

Aruba and HP switches debug and diagnostics commands cheat sheet

Table of Contents

General Health	1
Logs	3
Interfaces	4
VLANs	5
Daemons Real-Time Debug	6
Spanning Tree Protocol (STP)	8
Routing Info	8
Static	8
BGP	9
OSPF	9
LLDP & MAC & CDP	10
PoE	10
DHCP	10
NTP	11
VSF (Virtual Switching Framework)	11

Author: Yuri Slobodyanyuk, <https://www.linkedin.com/in/yurislobodyanyuk/>

NOTE

All commands were tested on HP/Aruba 5400 switches (specifically 5406Rzl2), but will work on any model with recent firmware versions (16.x or newer), except for the hardware features unavailable on smaller models, like VSF .

General Health

Command	Description
show system	Show general info: current CPU load, uptime, memory used/free, software version.
show cpu [seconds]	Show CPU stats of average load for 1 second, 5 seconds, and 1 minute, optionally setting period in <i>seconds</i> (300 is max).
show uptime	Show uptime of the switch since reboot, for VSF stacked switches shows uptime for each member.
show time	Show switch time and date, for log correlation.

Command	Description
show flash	Show what firmware images are stored in the flash, and which one is the primary/secondary for the next boot.
show boot-history	Show log of previous boots with their reason (user reboot/cold reboot), crashes and what process crashed with its memory dump, and timestamps.
boot system flash primary secondary	Set the image to boot from on the next reboot.
show redundancy [detail]	In module management redundancy standalone/stack topology, shows firmware image version of each module, as well as the number of failovers.
show system power-supply [detail]	Show statistics of the power supplies: power consumed, power supplied, fan speed, inlet and internal temperature.
show system fans	Show fans state: OK/Failed, and number of failures if any. For VSF shows info for both members.
show config <i>option</i>	<p>Display part of saved configuration given by <i>option</i>:</p> <p>status: Tell if the running config differs from the startup config.</p> <p>interface <i>port-id</i>: Show startup config for the specified interface.</p> <p>router <i>bgp ospf pim</i>: Show startup configuration section for this routing protocol.</p> <p>vlan <i>vlan-id</i>: Startup configuration for VLAN(s).</p>
show modules	Show installed modules and their state and serial numbers.
show tech [all]	WARNING: I bring this command for completeness sake, but this command will run dozens/hundreds of debug commands, printing lots of info, hundreds of pages, which in turn will load the switch as well. Run it with caution, most probably at the HPE support request only.
show environment	Show the chassis' sensors temperature

Logs

Command	Description
Logs severity: <ul style="list-style-type: none">• W=Warning• I=Information• M=Major• D=Debug• E=Error	All logs are categorized into severities when written, and the severity is presented in the 1st column of each log. This also allows filtering logs for display by their severity, see below.
show logging -r	Show system logs and events in reverse chronological order, i.e. newest logs first.
show log -a	Show logs from previous boot cycles. HP/Aruba will display only logs since the last boot, by default, but you can add -a to any of the log display commands below to work on previous logs as well.
show log <i>string-to-search</i>	Search and display only logs containing the specified string. The search is case sensitive , and no regex - just plain strings with exact match. E.g. to search for logs containing the interface 1/B2: show log 1/B2 ; to search for all bgp-related logs like peer up/down: show log -r bgp .
show log command [-a]	Show log of commands issued by users on CLI. This log is NOT hidden even by the clear log and records all commands - both configuration and not. So, it will record commands like ping 8.8.8.8 , clear log , no router bgp . Adding -a will show logs from previous boot cycles.
show running-config changes-history [detail]	Display history of up to 32 last changes to the configuration, including time of change, IP address if any, event id. This will NOT show what the changes were themselves though.
show log -m/-e/-p/-w/-i/-d	Show only logs of the specified severity, see above for the available severities.
clear log	Hides, not deletes, (almost) all logs for the current session. Applying -a will still display all logs.

Command	Description
show log -s	Display logs from the Standby commander/management module in a VSF stack or in standalone switch with management module redundancy.
show log -b	Show logs with time since boot instead of an absolute date/time format.

Interfaces

Command	Description
show interface [<i>port-id</i>]	Show as a table (if <i>port-id</i> is not given) all ports with the total bytes/frames, Rx/Tx errors, and Broadcast limit if set for each port.
clear statistics global	Clear counters on all interfaces.
show interface status	Show list of all interfaces with info for each: state (Up/Down), Actual Speed, Tagged or not, VLANs configured for the interface (single VLAN for Untagged, multiple for Tagged). NOTE: In Cisco world Tagged interface is called trunk .
display interface [<i>name</i>]	Show detailed information of an interface: media type, speed/duplex state, MAC address, up/down, max frame size, VLAN id if any untagged set and . (dot) for multiple tagged VLANs, input/output erros, buffer failures, CRC errors, runts.
show interface display	Present TUI dialog window with real-time information for all interfaces, including total bytes/frames, Rx/Tx errors, and drops. The information is updated every 3 seconds dynamically. Use arrows/tab to navigate, CTRL + C to exit the menu.
show interfaces custom <i>start-port</i>[-<i>end-port</i>] <port / type / status / speed / mode / name / vlan / enabled>	Show selected ports with only specified fields: port, type, status etc. E.g. show interface custom 1/B1 port status speed vlan .
show interface port-utilization	Show one time as a table the current traffic rates passing each interface.
show interface trunk-utilization	Show current traffic rates of all trunks.
show int queue <i>port-name</i>	Show statistics of all queue buffers of a given interface, including <i>drops</i> for each.

Command	Description
conf t int name disable/enable	Disable/enable a specific interface (in Cisco world shut/no shut)
show interface transceiver [name] [detail]	Info on installed optical transceivers: Port number where installed, Type/Speed, Serial Number. If <i>detail</i> is added, will also show temperature, voltage, Transmit (TX) and Receive (RX) power in mW and dBm.
show ip	Show all configured IP addresses on a switch.
show arp vlan vlan-id	List all IP addresses (provided Layer 3 features are enabled) learned on the VLAN <i>vlan-id</i> .
show name	Lists all interfaces with their names if set. In Cisco it would be show int description
show trunks	Show trunk interfaces with their state and type. NOTE: In HP/Aruba world trunk means aggregated interfaces (LAG), what in Cisco world is called port/ether-channel.
show trunk-statistics trunk-name	Show cumulative statistics for the trunk interface: packets passed, bytes received, drops if any.
show lacp	Show LACP state on the trunking interfaces.
show lacp counters	show stats for received/sent LACP PDUs per trunk (should be increasing).
show port-security port-id	Show port security state for all/specified interfaces.
test cable-diagnostics port-list show cable-diagnostics	Initiate and show results of Time-domain reflectometer cable diagnostics test to check Ethernet cables for faults. This will shut down temporarily all the tested ports!

VLANs

Command	Description
show vlans	Show a list of all VLANs configured on this switch.
show vlans ports port-name[,port2-name...]	Show vlans enabled on the specified physical port.

Command	Description
show vlans <i>vlan-id</i>	Show ports where the specified <i>vlan-id</i> is enabled, either as tagged or untagged
conf t (config)# no vlan <i>vlan-id</i>	Deletes VLAN <i>vlan-id</i> from configuration and un-assigns all ports from it, if some ports have no other VLAN association, they will be auto-assigned to default VLAN 1. WARNING: this command deletes the VLAN specified no matter from which sub-config mode you issue it. That is, even under interface config mode, this will remove all configuration for this VLAN from everywhere.

Daemons Real-Time Debug

Command	Description
show debug	Show currently enabled debug
debug destination logging/session/buffer	Set location to output the debug to (default none), run before enabling the debug: logging - send the debug to the configured (if any) syslog server. session - send to the terminal (Cisco analog of term mon). buffer - send to the switch memory buffer.
show debug buffer	Show log buffer with the collected debug output if the destination was set to buffer .

Command	Description
[no] debug <i>daemon-name</i>	<p>enable real-time debug of the specified daemon. Use no option to disable the debug. The daemons are:</p> <ul style="list-style-type: none"> • acl Displays debug messages for access control lists. • all Display all debug messages. • aruba-central Display Aruba Central server debug information. • bfd Enable BFD debug logging. • cdp Display CDP information. • cfg-restore Display cfg-restore debug messages. • dhcp-server Display DHCP server debug messages. • distributed-trunking Display DT debug messages. • est Display EST debug messages. • event Display event log messages. • ip Display debug messages for IPv4. • ip-sla Enable debug logs for IP SLA. • ipv6 Enable debug messages for IPv6. • lACP Display LACP information. • lldp Display LLDP information. • mdns Display mDNS debug messages. • mstp Display MSTP debug messages. • mvrp Enable MVRP debug messages. • ntp Display debug messages for NTP. • openflow Display all OpenFlow packets. • rest-interface Display REST debug information. • rpvst Display RPVST debug messages. • security Display all Security messages. • services Display debug messages on services module. • smart-link Display Smart link debug messages. • snmp Display SNMP debug messages.
	time-stamp Enable/disable system-time to be

Command	Description
debug ip <i>routing-process</i>	<p>Debug various routing processes. The <i>routing-process</i> is one of the:</p> <ul style="list-style-type: none"> • bgp Display all BGP routing messages. • client-tracker Displays debug messages for IP client tracker. • fib Display IP Forwarding Information Base messages & events. • forwarding Display IPv4 forwarding messages. • iface Display interface management messages. • igmp Display all IGMP messages. • ospf Display all OSPF routing messages. • ospfv3 [Deprecated] Enable debug messages for OSPFv3. • packet Display IPv4 packet messages. • pbr Enable debug messages for PBR. • pim Enable/disable tracing of PIM messages. • rip Display all RIP routing messages.

Spanning Tree Protocol (STP)

Command	Description
display stp root	Show root switch for each VLAN.
display stp brief	Show STP state for each port/VLAN - Forwarding/Blocking, STP role.

Routing Info

Static

Command	Description
show ip	Show IP routing state: disabled/enabled. It is disabled by default, to enable: (config)# ip routing on platforms that support Layer 3 routing. Also displays list of all the interfaces/VLANs with IP address set.
show ip route	Show static and connected routes on the switch.

BGP

Command	Description
show ip bgp summary	Show in short format all BGP peers with their IP address, AS number, and state. The first command to try for BGP.
show ip bgp <i>prefix/mask</i>	Show BGP info for the specified prefix.
show ip bgp	Display routes learned via BGP.
show ip bgp neighbor <i>[ip-address-of-peer]</i>	Show detailed information about the BGP session with all or the specified peer(s), including hold time, weight, prefixes advertised/received, etc.
show ip bgp neighbor <i>ip-address</i> advertised-routes	Display routes we advertise via BGP to the <i>ip-address</i> neighbor.
show ip bgp neighbor <i>ip-address</i> received-routes	Display routes we learned from the given BGP peer.
show log bgp	Show logs that include the word bgp . It will include BGP peering establishment/tear up.

OSPF

Command	Description
show ip ospf	Show if the OSPF process is running and router id.
show ip ospf area	Show all areas configured on this device.
show ip ospf statistics	List OSPF packet statistics (OSPF sent, received and error packet count) of all OSPF enabled interfaces.
show ip ospf interface	Show OSPF interfaces' information.
show ip ospf neighbor	List all established neighborships on this device.
show ip ospf link-state	Show all Link State Advertisements.

LLDP & MAC & CDP

Command	Description
show lldp info remote-device [detail]	Display LLDP neighbors. The info includes: local port name, chassis id of the peer, remote system name, remote port. If <i>detail</i> is added, will also show exact firmware version used, and management IP address if configured. Useful for topology discovery, which switch is connected to which.
show lldp info local-device [detail]	Show info about the device you are connected to: chassis id, system name, firmware image version, IP addresses configured.
show lldp stats	Show LLDP packets sent/received per port.
show mac-address [detail]	Show complete MAC addresses table with port names, MAC addresses, and VLANs. If <i>detail</i> is added, will also show age of each entry.
show mac-address vlan <i>vlanid</i>	Show MAC addresses learned on the specified VLAN.
show mac-address <i>port1</i>[,<i>port2</i>...]	Show MAC addresses learned on specified ports.
show cdp neighbors [detail]	Show list of CDP neighbors with info on their MAC address, model, local port where it was seen. Adding <i>detail</i> also shows IP address of the CDP neighbor, if configured.

PoE

Command	Description
show power-over-ethernet brief [<i>port name</i>]	Show detailed information about PoE-enabled interfaces, including information on drawn/available power per port, state. Optionally, limit information to a specific port.
show power-over-ethernet brief vsf member <i>member id</i>	Show PoE detailed info per VSF member.
show power-over-ethernet	Display PoE general information for the whole switch: total available/used power, PoE redundancy status, internal power.

DHCP

Command	Description
show dhcp-server statistics	Show DHCP server stats for Discover/Offer/Ack/NAK messages received/sent, number of pools configured.
clear dhcp-server statistics	Clear DHCP server stats.
show dhcp-server binding conflict database pool	Show various operational parameters of the DHCP server.

NTP

Command	Description
show ntp status	Show current status of NTP
show ntp servers	Display configured NTP servers
show ntp statistics	Show stats for NTP - number of NTP packets sent/received, and errors.
show ntp associations [detail]	Show state of associations with the configured NTP servers, together with stats: delay, offset, dispersion, and stratum.
show run i ntp	Show NTP-related configs.

VSF (Virtual Switching Framework)

Command	Description
show vsf [detail]	Show general VSF status: who is active, priority, software versions.
show vsf member <i>member-id</i>	Show general info on a specific member: serial number, uptime, cpu usage, memory usage, status: Commander/Standby, priority.
show vsf link [detail utilization]	Show info on VSF link (VPC peer link in the Cisco world). Problems with VSF link may cause split-brain situation, when each member acts independently.
show redundancy	Shows firmware image version of each member, as well as the number of failovers.
boot vsf member <i>member-id</i>	Reboot the specified VSF member.