP address assigned to the interface. Depending on the protocol involved, the source port number, as well as address information embeded in the payload, may be modified as well.

Island maintains a list of active NAT translations so that received packets can be routed back to the proper internal client.

NAT is typically used to map private IP addresses on a LAN to a public IP address on the WAN.

This command is valid only in interface context. Entering it will set the interface mode to `manual`.

Examples

```
ip nat4 on
```

Related Commands

- interface
- ip nat6

ip nat6

Enables or disables IPv6 Network Address Translation (NAT) on an interface.

Syntax

```
[no] ip nat6 off|on
```

Syntax Description

Keyword	Description
`no`	(Optional) This is the same as `ip nat6 off.`
`off`	Disables IPv6 NAT on the interface.
`on`	Enables IPv6 NAT on the interface.

Defaults

IPv6 Network Address Transnation is disabled on all interfaces by default.

Usage Guidelines

When Network Address Translation (NAT) is enabled on an interface, the source IP address of transmitted packets is changed to the Island's IP address assigned to the interface. Depending on the protocol involved, the source port number, as well as address information embeded in the payload, may be modified as well.

Island maintains a list of active NAT translations so that received packets can be routed back to the proper internal client.

NAT is typically used to map private IP addresses on a LAN to a public IP address on the WAN.

This command is valid only in interface context. Entering it will set the interface mode to `manual`.

Examples

```
ip nat6 on
```

Related Commands

- interface
- ip nat4

ip router-advertise

Enables or disables the sending of IPv6 Router Advertisement (RA) packets on an interface.

Syntax

```
[no] ip router-advertise off|on
```

Syntax Description

Keyword	Description
`no`	(Optional) This is the same as `ip advertise off.`
`off`	Disables the sending of IPv6 RA packets.
`on`	Enables the sending of IPv6 RA packets.

Defaults

When autoconfiguration is enabled on an interface, the Island will determine the proper setting based on whether the the interface is determined to be a WAN or a LAN connection. Otherwise, the initial setting for newly-created interfaces is off.

Usage Guidelines

This command determines whether IPv6 Router Advertisement (RA) packets are sent on an interface.

This command is valid only in interface context. Entering it will disable autoconfig on the interface.

Examples

```
ip router-advertise on
```

Related Commands

interface

ip router-solicit

Enables or disables the sending of IPv6 Router Solicitation (RS) packets on an interface.

Syntax

```
[no] ip router-solicit off|on
```

Syntax Description

Keyword	Description
`no`	(Optional) This is the same as `ip router-solicit off.`
`off`	Disables the sending of IPv6 RS packets.
`on`	Enables the sending of IPv6 RS packets.

Defaults

When autoconfiguration is enabled on an interface, the Island will determine the proper setting based on whether the the interface is determined to be a WAN or a LAN connection. Otherwise, the initial setting for newly-created interfaces is off.

Usage Guidelines

This command determines whether IPv6 Router Solicitation (RS) packets are sent on an interface.

This command is valid only in interface context. Entering it will disable autoconfig on the interface.

Examples

```
ip router-solicit on
```

Related Commands

interface

ip (global context)

The following "ip" commands are used to configure network parameters that are not specific to a single interface.

ip ddns name

Establishes a dynamic DDNS host name for the Island.

Syntax

```
[no] ip ddns name <string>
```

Syntax Description

Keyword	Description
`no`	(Optional) Deletes an existing DDNS name.
string	The desired DDNS host name. This must be a simple host name, not a domain name. It may consist of between 1 and 63 alphanumeric characters or a minus sign ("-"). The first character must be a letter or number.

Defaults

No DDNS name is assigned by default.

Usage Guidelines

Island provides a DDNS service that assigns names with the "myisland.info" domain. The user may assign a simple host name using this command. For example, if "bobs-island" is specified, the resulting fully-qualified domain name (FQDN) will be "bobs-island.myisland.info".

There is no registration or authentication required for this service. Names are available on a first-come, first-served basis. Once a name is assigned to a specific Island, that name may not be assigned to another Island until a grace period has expired or the name is manually deleted using the "no" form of this command from the original Island with an active Internet connection.

The A and AAAA records for the FQDN will be updated automatically by the Island based on the public IPv4 and IPv6 addresses on the WAN port. If multiple WAN primary ports are in use (or multiple secondary WAN ports if no primary port is available), the A and AAAA records will be assigned arbitrarily to the IP address on one of the active ports.

Examples

```
ip ddns bobs-island
```

Related Commands

ip ddns ipv6 >

ip ddns ipv6

Determines whether IPv6 AAAA records are generated for DDNS.

Syntax

```
[no] ip ddns ipv6 off|on
```

Syntax Description

Keyword	Description
`no`	(Optional) Reset the command to its default value.
`off`	An AAAA record will not be created in DDNS.
`on`	An AAAA record will be created in DDNS.

Defaults

An AAAA record is created in DDNS by default.

Usage Guidelines

The Island DDNS service creates both A (IPv4) and AAAA (IPv6) DNS records by default. This can cause delayed or broken connectivity when using a port-forward to direct incoming traffic to a device that does not support IPv6.

This command can be used to disable the generation of AAAA DNS records so that clients will attempt to connect using IPv4 only.

This command has no effect unless a DDNS name is defined in the app or using the ip ddns name command.

Examples

```
ip ddns ipv6 off
```

Related Commands

ip ddns name

ip dhcp-reserve

Assigns a dedicated IP address to a device.

Syntax

```
[no] ip dhcp-reserve <ip> <mac>
```

Syntax Description

Keyword	Description
`no`	(Optional) Removes an existing DHCP reservation
ip	The IP address to be assigned to the device.
mac	The MAC address of the device.

Defaults

There are no DHCP reservations by default.

Usage Guidelines

This command reserves an IP address for a client. The DHCP server will not assign a reserved IP address to any other client. When the client makes a DHCP request to the Island, the DHCP server will assign the specified address to the client, if able.

If the server is unable to assign the address (perhaps because the address is already in use by another client), it will assign another address from the DHCP scope. When the client renews its DHCP lease, the DHCP server will again try to assign the reserved address.

The reserved IP address must be a valid address on one of the interfaces on the Island. However, it does not need to be within the DHCP scope assigned to the interface.

Only one DHCP reservation is allowed for a given device.

Examples

```
ip dhcp-reserve 192.168.3.77 00:00:5E:00:53:7A
```

Related Commands

ip dns local-only

Determines whether the DNS server intercepts all recursive DNS requests or only those directed at the Island.

Syntax

```
[no] ip dns local-only off|on
```

Syntax Description

Keyword	Description
`no`	(Optional) Reset the command to its default value.
`off`	Intercept all recursive DNS requests passing through the Island.
`on`	Respond only to DNS requests addressed to the Island.

Defaults

All recursive DNS requests passing through the Island are intercepted by default.

Usage Guidelines

By default, Island intercepts all recursive DNS requests it sees and resolves them locally, even if the request was sent to a different DNS server. This improves DNS lookup speed and allows Island to perform filtering at the DNS level.

In some circumstances, it may not be desirable to intercept DNS requests directed at another DNS server. Enabling the local-only option causes Island to pass these requests on to the targeted server.

Note that Island will never intercept and respond to DNS over HTTPS (DoH) requests targeted to another server. Users wishing to force all DNS reqeusts to be handled by Island may wish to block access to external DoH servers using Island's filtering capabilities. Refer to the Island Router app documentation for more information.

Examples

```
ip dns local-only off
```

Related Commands

ip dns mode

Sets the method Island uses to resolve DNS requests.

Syntax

```
ip dns mode dnssec
ip dns mode https cloudflare|google|<url>
ip dns mode recursive
```

Syntax Description

Keyword	Description
`dnssec`	Use recursive DNS with DNSSEC verification.
`https`	Use DNS over HTTPS (DoH).
`cloudflare`	Use Cloudflare for DoH resolution.
`google`	Use Google for DoH resolution.
url	Specify the URL of an arbitrary DoH server to use for DoH resolution.
`resursive`	Use recursive DNS.

Defaults

Island uses Cloudflare's DNS over HTTPS service by default.

Usage Guidelines

This command specifies how DNS lookups are performed by Island.

By default, Island uses DNS over HTTPS (DoH) services provided by Cloudflare to resolve DNS requests. The `https` option can be used to change the DoH provider to Google or to an arbitrary DoH server.

Island can also be configured to use standard recusive DNS resolution. Both the `recursive` and the `dnssec` options enable recursive DNS mode, the difference is that `dnssec` also enables DNSSEC validation.

If Island is unable to access the specified DoH provider, it will revert to recursive DNS.

Examples

```
ip dns mode recursive
ip dns mode https https://doh.example.com/dns-query
```

Related Commands

ip firewall

Enable or disable Island's inbound Internet firewall.

Syntax

```
[no] ip firewall off|on
```

Syntax Description

Keyword	Description
no	(Optional) Returns the Internet firewall to its default state.
off	Disables the Internet firewall
on	Enables the Internet firewall

Defaults

The inbound Internet firewall is on by default.

Usage Guidelines

This command disables the firewall function that blocks incoming traffic on a WAN interface. It takes effect only when there is a single physical port active on the Island.

This command should be used with extreme care and is intended only for very specific use cases such as using Island as a dedicated VPN concentrator, where firewall functionality is undesirable or handled by an external firewall. Note that all other Island functionality, including content filtering, is still active even when the firewall is disabled.

Examples

```
ip firewall off
```

Related Commands

ip ipv6

Globally enable or disable IPv6.

Syntax

```
[no] ip ipv6 off|on
```

Syntax Description

Keyword	Description
`no`	(Optional) Reset the command to its default value.
`off`	Disable IPv6 on the Island.
`on`	Enable IPv6 the Island.

Defaults

IPv6 is enabled by default.

Usage Guidelines

IPv6 is fully supported by Island, and is enabled on all interfaces by default. Island will attempt to obtain an IPv6 address and a delegated prefix on each WAN port, and will assigne IPv6 addresses to each LAN port.

While IPv6 can be disabled on individual interfaces using interface-specific ip commands, this command can be used to disable IPv6 on all interfaces.

Examples

```
ip ipv6 off
```

Related Commands

- ip dhcp6-client
- ip dhcp6-server
- ip router-advertise
- ip router-solicit

ip load-sharing

Select the algorithm used to balance traffic between equal-priority WAN interfaces.

Syntax

```
[no] ip load-sharing dst-ip|random|src-dst-ip
```

Syntax Description

Keyword	Description
`no`	(Optional) Returns the load sharing algorithm to its default value
`dst-ip`	Consider the destination IP address when choosing an outbound WAN interface
`random`	Randomly select the outbound WAN interface for every connection
`src-dst-ip`	Consider the source and destination IP addresses when choosing an outbound WAN interface

Defaults

The outbound WAN interface is selected randomly for each connection by default.

Usage Guidelines

Island supports multiple WAN interfaces. Outbound connections are routed to the highest priority active WAN interface as set by the ip priority command. When more than one active WAN interface is at the highest priority, Island will balance the outbound connections between them. This command selects the algorithm Island uses to determine which WAN interface is selected for each outbound connection in that case. The availble algorithms are as follows:

Algorithm	Description
dst-ip	All connections to a given destination IP address will use the same interface.
random	The outbound interface is selected at random for each connection. This is the default.
src-dst-ip	All connections from a given source IP address to a given destination IP address will use the same interface.

Examples

```
ip load-sharing src-dst-ip
```

Related Commands

ip priority >

ip max-clients

Sets the maximum number of IP addresses Island will recognize.

Syntax

```
ip max-clients <n>
```

Syntax Description

Keyword	Description
n	The number of IP addresses.

Defaults

The default maximum IP addresses is specific to each Island model.

Usage Guidelines

This command specifies the maximum number of IP addresses (IPv4 and IPv6 combined) Island will support. Once this limit is reached, additional IP addresses will be ignored until older IP addresses go offline.

Caution: Changing this value causes a restart of the packet processing engine. This will cause a disruptime in routing for several seconds, and all active sessions through the Island will be deleted.

Examples

```
ip max-clients 8000
```

Related Commands

ip port-forward

Create a permanent Destination Network Address Translation (DNAT) entry.

Syntax

```
ip port-forward tcp|udp [<public-ip>:]<public-port> <mac>|island
[<dest-port>]
```

Syntax Description

Keyword	Description
`tcp`	Creates a TCP DNAT entry.
`udp`	Creates a UDP DNAT entry.
public-ip	(Optional) Specifies the IP address on which to accept incoming connections to be port-forwarded. If omitted, connections will be accepted on any of the Island's interface addresses.
public-port	The TCP or UDP port number on which to accept incoming connections.
mac	The MAC address of the device to which incoming connections are to be forwarded.
`island`	Specifies that incoming connections are to be forwarded to the Island itself.
dest-port	(Optional) The TCP or UDP port number on the target system. If omittied, the original destination port number is unmodified.

Defaults

By default, port-forwarded connections will be accepted on any of the Island's interface IP addreses, and the destination port number will not be modified.

Usage Guidelines

Island normally blocks all inbound connection attempts from the Internet (i.e., on WAN ports) or on other internal networks (LANs) to internal devices. This command provides a method to allow inbound connections to specific internal devices (or to the Island itself) on specific TCP and UCP ports. In essence, it opens a "hole" in the internal stateful firewall for specific internal services.

If the public IP address is not specified, connections will be accepted an any of Island's interface addresses on the specified TCP or UDP port. Use care when doing this on ports used for internal management (e.g., TCP ports 22, 443, and 4443) or incoming VPN connections (UDP port 51820 or as defined by the vpn port command, and UDP port 3006) as the port-forward will make those services unavailable on those ports.

If the public IP address is specified, connections will be accepted only on that address.

The maximum number of port-forward commands is 1024.

Examples

```
ip port-forward tcp 3074 00:00:5e:00:53:7a
```

Related Commands

ip route

Create a static route within the Island.

Syntax

```
ip route <address>/<bits> <gateway>
ip route default <gateway>
```

Syntax Description

Keyword	Description
address	The target IP network or host address.
bits	The number of network bits in the target IP address.
gateway	The IP address to which packets for the target address are to be sent.
`default`	Can be used in place of "0.0.0.0/0" or "::/0" to represent the default route.

Defaults

No static routes exist by default.

Usage Guidelines

The command allows manually-configured (i.e., "static") routes to be inserted into Island's routing table.

Both IPv4 and IPv6 routes are supported. The target address and the gateway must both be the same protocol (IPv4 or IPv6).

The word "default" may be used to represent the default route (0.0.0.0/0 or ::0/0). The protocol of the default route (IPv4 or IPv6) will be determined by the the protocol of the specified gateway.

Examples

```
ip route default 203.0.113.1
ip route default 2001:DB8:C014:7BE5::1
ip route 172.16.0.0/22 192.168.3.17
```

Related Commands

led level

Set the brightness of the Island's LED.

Syntax

```
led level <n>
```

Syntax Description

Keyword	Description
n	An integer representing the LED brightness in percent (0-100).

Defaults

The default LED level is 100.

Usage Guidelines

The command sets the brightness of the Island's LED display. The value must be an integer from 0 (off) to 100 (full brightness).

Examples

```
led level 30
```

Related Commands

login confirm

Enables or disables CLI confirmation prompots.

Syntax

```
[no] login confirm
```

Syntax Description

Keyword	Description
`no`	Disables CLI confirmation prompts.

Defaults

CLI confirmation prompts are enabled by default.

Usage Guidelines

To prevent the loss of important data, certain CLI commands (e.g., clear network, no interface, etc.) normally prompt the user for confirmation before executing. This can be inconvenient when executing batch CLI commands. The `no login confirm` command disables these confirmation prompts. The prompts can be re-enabled using the `login confirm` command.

Examples

```
no login confirm
```

Related Commands

login console

Sets whether a username and password is required to access the CLI through the serial port.

Syntax

```
[no] login console
```

Syntax Description

Keyword	Description
`no`	(Optional) Don't require a username and password on the serial port.

Defaults

A username and password is not required on the serial port by default.

Usage Guidelines

Some Island models have a serial port which provides direct access to the CLI. By default, no credentials are required to access the CLI through the serial port, and full access is granted. When the login console command is specified, the user will be prompted for a username ("admin" or "user") and password before access is granted.

Examples

```
login console
```

Related Commands

password

login remote

Enables or disables remote access.

Syntax

```
[no] login remote
```

Syntax Description

Keyword	Description
`no`	(Optional) Disables remote access.

Defaults

Remote access is disabled by default.

Usage Guidelines

Island implements secure remote access from the Island app on Apple and Android devices. Remote access is disabled by default, but can be enabled with this command.

Examples

```
login remote
```

Related Commands

login support

Enables or disables remote access by Island Support personnel.

Syntax

```
[no] login support
```

Syntax Description

Keyword	Description
`no`	(Optional) Disables support access.

Defaults

Support access is disabled by default.

Usage Guidelines

This command establishes a VPN to Island Support to allow support personnel to remotely access the Island for troubleshooting and diagnostic purposes.

Examples

```
login support
```

Related Commands

mac output-format

Specify the format for displaying MAC addresses.

Syntax

```
[no] mac output-format <template>
```

Syntax Description

Keyword	Description
`no`	(Optional) Use the default MAC address output format.
template	A string defining the MAC address output format.

Defaults

The default MAC address output format is "XX:XX:XX:XX:XX:XX".

Usage Guidelines

This command is used to specify the output format for MAC addresses as used in the CLI and in system logs.

The format must contain 12 upper or lower case X's as placeholders for each of the 12 hexadecimal digits in a MAC address. The case of a placeholder indicates the case of the corresponding output MAC character. All other characters in the format string are printed literally.

Examples

```
mac output-format "xxxx.xxxx.xxxx"
```

Related Commands

ntp

Specify NTP servers.

Syntax

```
[no] ntp <server> [<server> [...]]
```

Syntax Description

Keyword	Description
`no`	(Optional) Removes the specified NTP server. If no server is given, reverts to the default NTP server.
server	The name or IP address of an NTP server.

Defaults

Island uses the pool at ntp.islandrouter.com by default.

Usage Guidelines

This command specifies one or more NTP servers to be used to synchronize Island's internal clock. The command will accept multiple servers on one line, and the command may be specified multiple times.

Examples

```
ntp pool.ntp.org
```

Related Commands

show ntp

show clock

package

Define a configuration parameter for an installed package.

Syntax

```
[no] package <name> <parameter> <value>
```

Syntax Description

Keyword	Description
`no`	(Optional) Removes the specified parameter
name	The name of the installed package.
parameter	The name of the parameter to be set.
value	The value of the parameter to be set.

Defaults

There are no defaults for this command. All parameters must be specified.

Usage Guidelines

Island supports installable software package to add features not included in the base firmware. Installable packages are installed with the update command.

Some packages require user-specified configuration information, or "parameters". These parameters are set using this command.

Parameter names and values are specific to each package. Refer to the associated package documentation for supported parameters and values.

Examples

```
package pingurl interval 300
```

Related Commands

update

show packages

packet level

Set the minimum severity level of messages logged by the low-level packet handler.

Syntax

```
[no] packet level <n>
```

Syntax Description

Keyword	Description
`no`	(Optional) Sets the severity level to the default value.
n	The minimum severity level to be logged.

Defaults

The default minimum severity level is 5.

Usage Guidelines

This command sets the minimum severity level of messages logged by the low-level packet handling subsystem in Island. Logging less severe messages can be useful when diagnosing network issues, but will also increase the amount of information logged.

The highest severity level is 0 and the lowest is 7, as follows:

Level	Description
0	Critical system failure
1	Critical or unexpected unrecoverable error
2	Unexpected recoverable error
3	Less severe error
4	Warning
5	Informational message
6	Debugging message
7	Verbose debugging message

Examples

```
packet level 7
```

Related Commands

parent

Specify the parent interface for a VLAN interface.

Syntax

```
parent <interface>
```

Syntax Description

Keyword	Description
interface	The name of the parent interface.

Defaults

This command has no default. The parent interface must be specified.

Usage Guidelines

This command is required for VLAN interfaces. It defines the physical interface on which the VLAN is carried. It is valid only in interface context, and only for VLAN interfaces.

Examples

```
parent en2
```

Related Commands

interface ›

password

Set, change, or remove a password.

Syntax

```
[no] password admin|user [<password>]
```

Syntax Description

Keyword	Description
`no`	(Optional) Deletes an existing password.
`admin`	Sets or changes the administrator password.
`user`	Sets or changes the read-only user password.
password	(Optional) The password to be set.

Defaults

There is no password on the admin or user accounts by default.

Usage Guidelines

This command sets the password for the specified user for access to the CLI. Users without a password may not log in to the CLI via ssh.

If the new password is not specified on the command line, the system will prompt for it.

Examples

```
password admin
```

Related Commands

configure authorized-keys

ping

Send an ICMP Echo Request to a host and waits for a reply.

Syntax

```
ping [ip|ipv6] <host>
```

Syntax Description

Keyword	Description
`ip`	(Optional) Use IPv4.
`ipv6`	(Optional) Use IPv6.
host	The domain name or IP address of the host to be pinged.

Defaults

If neither `ip` no `ipv6` is specified, the protocol is chosen automatically.

Usage Guidelines

The ping command is used to test the reachability of another system and measure the round-trip time (RTT) to the system using ICMP Echo Request packets. Once the command is issued, it will continue until stopped by pressing Control-C.

Examples

```
ping 192.168.81.42
ping ipv6 www.example.com
```

Related Commands

reload

Reboot the system.

Syntax

```
reload
```

Syntax Description

This command has no parameters.

Defaults

Usage Guidelines

The ping command is used to reboot the Island router.

A warning will be issued if the running configuration does not match the startup configuration. The user will be given the opportunity to save or discard the pending configuration changes. The reload command may be aborted using Control-C at this prompt.

Examples

```
reload
```

Related Commands

rollback

Restore the system firmware and configuration to a previously stored checkpoint.

Syntax

```
rollback
```

Syntax Description

This command has no arguments.

Defaults

Usage Guidelines

This command provides a way to return the system firmware and configuration to a previous state created with the update command.

The update command automatically saves a copy of the current firmware and system configuration as a checkpoint. The five most recent checkpoints are retained.

When the rollback command is issued, the user may choose from a list of these checkpoints, and the system will be restored to the saved state.

Each checkpoint includes all changes made to the operating code on the system. In some cases, the checkpoint may include additional items. For example, if an update will use a new, incompatible version of a database or configuration, then the affected items are also included in the checkpoint.

Examples

```
rollback
```

Related Commands

update

show clock

Display the current system date and time.

Syntax

```
show clock
```

Syntax Description

This command has no arguments.

Defaults

Usage Guidelines

This command displays the current system date, time, and time zone.

Examples

```
show clock
```

Related Commands

- timezone
- ntp

show config authorized-keys

Display the authorized SSH public keys for a user.

Syntax

```
show config authorized-keys [admin|user]
```

Syntax Description

Keyword	Description
`admin`	Shows the authorized keys for the administrative user.
`user`	Shows the authorized SSH keys the read-only user

Defaults

The keys for the administrative user are shown by default.

Usage Guidelines

This commands displays the contents of the authorized SSH public keys file for the specified user.

Examples

```
show config authorized-keys
```

Related Commands

configure authorized-keys

show config known-hosts

Display the list of known SSH hosts and their public keys.

Syntax

```
show config known-hosts
```

Syntax Description

This command has no arguments.

Defaults

Usage Guidelines

This command displays the list of known SSH keys for remote hosts. The file format is that used by the OpenSSH suite.

Examples

```
show config known-hosts
```

Related Commands

- ssh
- configure known-hosts

show config known-hosts

clear ssh known-hosts

show dumps

Display a list of system crash dump files.

Syntax

```
show dumps
```

Syntax Description

This command has no arguments.

Defaults

Usage Guidelines

This command lists any dump files created when a software module terminates unexpectedly. They may be analyzed by Island support to determine the cause of a failure.

Examples

```
show dumps
```

Related Commands

- write dump
- clear dump

show free-space

Display information about internal storage space.

Syntax

```
show free-space
```

Syntax Description

This command has no arguments.

Defaults

Usage Guidelines

This command shows information about the internal storage space, including total size, space used, and available space

Examples

```
show free-space
```

Related Commands

show hardware

Display a summary of the system hardware configuration.

Syntax

```
show hardware
```

Syntax Description

This command has no arguments.

Defaults

Usage Guidelines

This command displays a summary of the hardware configuration for the Island, including the platform type, CPU type, memory size, power supply status, and interface compliment.

Examples

```
show hardware
```

Related Commands

show history

Display history records.

Syntax

```
show history [begin <time>] [counts] [end <time>] [first <template>]
[format <template>] [ignore] [unadjusted] [wait] [where <filter>]
```

Syntax Description

`begin`	(Optional) Display only those records whose timestamp is equal to or later than the specified time. Refer to Usage Guidelines below for the syntax of the time parameter.
`counts`	(Optional) If specified, the number of history records processed will be included at the end of the display.
`end`	(Optional) Display only those records whoise timestamp is earlier than the specified time. Refer to Usage Guidelines below for the syntax of the time parameter.
`first`	(Optional) Show only the first occurance of a record matching the specified template. Refer to the history output-format command for the syntax of the template parameter.
`format`	(Optional) Specifies the output format. Refer to the history output-format command for the syntax of the template parameter.
`ignore`	(Optional) Ignore dependency requirements. For example, if the output template includes a parameter that doesn't exist in a record, it could be suppressed if this option isn't specified.
`unadjusted`	(Optional) in the rare case that the clock steps backward, timestamps are adjusted to always move forward. Specifying this option will show the unadjusted time.
`wait`	(Optional) If specified, the command will wait for new records to be displayed. The command can be aborted using Control-C.
`where`	(Optional) If specified, only records matching the specified filter criteria will be displayed. Refer to the history filter command for type syntax of the filter parameter.

Defaults

The default is to display all available history records. For information on the default output format, refer to the history output-format command.

Usage Guidelines

This command displays event history records. Records will be displayed starting at the specified begin time and will end prior to the specified end time. The begin and end times must be one of the following:

- An absolute time in the form "YYYY[/-.]MM[/-.]DD[[T]hh:mm[:ss]]" (e.g., "2018-07-15T10:43"). Absolute times are interpreted in the local timezone.
- The number of seconds since 00:00:00 UTC on January 1st, 1970 (e.g., "1531669380").
- A relative time in the past, in the form "nu", where "n" is a positive integer and u is one of "s" (seconds), "m" (minutes), "h" (hours), "d" (days), "w" (weeks), "M" (months), or "y" or "Y" (years). When a relative time is specified, all smaller intervals are assumed to be the lowest possible value. That is, "1h" specifies a starting time at the top of the previous hour, "1w" specifies a starting time of 00:00:00 of the day 7 days ago, and "1M" specifies a starting time of 00:00:00 on the first day of the previous month. For example, to display all records from the previous calendar month, use "begin 1M end 0M". Relative times are interpreted in the local timezone.
- The word "now", "old", or "end", referring to the current time, the earliest possible time, or the latest possible time, respectively.

The format option specifies the desired output format. Refer to the history output-format command for supported output formats.

If the `where` option is specified, only records matching the specified filter will be displayed. Refer to the history filter command for supported filter values.

Examples

```
show history
show history begin 1h where mac=00:00:5e:00:5e:b9
show history begin 3d where flags=/blocked/
```

Related Commands

show interface

Display information about a physical network interface.

Syntax

```
show interface <iface> [transceiver]
```

Syntax Description

iface	The name of the interface.
`transceiver`	(Optional) Display information on the installed transceiver, if any.

Defaults

None; the interface name must be specified.

Usage Guidelines

This command displays detailed information about a physical network interface. If the optional `transceiver` argument is specified, information about the transceiver installed on the interface is displayed instead.

Examples

```
show interface en0
```

Related Commands

show interface summary

show interface transceivers

show ip interface

show interface summary

Display information about a physical network interface.

Syntax

```
show interface summary
```

Syntax Description

This command has no arguments.

Defaults

Usage Guidelines

This command displays a summarized list of physical interfaces.

Examples

```
show interface summary
```

Related Commands

- show interface
- show interface transceivers

show interface transceivers

Display information about a physical network interface.

Syntax

```
show interface transceivers
```

Syntax Description

This command has no arguments.

Defaults

Usage Guidelines

This command displays a summarized list of interface transceivers installed in the Island.

Examples

```
show interface transceivers
```

Related Commands

- show interface
- show interface summary

show ip dhcp-reservations

Display all DHCP IP address reservations.

Syntax

```
show ip dhcp-reservations
```

Syntax Description

This command has no arguments.

Defaults

Usage Guidelines

This command displays a list of DHCP IP address reservations..

Examples

```
show ip dhcp-reservations
```

Related Commands

ip dhcp-reserve

show ip interface

Display information about an IP interface.

Syntax

```
show ip interface <iface>
```

Syntax Description

iface	The name of the interface.

Defaults

None; the interface name must be specified.

Usage Guidelines

This command displays detailed information about an IP interface.

Examples

```
show ip interface en0
```

Related Commands

- show interface

show ip neighbors

Display information about IP neighbors.

Syntax

```
show ip neighbors
```

Syntax Description

This command has no arguments.

Defaults

Usage Guidelines

This command displays the contents of the IP neighbor cache.

Examples

```
show ip neighbors
```

Related Commands

show interface

show ip recommendations

Display a list of the recommended autoconfiguration mode for each interface.

Syntax

```
show ip recommendations [no-disabled] [<interface>]
```

Syntax Description

interface	(Optional) If specified, the recommended autoconfiguration mode is shown only for the specified interface.
`no-disabled`	(Optional) If specified, the CLI commands needed to implement the recommended autoconfiguration mode is omitted for interfaces where the recommended mode is "disabled".

Defaults

Recommendations are shown for all interfaces by default.

Usage Guidelines

This command examines the current configuration and status of each interface on the Island, and displays a list of the recommended configuration mode for each interface.

The output also includes the CLI commands needed to set the each interface to its recommended mode if it differs from the current mode. These commands may be copied and pasted into the CLI to implement the recommended changes. If `no-disabled` is specified, no CLI commands are shown for interfaces where the recommended mode is `disabled`.

Examples

```
show ip recommendations
show ip recommendations en2
show ip recommendations no-disable
```

Related Commands

ip autoconfig

show ip routes

Display the IP routing table.

Syntax

```
show ip routes
```

Syntax Description

This command has no arguments.

Defaults

Usage Guidelines

This command displays the contents of the IP routing table.

Examples

```
show ip routes
```

Related Commands

ip route >

show ip sockets

Display active local IP sockets.

Syntax

```
show ip sockets
```

Syntax Description

This command has no arguments.

Defaults

Usage Guidelines

This command displays a list of active IP protocol control blocks for connections to and from the Island itself.

Examples

```
show ip sockets
```

Related Commands

show log

Display the system or kernel log.

Syntax

```
show log [all] [clear] [end] [kernel] [last] [module <modname>]
[priority <level] [utc] [wait] [where <string>]
```

Syntax Description

`all`	Show the entire system log buffer instead of only the most recent entries.
`clear`	Clear the log buffer after displaying it.
`end`	Start at the end of the buffer (implies the `wait` option).
`kernel`	Display the kernel log instead of the system log. All other options are ignored if `kernel` is specified.
`last`	Show on the most recent log entries.
`module`	Display only the log entries from the specified software module.
`priority`	Display only entries of the specified priority or higher.
`utc`	Show entry times in UTC rather than local time.
`wait`	Wait for new records. The command can be aborted with Control-C.
`where`	Display only records matching the specified string or regular expression.

Defaults

Only the most recent entries are displayed by default.

Usage Guidelines

This command displays the contents of the system or kernel log buffer in memory.

The log buffer is circular; when the buffer is full, older entries are deleted as new entries are added.

The system log is also written to non-volatile storage which can be displayed using the show syslog slog command.

The `where` option can specify either a simple string or a regular expression. A regular express must be enclosed within "/". The entire string must be enclosed in quotes if it contains whitespace.

Examples

```
show log
show log where 00:53:19:A3:89:F1
show log module pkteng
```

Related Commands

show ntp

Display information about the Network Time Protocol (NTP) process.

Syntax

```
show ntp associations|status
```

Syntax Description

`associations`	Display NTP peer information.
`status`	Display NTP server status.

Defaults

Usage Guidelines

This command displays information about the internal NTP server.

The `associations` option displays information about configured NTP peers.

The `status` option displays information about the NTP server itself.

Examples

```
show ntp associations
show ntp status
```

Related Commands

show packages

List all installed software packages on the system.

Syntax

```
show packages [detail]
```

Syntax Description

`detail`	(Optional) Show package details.

Defaults

Usage Guidelines

Island supports installable software package to add features not included in the base firmware. Installable packages are installed with the update command.

This command lists the currently installed packages.

Examples

```
show packages
```

Related Commands

update >

package >

show public-key

Display the Island's public key.

Syntax

```
show public-key
```

Syntax Description

This command has no arguments.

Defaults

Usage Guidelines

This command displays the Island's public key for use in remote VPN configuration.

Examples

```
show public-key
```

Related Commands

clear vpn-keys

show running-config

Display the active system configuration.

Syntax

```
show running-config [differences]
```

Syntax Description

`differences`	(Optional) Displays a side-by-side comparison of the running and startup configurations.

Defaults

Usage Guidelines

This command displays the active Island configuration.

The differences option will display a side-by-side comparison of the running configuration on the left and the startup configuration on the right.

Note that any changes made to the running configuration will be lost on reload or power off unless the write memory command is used. Changes made through the Island app will also save the running configuration to the startup configuration.

Examples

```
show running-config
```

Related Commands

configure terminal

configure network

show startup-config

write memory

write network

show ssh-client-keys

Display the user’s SSH public keys.

Syntax

```
show ssh-client-keys [detail]
```

Syntax Description

`detail`	(Optional) Show key details.

Defaults

Usage Guidelines

This command displays the current user’s SSH client public keys. The keys obtained can then be added to the list of authorized keys on a remote system for public key authentication.

Examples

```
show ssh-client-keys
```

Related Commands

show startup-config

Display the saved (startup) system configuration.

Syntax

```
show startup-config
```

Syntax Description

This command has no arguments.

Defaults

Usage Guidelines

This command displays the Island's startup configuration on non-volatile memory. This is the configuration that is loaded when the system is booted.

Examples

```
show startup-config
```

Related Commands

- configure terminal
- configure network

show running-config

write memory

write network

show stats

Display various internal system information and statistics.

Syntax

```
show stats [<component> [<parameters>]]
```

Syntax Description

component	(Optional) Show information about a specific module or component.
parameters	(Optional) Arguments related to the specific item being displayed.

Defaults

By default, the command displays a summary of system hardware and packet processing statistics.

Usage Guidelines

This command displays internal system hardware and software information. If no arguments are given, it displays a summary page of generic system hardware and packet processing information.

The optional "component" argument causes the command to display information related to a specific hardware or software component. Some components may support additional parameters.

This command is primarily for diagnostic use by Island support. The supported components and parameters are subject to change at any time, and are not documented here.

For more information, use the context-sensitive help "?" keyword to list available components and parameters. For example, `stats ?` will show the available components, and `stats <component> ?` will show the parameters (if any) available for that component.

Examples

```
show stats
```

Related Commands

show syslog

Display the contents of a system log file.

Syntax

```
show syslog [<dir>] <file>
```

Syntax Description

dir	(Optional) The subdirectory containing the log file.
file	The name of the log file.

Defaults

Usage Guidelines

This command lists the available system log files or displays the contents of a specific log file. The list of available log files varies depending on the system type and the applications installed. A list of the available log files is available by typing `show syslog ?`.

Some log files are kept in a subdirectory of the main log directory. This is generally true for logs for which multiple generations are kept. The contents of these subdirectories can be displayed using show `syslog <dir> ?`, and the individual log files displayed using show `syslog <dir> <file>`.

Examples

```
show syslog update.log
show syslog slog 20240625-135825
```

Related Commands

- write syslog

show users

Display a list of management connections.

Syntax

```
show users
```

Syntax Description

This command has no arguments.

Defaults

Usage Guidelines

This command displays a list of management clients connected to the Island. Entries under "Connected clients" refers to connections to the web app, entries under "Connected apps" refers to connections from the native app, and "SSH users" refers to connections to the CLI via SSH.

Examples

```
show users
```

Related Commands

show vpns

Display the list of configured VPNs.

Syntax

```
show vpns [<filter>]
```

Syntax Description

Keyword	Description
filter	(Optional) Show only the VPN whose MAC address, index, or interface name matches the specified string.

Defaults

The default is to list all configured VPNs.

Usage Guidelines

This command displays the list of configured VPNs, including status and statistics for each.

If the optional filter string is specified, only the VPN whose MAC address, index, or interface name matches the specified string will be shown.

Examples

```
show vpns
show vpns 00005e00539a
show vpns wg7
show vpns 7
```

Related Commands

show version

Display the system hardware and firmware model and version information.

Syntax

```
show version [history]
```

Syntax Description

`history`	(Optional) Shows the firmware update history.

Defaults

Usage Guidelines

With no options, this command displays the hardware model number and serial number and the current firmware version.

If the history option is used, the history of software upgrades and rollbacks is shown instead, from oldest to newest.

Examples

```
show version
```

Related Commands

speed

Sets the speed of an Ethernet interface.

Syntax

```
[no] speed auto|10|100|1000|2500|5000|10000
```

Syntax Description

Keyword	Description
`no`	(Optional) Returns the interface speed to its default value.
`auto`	The interface speed is set via auto-negotiation.
`10`	The interface is speed is set to 10 Mbps.
`100`	The interface is speed is set to 100 Mbps.
`1000`	The interface is speed is set to 1 Gbps.
`2500`	The interface is speed is set to 2.5 Gbps.
`5000`	The interface is speed is set to 5 Gbps.
`10000`	The interface is speed is set to 10 Gbps.

Defaults

Interface speed is set via auto-negotiation by default.

Usage Guidelines

This command can be used to force the speed of an interface if autonegotiation is unavailable or undesirable.

If speed is explicitly configured for an interface, the interface duplex should also be explicitly configured. In other words, auto-negotiation should be enabled or disabled identically for both speed and duplex.

Note that specific interface may not support all of the speeds defined above.

This command is valid only in interface context.

Examples

```
speed 2500
```

Related Commands

interface >

duplex >

ssh

Opens a Secure Shell connection to a remote host.

Syntax

```
ssh [<user>@]<host> [<command>]
```

Syntax Description

Keyword	Description
user	(Optional) The user name to use on the remote host.
host	The name or IP address of the remote host.
command	(Optional) A command to run on the remote host.

Defaults

The default user name is "admin".

Usage Guidelines

This commands establishes a Secure Shell (SSH) session to a remote host. Both public key and password authentication are supported. Public key authentication is attempted using the local ssh client key. If public key authentication fails, password authentication is used.

The ssh client maintains a list of public keys for the hosts that have been previous contacted. If the key received from the remote host does not match the stored key, the connection is aborted. Stored host keys can be edited with the configure known-hosts command or deleted with the clear ssh known-hosts command.

If command is given, the specified string is passed to the remote system for execution instead of invoking a login shell.

Examples

```
ssh jane@server.example.com
```

Related Commands

- clear ssh client-keys
- configure known-hosts
- show config known-hosts
- clear ssh known-hosts
- clear ssh host-keys
- telnet

stats

This is an alias for the "show stats" command.

Syntax

```
stats [<component> [<parameters>]]
```

Syntax Description

component	(Optional) Show information about a specific module or component.
parameters	(Optional) Arguments related to the specific item being displayed.

Defaults

By default, the command displays a summary of system hardware and packet processing statistics.

Usage Guidelines

This command is an alias for the show stats command. Refer to show stats for more information.

Examples

```
stats
```

Related Commands

show stats

syslog

The following "syslog" commands are used to enable and configure logging to an external server.

syslog level

Specifies the minimum severity of messages sent to a syslog server.

Syntax

```
[no] syslog level <level>
```

Syntax Description

no	(Optional) Resets the syslog level to its default value.
level	Only send log messages of the specified severity level or higher to the syslog server.

Defaults

The default severity level is 7.

Usage Guidelines

This command sets the minimum severity level of messages to be sent to an external syslog server. Note that 0 is the highest severity level and 7 is the lowest, as follows:

0	Critical system failure
1	Critical or unexpected unrecoverable error
2	Unexpected recoverable error
3	Less severe error
4	Warning
5	Informational message
6	Debugging message
7	Verbose debugging message

Examples

```
syslog level 2
```

Related Commands

syslog protocol

Specifies whether TCP or UDP is used to communicate with an external syslog server.

Syntax

```
[no] syslog protocol tcp|udp
```

Syntax Description

`no`	(Optional) Resets the syslog protocol to its default value.
`tcp`	Use TCP to send syslog messages.
`udp`	Use UDP to send syslog messages.

Defaults

The default syslog protocol is UDP.

Usage Guidelines

This command sets the protocol used to send syslog messages to an external syslog server. If `udp` is specified, syslog messages are sent using the UDP protocol as defined in RFC 5426. If `tcp` is specified, syslog messages are sent using the TCP protocol as defined in RFC 6857.

Examples

```
syslog protocol tcp
```

Related Commands

syslog server

Enables the sending of system log messages to an external syslog server, and specifies the host and port number of the syslog server.

Syntax

```
[no] syslog server <host>[:<port>]
```

Syntax Description

`no`	(Optional) Stop sending log messages to the syslog server.
host	The name or IP address of the external syslog server.
port	(Optional) The TCP or UDP port number for the external syslog server.

Defaults

The default is not to write to an external syslog server.

The default port number is 514.

Usage Guidelines

System log messages may be sent to a remote syslog server for archival or system monitoring purposes. This command enables this behaviour and identifies the syslog server.

Examples

```
syslog 10.24.7.14
```

Related Commands

telnet

Opens a telnet connection to a remote host.

Syntax

```
ssh <host>
```

Syntax Description

Keyword	Description
host	The name or IP address of the remote host.

Defaults

None; the host must be specified.

Usage Guidelines

This commands establishes a telnet session to a remote host.

Examples

```
telnet server.example.com
```

Related Commands

ssh

terminal

The following "terminal" commands are used to set the characteristics of the current CLI session.

terminal length

Specifies the number of rows on the terminal screen for the current CLI session.

Syntax

```
[no] terminal length <rows>
```

Syntax Description

no	(Optional) Sets the terminal length to zero (no pagination).
rows	The number of rows on the terminal screen. Allowed values are 0 to 512.

Defaults

The default is to use the number of rows sent through the terminal protocol in use (if any), otherwise the default is zero.

Usage Guidelines

This command specifies the number of text lines (rows) on the terminal screen, from 0 to 512. If the number of rows is sent by the client over the terminal protocol in use (e.g., ssh or telnet), that value will be used. Otherwise, the number of rows is set to zero, in which case command output will not be pagenated.

Examples

```
terminal length 24
```

Related Commands

terminal terminal-type

terminal terminal-type

Specifies the type of terminal for the current CLI session.

Syntax

```
[no] terminal terminal-type <type>
```

Syntax Description

no	(Optional) Resets the terminal type to its default value.
terminal-type	The type of terminal. Valid type include "vt100", "ansi", "linux", etc.

Defaults

The default is to use the terminal type sent by the client, if available. Otherwise the terminal type is undefined.

Usage Guidelines

This command specifies the type of terminal in use in the current CLI session.

Examples

```
terminal terminal-type vt220
```

Related Commands

terminal length

terminal width

terminal width

Specifies the number of characters on each line of the terminal screen for the current CLI session.

Syntax

```
[no] terminal width <columns>
```

Syntax Description

no	(Optional) Sets the terminal width to zero.
columns	The number of columns on the terminal screen. Allowed values are 0 to 512.

Defaults

The default is to use the number of columns sent through the terminal protocol in use (if any), otherwise the default is zero.

Usage Guidelines

This command specifies the number of characters on each line of the terminal screen, from 0 to 512. If the number of columns is sent by the client over the terminal protocol in use (e.g., ssh or telnet), that value will be used. Otherwise, the number of columns is set to zero.

An incorrect setting for the terminal width may result in poor pagenation and other undesirable screen artifacts.

Examples

```
terminal width 120
```

Related Commands

terminal length

terminal terminal-type

timezone

Sets the system time zone.

Syntax

```
[no] timezone <string>|<country-code> <n>
```

Syntax Description

Keyword	Description
`no`	(Optional) Removes an existing time zone specification.
string	Specify an explicit time zone.
country-code	A 2-letter country code.
n	Select from a list of time zones associated with the specified country.

Defaults

The Island ships with the time zone set to "America/Chicago". If no time zone is set, the system will use UTC.

Usage Guidelines

This command sets the time zone used by the Island for displaying and interpreting times in logs, events, and other scheduled tasks. A time zone identifier can be entered directly or by selecting a time zone from a list of country-specific zones.

If <string> is specified, it must contain a valid time zone identifier from the IANA Time Zone Database ↗. A more convenient list of time zone identifiers can be found in Wikipedia's List of tz database time zones ↗.

Time zone identifiers are case-sensitive.

Alternately, the user may specify a 2-letter country code (e.g., "fr"). If the country has a single time zone, the time zone will be set to it. If the country has more than one time zone, the user will be presented with a numbered list of time zones for that country. The command can then be issued again with both the country code and the number of the desired time zone from the list.

Examples

```
timezone Europe/Brussels
timezone br
timezone br 8
timezone CST6CDT
timezone UTC
```

Related Commands

show clock >

ntp >

update

Downloads and installs Island firmware updates and installable packages.

Syntax

```
update [<url>]
```

Syntax Description

Keyword	Description
url	The URL of the update file

Defaults

If a URL is not specified, the most recent Island firmware update will be used. If the URL is a simple filename, the file is downloaded from the Island software distribution site.

Usage Guidelines

This command loads new firmware or an installable software packge onto the Island.

The most common form of this command is to specify it without a URL. This will cause Island to look for a newer firmware version and, if found, download and install it.

Examples

```
update
update pingurl
```

Related Commands

- rollback

vpn key-exchange

Exchange VPN keys and establish a VPN with a remote Island running the IslandExpress service.

Syntax

```
vpn key-exchange <host> <secret>
```

Syntax Description

Keyword	Description
host	The name or IP address of the remote Island running the IslandExpress service.
secret	The shared secret configured with the vpn server secret command on the remote Island.

Defaults

None; all parameters must be specified.

Usage Guidelines

Island supports an extention to the standard WireGuard protocol called IslandExpress that simplifies configuration of an Island-to-Island VPN. To use IslandExpress, one Island (typically the "hub" or "central" Island to which one or more remote Islands will be connecting) will configure and enable the IslandExpress service using the vpn server commands, including a shared secret phrase.

Once IslandExpress has been configured on an Island, other Islands can establish a VPN to it using only the vpn key-exchange command. Note that the IslandExpress service does not need to be configured on the Island on which the vpn key-exchange command is run.

By default, a VPN created using the vpn key-exchange command will be assigned a local IP address from a pool on the IslandExpress server to which it connects, and the IP address for traffic sent over the VPN will be translated to this address using NAT. However, once the VPN has been created, it can be modified as desired using the desired vpn peer commands.

A VPN created with this command will not be immediately available if the auto-trust option is enabled on the other Island. Refer to the vpn server auto-trust command for more information.

Examples

```
vpn key-exchange 198.51.100.28 mysecretpassword
```

Related Commands

vpn peer >

vpn server >

vpn peer

The following "vpn peer" commands are used to create and configure VPNs on the Island.

vpn peer generate client

Creates a VPN and generates a configuration suitable for import into a WireGuard VPN client.

Syntax

```
vpn peer <id> generate client [local-only] [name <name>] [public-key <key>]
```

Syntax Description

Keyword	Description
id	The VPN identifier. Must be a number in the range 0-1022 or the string "auto".
`local-only`	(Optional) If specified, only local routes on the Island are included in the client configuration file; otherwise, a default route is included.
name	(Optional) A descriptive name for the VPN.
key	(Optional) If specified, the VPN is created using the specified public key for the remote host; otherwise, a public/private key pair is generated.

Defaults

By default, the generated client configuration contains a default route through the VPN, and a public/private key pair is generated for the client.

Usage Guidelines

This command is used to create a VPN on the Island, and to generatate an associated configuration suitable for import directly into a WireGuard client. The generated configuration is displayed in the CLI where it can be copied and pasted into the WireGuard client, or pasted into a file that can be imported into the client.

The VPN ID must be a number between 0 and 1022 that does not already exist on the Island, or the string "auto", which will automatically assign the next available VPN ID.

By default, the command will generate a public/private key pair for the client to use, and will include the private key in the "[Interface]" section of the client configuration. This makes client VPN configuration very easy since the generated configuration can be loaded into the client, and no other steps are necessary. However, because the configuration contains the private key for the client, **the configuration should be kept secure, and should be permanently deleted as soon as it has been loaded into the client**.

Alternately, the public/private key pair can first be configured on the client, and the resulting public key included in the vpn peer generate client command using the `public-key` option. This requires extra steps to configure the VPN, but is more secure because the private key does not have to be communcated to the client.

By default, a default IPv4 and a default IPv6 route is specified in the "AllowedIPs" directive in the "[Peer]" section of the generated client configuration, so that all Internet traffic will be routed through the Island. If the `local-only` option is specified, only routes for local interfaces on the Island will be included in the client configuration.

The name parameter is optional, but is useful to identify the client associated with the VPN.

If a DDNS name has been set on the Island using the ip ddns name command, the DDNS name will be used in the "EndPoint" directive in the "[Peer]" section of the client configuration. A DDNS name is recommended in most cases because it islolates the client from changes in the Island's public IP address. If no DDNS name has been configured, the IP address of the highest priority WAN interface will be used instead. Likewise, the UDP port number in for the endpoint will be set to the value configured with the vpn port command, or to the default port if a custom port number has not been configured.

Examples

```
vpn peer auto generate client name terry-laptop local-only
```

Related Commands

vpn peer host

Specify the host name or IP address of a VPN peer.

Syntax

```
[no] vpn peer <id> host <host>
```

Syntax Description

Keyword	Description
`no`	(Optional) Removes the peer host entry from the VPN.
id	The VPN identifier. Must be a number in the range 0-1022 or the keyword "auto".
host	The name or IP address of the VPN peer.

Defaults

If this command is not specified for a given VPN, the Island will not intiate connections to the peer.

Usage Guidelines

This command enables the Island to initiate connections to a VPN peer, and defines the name or IP address of the peer.

If a VPN exists with the specified identifier, the existing VPN will be modified; otherwise, a new VPN with the specified identifier will be created. If "auto" is specified for the identifier, a new VPN will be created using the next available identifier.

If this command is not specified for a given peer, the Island will not initiate a connection to the peer; the peer must initiate the connection to the Island.

Examples

```
vpn peer 2 host vpn-server.example.net
```

Related Commands

vpn peer local-ip

Controls the assignment of a local IP address to the VPN for network address translation (NAT).

Syntax

```
[no] vpn peer <id> local-ip <ipv4>|<ipv6>|v4-none|v6-none
```

Syntax Description

Keyword	Description
`no`	(Optional) Removes a previously specified local IP address and restores the default behavior.
id	The VPN identifier. Must be a number in the range 0-1022 or the string "auto".
ipv4	An IPv4 address (e.g., 10.200.1.1) to be used for IPv4 NAT.
ipv6	An IPv6 address (e.g., fdfb:cb92:b476:f3ac::1) to be used for IPv6 NAT.
`v4-none`	Ignore any remotely-assigned IPv4 address and disable IPv4 NAT.
`v6-none`	Ignore any remotely-assigned IPv6 address and disable IPv6 NAT.

Defaults

If this command is not specified, the default is to use the IP address assigned by the remote peer. If the remote peer has not assigned an IP address, NAT will not be used.

Usage Guidelines

This command controls whether network address translation (NAT) will be used for outbound traffic on the VPN. If no local address is assigned to the VPN, NAT will not occur and outbound traffic will use local LAN addresses.

If a VPN exists with the specified identifier, the existing VPN will be modified; otherwise, a new VPN with the specified identifier will be created. If "auto" is specified for the identifier, a new VPN will be created using the next available identifier.

Examples

```
vpn peer 6 local-ip
```

Related Commands

vpn peer remote-ip

vpn peer mac

Specify the host name or IP address of a VPN peer.

Syntax

```
[no] vpn peer <id> mac <address>
```

Syntax Description

Keyword	Description
`no`	(Optional) Removes the peer MAC address from the VPN.
id	The VPN identifier. Must be a number in the range 0-1022 or the keyword "auto".
address	The MAC address to associate with the peer.

Defaults

No MAC address is associated with the VPN peer.

Usage Guidelines

This command associates a MAC address with the VPN peer. This will cause the VPN peer to appear as a device in Island. The device can then be configured and monitored like any other device in Island.

The specified MAC address can be the same as existing device on the Island. This is useful for applying the same configuration to a device regardless of whether it's connected to a local LAN interface or via a VPN.

If a VPN exists with the specified identifier, the existing VPN will be modified; otherwise, a new VPN with the specified identifier will be created. If "auto" is specified for the identifier, a new VPN will be created using the next available identifier.

Examples

```
vpn peer 17 mac 00:53:2B:2C:F7:95
```

Related Commands

vpn peer name

Specify a description name for a VPN peer.

Syntax

```
[no] vpn peer <id> mac <address>
```

Syntax Description

Keyword	Description
`no`	(Optional) Removes the peer MAC address from the VPN.
id	The VPN identifier. Must be a number in the range 0-1022 or the keyword "auto".
address	The MAC address to associate with the peer.

Defaults

No MAC address is associated with the VPN peer.

Usage Guidelines

This command associates a MAC address with the VPN peer. This will cause the VPN peer to appear as a device in Island. The device can then be configured and monitoring like any other device in Island.

The specified MAC address can be the same as existing device on the Island. This is useful for applying the same configuration to a device regardless of whether it's connected to the local LAN or via a VPN.

If a VPN exists with the specified identifier, the existing VPN will be modified; otherwise, a new VPN with the specified identifier will be created. If "auto" is specified for the identifier, a new VPN will be created using the next available identifier.

Examples

```
vpn peer 4 mac 00:53:2B:2C:F7:95
```

Related Commands

vpn peer public-key

Specify a VPN peer's public key.

Syntax

```
[no] vpn peer <id> public-key <key>
```

Syntax Description

Keyword	Description
`no`	(Optional) Removes the peer public key from the VPN.
id	The VPN identifier. Must be a number in the range 0-1022 or the keyword "auto".
key	The peer's public key

Defaults

None; a peer's public key must be defined before communcations can take place.

Usage Guidelines

Each end of a WireGuard VPN has a public/private key pair. The private key is known only to that end, while the public key is shared with the VPN's peer(s).

This command provides Island with a VPN peer's public key.

If a VPN exists with the specified identifier, the existing VPN will be modified; otherwise, a new VPN with the specified identifier will be created. If "auto" is specified for the identifier, a new VPN will be created using the next available identifier.

Examples

```
vpn peer auto public-key 7cNt7EEQVVWVWh+63xY5+dU7uDGZk2IRKENcchJPuS0=
```

Related Commands

vpn peer remote-ip

Assigns an IP address to a VPN peer.

Syntax

```
[no] vpn peer <id> remote-ip <ip>|v4-none|v6-none
```

Syntax Description

Keyword	Description
`no`	(Optional) Removes the specified IP address assignment from the peer.
id	The VPN identifier. Must be a number in the range 0-1022 or the keyword "auto".
ip	The IP address to be assigned to the peer.
`v4-none`	Do not assign an IPv4 address to the peer.
`v6-none`	Do not assign an IPv6 address to the peer.

Defaults

If this command is not given, and a vpn server pool is definied, the next available IPv4 and IPv6 address from the pool is assigned to the peer.

Usage Guidelines

This command defines the IP address of a VPN peer. For remote Island peers, the specified address will be communicated to the peer and used as the peer's local VPN address unless overridden using the vpn peer local-ip command on the peer.

For non-Island peers, the local Island will install a route to this address over the VPN unless one or more routes are defined with the vpn peer route command.

If this command is not specified for a peer, and a pool of addresses has been configured using the vpn server pool command, the next available address from the pool will be assigned to the peer.

If `v4-none` or `v6-none` is specified, no IPv4 or IPv6 address (respectively) will be assigned to the peer.

This command may be specified twice per peer, once for a remote IPv4 address and once for a remote IPv6 address.

If a VPN exists with the specified identifier, the existing VPN will be modified; otherwise, a new VPN with the specified identifier will be created. If "auto" is specified for the identifier, a new VPN will be created using the next available identifier.

Examples

```
ip peer 8 remote-ip 10.41.17.2
ip peer 8 remote-ip 2001:db8:7c00::2
```

Related Commands

- vpn peer local-ip >
- vpn peer route >

vpn peer route

Assigns a route to a VPN.

Syntax

```
[no] vpn peer <id> route [<address/bits>]
```

Syntax Description

Keyword	Description
`no`	(Optional) Removes the specified route, or all routes, from the VPN.
id	The VPN identifier. Must be a number in the range 0-1022 or the keyword "auto".
address	The IPv4 or IPv6 network address to be routed to the peer.
bits	The network prefix length of the route.

Defaults

By default, Island will install any routes sent by a remote Island peer. For non-Island peers (which do not support route announcements), a route will be installed for the address defined by the vpn peer remote-ip command, if any.

Usage Guidelines

This command installs a static route to a VPN peer. It may be specified multiple times per peer.

If this command is given, any routes sent by a remote Island peer will be ignored.

If a VPN exists with the specified identifier, the existing VPN will be modified; otherwise, a new VPN with the specified identifier will be created. If "auto" is specified for the identifier, a new VPN will be created using the next available identifier.

Examples

```
vpn peer route 192.168.12.0/24
```

Related Commands

vpn peer remote-ip >

vpn peer shutdown

Disbles a VPN.

Syntax

```
[no] vpn peer <id> shutdown
```

Syntax Description

Keyword	Description
`no`	(Optional) Enables the VPN.
id	The VPN identifier. Must be a number in the range 0-1022 or the keyword "auto".

Defaults

A VPN is enabled by default.

Usage Guidelines

This command disables a VPN. No traffic will be sent or accepted over a disabled VPN, including keepalives.

This command is mutually exclusive with and will replace an existing vpn peer unapproved command.

If a VPN exists with the specified identifier, the existing VPN will be modified; otherwise, a new VPN with the specified identifier will be created. If "auto" is specified for the identifier, a new VPN will be created using the next available identifier.

Examples

```
vpn peer 0 shutdown
```

Related Commands

vpn peer unapproved

Disables a VPN and marks it as "unapproved".

Syntax

```
[no] vpn peer <id> unapproved
```

Syntax Description

Keyword	Description
no	(Optional) Enables the VPN and removes the "unapproved" status.
id	The VPN identifier. Must be a number in the range 0-1022 or the keyword "auto".

Defaults

In the absence of this command, a VPN is not flagged as "Unapproved".

Usage Guidelines

This command is used to implement the auto-trust feature of IslandExpress. When a VPN is automatically created by IslandExpress, if vpn server auto-trust is turned off, the VPN will be created with its status set to "unapproved". A VPN in this state is disabled, and will not function until the VPN is approved with no vpn peer unapproved.

This command is mutually exclusive with and will replace an existing vpn peer shutdown command.

If a VPN exists with the specified identifier, the existing VPN will be modified; otherwise, a new VPN with the specified identifier will be created. If "auto" is specified for the identifier, a new VPN will be created using the next available identifier.

Examples

```
no vpn peer 6 unapproved
```

Related Commands

vpn server auto-trust

vpn peer visible

Controls whether the Island's management plane can send traffic over a VPN.

Syntax

```
[no] vpn peer <id> visible off|on
```

Syntax Description

Keyword	Description
no	(Optional) Restores the default setting of the visible attribute.
id	The VPN identifier. Must be a number in the range 0-1022 or the keyword "auto".
`off`	The VPN is not visible to the Island's management plane.
`on`	The VPN is visible to the Island's management plane.

Defaults

A VPN is not visible to the Island's management plane by default.

Usage Guidelines

This command allows a VPN to be visible to the Island's management plane. Traffic originating from the Island itself can then be routed over the VPN, subject to the VPN's routing table entries.

Traffic originating from the management plane include, but is not limited to, services such as firmware updates, NTP, DNS, CLI ssh and telnet commands, etc.

If a VPN exists with the specified identifier, the existing VPN will be modified; otherwise, a new VPN with the specified identifier will be created. If "auto" is specified for the identifier, a new VPN will be created using the next available identifier.

Examples

```
vpn peer 2 visible on
```

Related Commands

vpn port

Set the UDP port number for incoming WireGuard connections.

Syntax

```
[no] vpn port <n>
```

Syntax Description

Keyword	Description
`no`	(Optional) Use the default WireGuard UDP port number.
n	The desired UDP port number in the range 1-65535.

Defaults

The default WireGuard UDP port number is 51820

Usage Guidelines

This command sets the UDP port number on which Island will listen for incoming WireGuard connections.

Examples

```
vpn port 30719
```

Related Commands

vpn renumber

Assignes new IP addresses to VPNs from the VPN address pool.

Syntax

```
vpn renumber
```

Syntax Description

This command has no arguments.

Defaults

Usage Guidelines

This command renumbers the remote-ip values on all VPNs, assigning new IP addresses from the pool of IPv4 and IPv6 addresses defined with the vpn server pool command.

This command is rarely needed. **It is designed exclusively for use on systems that utilize IslandExpress to create VPN peers**. In general, it should not be used on systems with non-Island VPN peers. Standard WireGuard does not provide a method to communcate a desired remote IP address to a peer, so renumbering may cause a loss of connectivity to non-Island peers until the peers are reconfigured with their new IP addresses.

Examples

```
vpn renumber
```

Related Commands

vpn peer remote-ip

vpn server pool

vpn route

Defines a route to announce to Island VPN peers.

Syntax

```
[no] vpn route [<address/bits>]
```

Syntax Description

Keyword	Description
`no`	(Optional) Removes the specified route announcement, or all configured route announcements if no route is specified.
address	The IPv4 or IPv6 network address to be announed to peers. Required unless `no` is specified.
bits	The network prefix length of the route.

Defaults

Island announces all local LAN networks to VPN peers by default.

Usage Guidelines

Island provides an extention to the WireGuard protocol to announce a set of routes to peers. By default, Island will announce all local LAN networks to a peer. If this command is specified, it will override the default announcements. Therefore, all desired routes must be included, including local networks.

This command has no effect on non-Island peers.

Examples

```
vpn route 172.1.32.0/22
vpn route fd09::/16
```

Related Commands

vpn server

The following "vpn server" commands are used to enable and configure the IslandExpress VPN service.

Note that issuing the command `no vpn server` with no other arguments will delete all existing vpn server commands. The user will be prompted before the command is executed unless command confirmation has been disabled with no login confirm.

vpn server auto-trust

Controls whether VPNs created by IslandExpress are automatically enabled.

Syntax

```
[no] vpn server auto-trust [off|on]
```

Syntax Description

Keyword	Description
`no`	(Optional) Resets auto-trust to its default value.
`off`	Disables auto-trust. Either `off` or `on` is required unless `no` is specified.
`on`	Enables auto-trust. Either `off` or `on` is required unless `no` is specified.

Defaults

IslandExpress auto-trust is disabled by default.

Usage Guidelines

When a VPN is created by IslandExpress, its status is set to "unapproved" by default. The VPN is disabled until the unapproved status is removed manually using no vpn peer unapproved. This provides a safeguard in case the IslandExpress shared secret (see vpn server secret) is compromised.

If auto-trust is set to `on`, VPNs created by IslandExpress are enabled immediately. **This should be used with caution since anyone with knowledge of the IslandExpress shared secret can establish a working VPN connection to the Island.**

Examples

```
vpn server auto-trust on
```

Related Commands

- vpn peer unapproved
- vpn server secret

vpn server auto-visible

Controls the initial value of vpn server auto-visible on VPNs created by IslandExpress.

Syntax

```
[no] vpn server auto-visible [off|on]
```

Syntax Description

Keyword	Description
`no`	(Optional) Resets auto-visible to its default value.
`off`	Disables vpn peer visible on new IslandExpress VPNs. Either `off` or `on` is required unless `no` is specified.
`on`	Enables vpn peer visible on new IslandExpress VPNs. Either `off` or `on` is required unless `no` is specified.

Defaults

By default, vpn peer visible is initially disabled on VPNs created by IslandExpress.

Usage Guidelines

This command controls the initial value of vpn peer visible on VPNs created by IslandExpress, making the VPN invisible to the Island's management plane. This can be changed later using the vpn peer visible command.

Examples

```
vpn server auto-visible on
```

Related Commands

vpn peer visible

vpn server no-local

Controls whether new IslandExpress VPNs will accept a local IP address assignment from the report peer.

Syntax

```
vpn server no-local
```

Syntax Description

This command has no arguments.

Defaults

Usage Guidelines

This command sets vpn peer local-ip v4-none and vpn peer local-ip v6-none on all configured VPNs. The user will be prompted before the command is executed unless command confirmation has been disabled with no login confirm.

Examples

```
vpn server no-local
```

Related Commands

vpn peer local-ip ›

vpn server pool

Defines a pool of IP addresses to be assigned to new IslandExpress VPN peers.

Syntax

```
[no] vpn server pool [<address>]
```

Syntax Description

Keyword	Description
`no`	(Optional) Deletes the specified server pool, or all pools if no address is specified.
address	The first address in the pool. Required unless `no` is spacified.

Defaults

No IP server pools are defined by default.

Usage Guidelines

When a pool is defined with this command, VPNs created by IslandExpress will be assigned an available IP address from the pool to the remote peer using the vpn peer remote-ip command.

Note that no upper limit is defined for the pool. The highest IP address used from the pool will be limited by the maximum number of VPNs supported on the Island model in use.

One IPv4 and one IPv6 pool may be created.

Examples

```
vpn server pool 10.200.0.1
vpn server pool fd80::1
```

Related Commands

vpn peer remote-ip

vpn server secret

Enable the IslandExpress service and define the shared secret peers use to authenticate to it.

Syntax

```
[no] vpn server secret <string>
```

Syntax Description

Keyword	Description
`no`	(Optional) Deletes the existing shared secret and disables the IslandExpress service.
string	An ASCII string of up to 255 characters. Must be enclosed in quotes if it contains whitespace.

Defaults

IslandExpress is disabled by default.

Usage Guidelines

This command enables the IslandExpress service and defines the shared secret peers must use to authenticate to it.

Examples

```
vpn server secret "my vpn password"
```

Related Commands

vpn sort

Rearrange all VPNs in alphabetical order according to the VPN name.

Syntax

```
vpn sort
```

Syntax Description

This command has no arguments.

Defaults

Usage Guidelines

This command reorders the list of VPNs alphabetically ascending according to the name set with the vpn peer name command.

Examples

```
vpn sort
```

Related Commands

vpn peer name >

write

The following "write" commands copy various system data or configuration files to internal or external storage.

write dump

Copy a crash dump file to a network location

Syntax

```
write dump <file> <url>
```

Syntax Description

Keyword	Description
file	The name of the crash dump file to be copied.
url	The location to where the dump file is to be written.

Defaults

None; all parameters must be specified.

Usage Guidelines

This command writes a system dump file to a specificied network location.

Dump files are created when a software module crashes. The resulting dump file can aid Island support personnel in determining the cause of the crash. This command provides a way to save a dump file to a network location so the file can be forwarded to Island support.

Refer to the URL Format section of this document for more information on the syntax of the url parameter.

Examples

```
write dump pkteng.core scp://john@10.164.17.9/dumps/
```

Related Commands

show dumps >

clear dump >

write memory

Copy the running configuration to the startup configuration

Syntax

```
write [memory]
```

Syntax Description

Keyword	Description
`memory`	Specifies the non-volatile startup configuration file

Defaults

The `memory` parameter is optional. A `write` command with no parameters is the same as `write memory`.

Usage Guidelines

This command copies the running configuration to the startup configuration in non-volatile memory.

When commands are issued in the CLI, they are saved in the running configuration in memory, and take effect immediately. However, they are not written to the startup configuration in non-volatile memory until the `write memory` command is issued. If power is lost or the Island is rebooted, any commands issued since the last `write memory` command will be permanently lost.

Note that changes made using the Island app will automatically cause the running configuration to be written to the startup configuration.

Examples

```
write memory
write
```

Related Commands

write network

Saves a backup of the system to a network location

Syntax

```
write network [days <n>] [include-keys] [nohistory] [size] <url>
```

Syntax Description

Keyword	Description
n	(Optional) The number of days of history data to be included in the backup.
`include-keys`	(Optional) If specified, the Island's private keys are included in the backup.
`nohistory`	(Option) No history data will be included in the backup. This is the same as `days 0`.
`size`	(Optional) If specified, an estimate of the resulting backup file in bytes will be displayed, but no file will be written.
url	(Optional) The location to where the backup file is to be written. Required unless `size` is specified.

Defaults

By default, 10 years of history data will be included, and private keys will not be included.

Usage Guidelines

The `write network` command creates a backup of the Island router and writes it to a remote file. The resulting file can be restored using the configure network command.

If desired, historical usage data can be included in the backup file. Note that history data can dramtically increase the size of the backup file. A backup file with no history data will typically be under 1 MB. On an Island with many devices, however, each day of history data may increase the size of the backup file by tens or hundreds of megabytes. The `size` option can be used to get an estimate of the backup file size before actually creating the backup.

Backup files should be kept in a secure location since they may contain sensitive data.

Private security keys are not included in the backup by default. If the resulting backup is restored to another Island, or to the same Island after performing a factory reset, all VPNs will have to be deleted and recreated, and any remote access sessions from the Island app will need to be reestablished. To avoid this issue, the `include-keys` option can be used to include the Island's private keys in the backup. Although all Island backup files should be kept secure from access by unauthorized parties, files contining private keys are especially sensitive. **Anyone with access to a backup file containing private keys could potentially gain access to the Island remotely and/or intercept its VPN communications.**

Refer to the URL Format section of this document for more information on the syntax of the url parameter.

Examples

```
write network days 3 url sftp://jane:password@my.example.com/jane-
island-backup
write network days 30 size
```

Related Commands

backup >

configure network >

write syslog

Copy a system log file to a network location

Syntax

```
write syslog <file> <url>
```

Syntax Description

Keyword	Description
file	The name of the log file to be copied.
url	The location to where the log file is to be written.

Defaults

None; all parameters must be specified.

Usage Guidelines

This command writes a system log file to a specificied network location.

A list of available system log files shown using the show syslog ? command.

If the log file to be written is in a subdirectory, specify the subdirectory name before the file name, separated by a space.

Refer to the URL Format section of this document for more information on the syntax of the url parameter.

Examples

```
write syslog update.log scp://jane@10.164.17.9/logs/
write syslog slog 20241029-140105 scp://jane@10.164.17.9/logs/
```

Related Commands

show syslog >

clear syslog >

write terminal

Displays the running configuration.

Syntax

```
write terminal
```

Syntax Description

This command has no arguments.

Defaults

Usage Guidelines

This command displays the running configuration of the Island. It is the same as running the show running-config command.

Examples

```
write terminal
```

Related Commands

show running-config