

### General

Command	Description	Displays As
> en	Enter Privileged Exec Mode	#
# config t	Enter Global Config Mode	(config)#
(config) # int {type} {number}	Enter Interface Config Mode	(config-if)#
(config) # vlan {number}	Enter VLAN Config Mode	(config-vlan)#
(config) # line con 0	Enter Console Line Config Mode	(config-line)#
(config) # line vty 0 15	Enter VTY Line Config Mode	(config-line)#
(config) # no ip dom lo	Stops Router Domain Lookup	
(config) # undebug all	Stops all Debugs	
# clock set {time} {date}	Sets manual Time/Date	
# show file systems	Lists available file systems	
# exit	Exits current mode/level	

### Housekeeping

Command	Description
(config) # ho {name}	Set name of device
(config) # ena sec {password}	Set encrypted password for Priv Exec Mode
(config) # ser pass	Encrypts All Passwords
(config) # banner motd #{Banner}#	Creates Message banner
(config) # security pass min {number}	Sets min password length
(config) # login block-for {time} attempts {attempts} within {time}	Login failure wait time set
(config-line) # pass {password}	Sets password for Console Line
(config-line) # login	Makes passwords active, use after every password config

### Housekeeping (cont)

(config-line) # exec-timeout {time}	Sets login timeout
(config-if) # shut   no shut	Enables   Disables interface
(config-if) # des {description}	Sets description of interface
# cop r s	Copies Running Config to the NVRAM

### SSH Config

Command	Description
(config) # ip domain-name {Abxyz.com}	Sets Domain Name
(config) # cry key gen rsa general-keys mod 1024	Configs complexity of keys
(config) # username {name} secret {password}	Sets a UN & encrypted Pass
(config) # line vty 0 15	Configs which VTY lines to use
(config-line) # login local	Sets LOGIN
(config-line) # transport input ssh	*Defines transport potocol to SSH

### IP Routing Config

Command	Description
(config) # ip route network-address subnet-mask {ip-address   exit-intf}	Static Route Command
(config) # ip route 0.0.0.0 0.0.0.0 {ip-address   exit-intf}	Default Static Route Command
(config) # ip route network-address subnet-mask {admin-distance}	Floating Static Route Command (Admin distance default value is 1)

### VLAN Config

Command	Description
(config) # vlan {vlan-id}	Create a VLAN
(config-vlan) # name {vlan--name}	Specify a unique name to identify the VLAN
(config-vlan) # end	Return to the privileged EXEC mode
(config) # interface {interface_id}	Enter interface configuration mode

### VLAN Config (cont)

(config-if) # <b>switchport mode access</b>	Set the port to access mode.
(config-if) # <b>switchport access vlan <i>vlan_id</i></b>	Assign the port to a VLAN.
(config-if) # <b>end</b>	Return to the privileged EXEC mode.
(config) # <b>show vlan brief</b>	Display the contents of the vlan.dat file
(config-if) # <b>mls qos trust [<i>cos</i>   <i>device cisco-phone</i>   <i>dscp</i>   <i>ip-precedence</i>]</b>	Set the trusted state of an interface
(config-if) # <b>switchport voice vlan <i>vlan-#</i></b>	Assign a voice VLAN to a port
(config-if) # <b>switchport mode trunk</b>	Configure a switch port on one end of a trunk link
(config-if) # <b>switchport trunk native <i>vlan #</i></b>	Configure native VLAN #

For a Catalyst switch, the **erase startup-config** command must accompany the **{(config) #delete vlan.dat}** command prior to reload to restore the switch to its factory default condition.

### PAT Config

Command	Description
(config)# ip nat pool NAT-POOL-OVERLOAD 209.165.200.241 209.165.200.250 netmask 255.255.255.224	Define a pool of public IPv4 addresses 209.165.200.241 to 209.165.200.250 with pool name NAT-POOL-OVERLOAD.
(config)# access-list 3 permit 10.0.0.0 0.255.255.255	Configure ACL 3 to permit devices from 10.0.0.0/8 network to be translated by NAT.
(config)# ip nat inside source list 3 pool NAT-POOL-OVERLOAD overload	Bind NAT-POOL-OVERLOAD with ACL 3.
(config)# interface Serial0/0/0 R2(config-if)# ip nat inside	Configure the proper inside NAT interface.
R2(config)# interface Serial0/1/0 R2(config-if)# ip nat outside	Configure the proper outside NAT interface.

### CDP Config

Command	Description
# show cdp	Display the status of CDP on R1.
R1# configure terminal R1(config)# cdp run R1(config)# interface s0/0/0 R1(config-if)# no cdp enable R1(config-if)# end	Enter Global Configuration mode globally on R1. Disable CDP on interface S0/0/0. Use end command to exit Global Configuration mode.
# show cdp neighbors	Display the list of CDP neighbors on R1.
# show cdp neighbors detail	Display more details from the list of CDP neighbors on R1.

### Clock & NTP Config

Command	Description
# show clock detail	Display the clock
(config)# clock timezone PST -8 R1(config)# Clock summer-time PDT recurring	Set the clock time zone to PST (Pacific Standard Time), which is 8 hours later than GMT (-8). Set PDT (Pacific Daylight Time) to summer time recurring.
(config)# ntp server 209.165.200.225	Configure R1 to use an external public NTP server with an IP address of 209.165.200.225.
# show ntp associations	Verify that R1 is associated with the NTP server at IP address 209.165.200.225.

### LLDP Config

Command	Description
# show lldp	Display the status of LLDP
(config)# lldp run R1(config)# interface s0/0/0 R1(config-if)# no lldp transmit	Enable LLDP globally on R1. Disable LLDP on interface S0/0/0.
# show lldp neighbors	Display the list of LLDP neighbors
# show lldp neighbors detail	Display more details from the list of LLDP neighbors



### Shortcuts

Keys	Action
<b>Tab</b>	Completes current abbrv command
<b>Up Arrow</b>	Cycles thru previously used commands
<b>?</b>	Access HELP
<b>Ctrl+Shift+6</b>	Interupt
<b>Ctrl+C</b>	Exits Config
<b>Ctrl+Z</b>	Applies command, returns to Priv Exec

### Display / Show Commands

Command	Description
<b># sho run</b>	Displays Running Configs.
<b># sho access-l</b>	Displays all ACL's.
<b># sho access-l {name/-number}</b>	Displays only denoted ACL.
<b># sho ipv6 int</b>	Displays interfaces on IPv6
<b># sho ip route</b>	Displays all routes attached to router
<b># sho ip route static</b>	Displays all static routes attached to router
<b>#Sho ip route network</b>	Displays routes only associated with that network
<b>show ip nat translations</b>	nat

### Access Control Lists

Command	Description
<b>(config) # access-list _ { deny   permit   remark } {source+wildcard}</b>	Create ACL.
<b>(config) # ip access-list standard {name}</b>	Create Named ACL.
<b>(config-if) # ip access-group { access-list-number   access-list-name } { in   out }</b>	Attach ACL to an Interface.
<b>(config-line) # access-class {number} { in   out }</b>	ACL for VTY.

*Wildcard Determined by 255.255.255.255-Subnet mask (ex 255.255.255.255-255.255.255.128= Wildcard of 0.0.0.127)*

*Shortcuts; **host** = Wilcard of 255.255.255.255 **any** = Address & Wildcard of 0.0.0.0 0.0.0.0*

### DHCPv4 Config

Command	Description
<b>(config) #ip dhcp excluded-address {low ip range} {high ip range}   {single ip}</b>	Excludes ip ranges, or single IP's.
<b>(config) # ip dhcp pool {name}</b>	Creates named DHCP pool
<b>(dhcp-config) #net {ipv4net} {subnet}</b>	Define Range of Addresses
<b>(dhcp-config) #default-r {gateway}</b>	Sets Default Gateway
<b>(dhcp-config) #dns-s {DNS}</b>	Sets DNS
<b>(dhcp-config) #domain-n {Axyz.com}</b>	Sets Domain
<b>(config) #ip helper-address {ipv4net}</b>	Sets DHCP Relay

### DHCPv6 Config

Command	Description
<b>(config-if) # ipv6 unicast-routing</b>	Enable IPv6
<b>(config-if) # ipv6 dhcp pool {name}</b>	Name Pool
<b>(config-if) # address prefix {prefix length} lifetime {infinite   time}</b>	Statefull Only
<b>(config-if) # dns-s {IPv6DNS}</b>	Set IPv6 DNS
<b>(config-if) # domain-n {Axyz.com}</b>	Set Domain
<b>(config-if) # ipv6 dhcp server {name}</b>	Set Server Name

**See Note Below for Final CMD**

<b>(config-if) # ipv6 dhcp relay destination {ipv6net}</b>	Sets Router as a DHCPv6 Relay
<b># debug ipv6 dhcp detail</b>	Displays debug details

**SLAAC (config-if) # no ipv6 nd managed-config-flag (config-if) # no ipv6 nd other-config-flag** Note: No other config required for SLAAC.  
**Stateless DHCPv6 (config-inf) # ipv6 nd other-config-flag**  
**Statefull DHCPv6 (config-inf) # ipv6 nd managed-config-flag**



### RIP Config

Command	Description
(config) # <b>router rip</b>	
(config-router) # <b>version 2</b>	
(config-router) # <b>no auto-summary</b>	modify the default RIPv2 behavior of automatic summarization
(config) # <b>show ip protocols</b>	
(config) # <b>network ip-address</b>	
(config) # <b>passive-interface</b>	prevent the transmission of routing updates through a router interface, but still allow that network to be advertised to other routers.
(config-router) # <b>ip route 0.0.0.0 0.0.0.0</b>	propagate a default route in RIP
(config-router) # <b>default-information originate</b>	This instructs R1 to originate default information, by propagating the static default route in RIP updates.

### NAT Config

Command	Description
(config)# ip nat inside source static 192.168.11.99 209.165.201.5	Configure the static translation with an inside local address of 192.168.11.99 and an inside global address of 209.165.201.5.
(config)# interface Serial-0/0/0 , (config-if)# ip nat inside	Configure the proper inside NAT interface.
R2(config)# interface Serial-0/1/0 , (config-if)# ip nat outside	Configure the proper outside NAT interface.
(config)# ip nat pool PUBLIC-POOL 209.165.200.241 209.165.200.250 netmask 255.255.255.224	Define a pool of public IPv4 addresses 209.165.200.241 to 209.165.200.250 with pool name PUBLIC-POOL.
R2(config)# access-list 2 permit 192.168.10.0 0.0.0.255	Configure ACL 2 to permit devices from 192.168.10.0/24 network to be translated by NAT.

### NAT Config (cont)

R2(config)# ip nat inside source list 2 pool PUBLIC-POOL	Bind PUBLIC-POOL with ACL 2.
R2(config)# interface Serial0/0/0 R2(config-if)# ip nat inside	Configure the proper inside NAT interface.
R2(config)# interface Serial0/1/0 R2(config-if)# ip nat outside	Configure the proper outside NAT interface.
ip nat translation timeout	
clear ip nat translation *	

Top is Static Config  
Bottom is Dynamic Config

### SysLog Config

Command	Description
(config) # <b>logging {address}</b>	Configure the destination hostname or IPv4 address of the syslog.
(config) # <b>logging trap {level}</b>	Control the level of messages that will be sent
(config)# logging source-interface {interface}	Logging Source

