

Troubleshooting				
Category	Command	Purpose	Placement	Notes
Windows Valuables	tracert [ip addr]	used to trace the route of the packet being sent	PC, CMD	windows cmd
AAA	show logging	shows AAA commands configured on router	router	
ACL	show spanning-tree	lists details about the sstate of STP on the switch	router	also lists thhe state of each port
	show spanning-tree interface (interface-id)	lists STP information for a port	router	
	show spanning-tree vlan (vlan-id)	lists information about each VLAN's root for	router	
	show ip access list [acl numer] [acl na	shows details on IPv4 ACLS	router	also shows other types of configured ACLs
	show access-list [acl numer] [acl nam	shows details of configured ACLs for all protocc	router	
	show ip interface	shows the ACL inbound/outbound for interfaces	router	
	show mac access-group		router	
	[access list command] log	shows details about specific ACL	router	
ASA	show access-lists	shows all ACLs on device	router	
	show version	determine the various aspects of ASA device	router	
	show file system	display the ASA file system and to determine what prefixed are supported	router	
	show flash	displays contents of flash memory	router	can use "show disk0:" as well
	show interface ip brief	displays status of all interfaces on ASA	router	command is different from the one from IOS
	show ip address	display the information for Layer 3 interfaces	router	
	show switch vlan	displays the inside and outside VLANs configured on the ASA and displays assigned ports	router	
	show route	verify the static default route is configured	router	
DHCP	show nat	see nat configurations made	router	
	show ip dhcp binding	lists the currently leased IP addresses of a DHCP server, align with client identifier and lease time	router	
	show ip dhcp pool (name)	lists the configured range of addresses in the pool, along with usage statistics adn utilization high/low-water marks	router	
	show ip dhcp server statistics	lists statistics about the requests served by the DHCP server	router	
	show ip dhcp conflict	lists IP addresses that the HDCP server found were already in use when the server tried to lease the address to a host	router	
	clear ip dhcp conflict	removes all entries from the DHCP server's conflict list	router	
	ipconfig, ifconfig	lists IP settings for the interface (NIC)	router	
	netstat -rn	lists the hosts routing table, often listing the default router with a route to 0.0.0.0	router	
	arp -a	lists the host's ARP table	router	
	show running-config	shows contents of the running-config file	switch	shows current setting
	show startup-config	shows contents of the startup-config (initial config) file	switch	shows past omitted setting
	reload	reboots device	switch	generally used when using Putty
	debug	gives users details about the operation of the switch	switch	
	copy running-config startup-config	saves backup file of configurations	switch	
	write erase	erase startup-config file	switch	can also use "erase startup-config" and "erase nvram"
	no debug all	disables currently enables debugs	switch	can also use "undebug all"
	disable	removes user from enable mode to user mode	switch	
	show mac address-table	see MAC address table	switch	
	show mac address-table dynamic	lists the table the switch uses to make forwarding decisions	switch	
		see dynamic MAC addresses		
	delete vlan.dat	deletes VLAN config details	switch	
	show interface status	lists interface status and operating details	switch	status~shows state of port (nonconnect means port is not yet functioning)
	show interface (interface) counters	lists statistics of ingoing and outgoing frames on interfaces	switch	lists unicast, multicast, broadcast frames and their in and out direction
	show interfaces (interface) status	shows status of single interface	switch	
	show interfaces (interface) status	displays detailed message of interface	switch	

Troubleshooting

Category	Command	Purpose	Placement	Notes
General	show mac address-table	shows all MAC table entries of all types	switch	
	show mac address-table dynamic address (mac-address)	show the dynamically learned MAC address table entries with that MAC address	switch	
	show mac address-table dynamic interface (interface)	shows all MAC addresses learned from a particular port	switch	
	show mac address-table vlan (vlan)	shows MAC address table entries for a vlan	switch	use "show mac address-table dynamic (vlan)" to see addresses learned dynamically
	show mac address-table aging-time	shows the global and per-VLAN aging timeout for inactive MAC table entries	switch	
	show mac address-table count	shows the number of entries in a MAC add	switch	
	clear mac address-table dynamic	clears MAC address table of all dynamic entries	switch	
	show ip interface brief	shows interface status	router	
	show interfaces (interface)	shows details for a specific interface	router/switch	
	show protocols	confirms state of each interface on router and the IP addresses and mask configured on the same interface	router	
	show protocols (type number)	lists information about the listed interface(s) including their IP address, mask, line/protocol statue	router	
	show controllers (interface)	lists hardware controller of the interface	router	cables are listed as DCE or DTE for serial interface verifies clock rate
	show interfaces	verify bandwidth	router	
	show history			
	show interface description	displays information of per interface, with two-item status		includes description of configured interfaces, similar to show interface command
IPv4	show vlans	lists VLAN config and stats fro VLAN trunks configured on routers	router	
	show arp/ show ip arp	lists router's IPv4 arp table	router	
	clear ip arp [ip addr]	removes all dynamically learned APR table entries, or if the commands lists an IP addr, removes entired for IPs only	switch	
NAT (static)	show ip nat translations	lists two static NAT entries created in configuration	router	
	show ip nat statistics	lists statistics, things like the number of currently active translation table entries	router	
	debug ip nat	causes router to issue a mesasge everytime a packet has its address translated to NAT	router	
	clear ip nat translation[*]inside global-ip local-ip] [outside local-ip global-ip]	clears some of the dynmic entries in the NAT table, depending on which parameters are used	router	
	clear ip nat translation [protocol] inside [global-ip global-port] [local-ip local-port] [outside local-ip global-ip]	clears some of the dynamic entries in the NAT table, depending on which paramters are used	router	
Port Security	show port-security interface (interface)	lists port-security configurations of an interface	switch	port status= secure-shutdown means interface was disabled through port security
	show mac address-table secure (interface)	lists MAC addresses associated with ports that use port security	switch	
	show mac address-table static (interface)	lists static MAC address and MAC addres slearned or defined with port security	switch	
RIPng	show ipv6 protocols	lists the interfaces using RIPng	router	
RIPv2	show ip interface brief	list one line per router interface, including the IP addr and interface status; an interface must have an IP addr and be in the "up and up" status before RIP begins to work on the interface	router	
	show ip route [rip]	lists the routing table, including RIP-learned routers, and optionally just RIP-learned routes	router	
	show ip-route [ip addr]	lists details about the route the router would match for a packet sent to the listed IP addr	router	
	show ip protocols	lists info about the RIP config, plus the IP addr of neighboring RIP routers from which the local router has learned routes	router	

Troubleshooting				
Category	Command	Purpose	Placement	Notes
	show ip rip database	lists one line per router interface, including the IP addr and int status; an interface must have an IP addr and be in an "up and up" status before RIP begins to work on the interface	router	
Security	show running-config section vty	lists vty lines and subcommands from the configuration	router	
	show running-config section con	lists the console and subcommands from the configuration	router	
	show running-config include enable	lists all lines in the configuration with the word enable	router	
SSH	show ssh	lists status information from current SSH connections in and out of the local switch	router	
	show ip ssh	lists info about each SSH client currently connected	router	
	show running-config	current configuration of device	router	
	show interfaces vlan (vlan #)	shows detailed status of VLAN interface	router	
	show dhcp lease	see leased IP address and other parameters	router	
	show crypto key mypubkey rsa	lists the public shared key created for the use with SSH using "crypto key generate rsa"	router	
Static routing	show ip route	lists the router's entire routing table	router	
	show ip route ([connected static rip])	lists a subnet of the IP routing table	router	
	show ip route [ip-address]	lists detailed info about the route that a router matches for the listed IP address	router	
	show ip arp	shows IPv4 ARP table	router	checks where the packet was sent to
STP	show ip interface brief	provides status of interface on router	router	
	show ip route [connected static rip]	lists a subset of the IP routing table	router	connected~ added because of the configuration of the IP address interface subcommand on the local router static routes~ added because of the configuration of the IP route global command on the local router routing protocols~ added verifies OSPF is operational
	show ip route (static)	shows router's routing table	router	local~ router with one specific IP configured on router interface. ~typing in static is optional ~ when displaying the table using do sh r the primary routes are only shown if the primary route goes down, then the static routes are shown (but this cmd shows everything)
	show ip arp	shows IPv4 ARP table	router	checks where the packet was sent to
Trunking	show vlan [brief id (vlan)/ name(vlan-name) summary]	lists each VLAN and all interfaces assigned to that VLAN	switch	does not show operational trunks
	show vlan	displays VLAN information	switch	
	show interfaces trunk	confirm that DTP has successfully negotiated trunking	switch	can use show interface (interface) trunk to see trunk specifics
	show vtp status	lists VTP command config	switch	
VLAN	show vlan brief	view VLAN configs	switch	
	show vlan id (id number)	shows ports assigned to a VLAN	switch	
	show interfaces (interface) switchport	shows information about administrative setting and operational state	switch	
	show interfaces trunking	show interfaces that are currently operationally trunking by VLAN trunking	switch	no interfaces listed means link between switches are not trunking
	show vlan id (id number)	lists both access and trunk ports in VLAN	switch	
	show interfaces (interface) switchport	identifies interface's access VLAN and voice VLAN, as well as the configured and operational mode (access or trunk)	switch	
	show mac address-table	lists MAC table entries, including associated VLAN	switch	helps identify access VLAN
	show interfaces trunk / show interfaces switchport	show interfaces with trunking configured	switch	