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## CCNA Cheat Sheet

This CCNA command 'cheat sheet' covers both ICND parts 1 & 2 and covers the current CCNA exam (640-802).

Whilst not an exhaustive IOS command list it covers the majority of commands found in the exam. Older 'cheat sheets' may contain additional commands, such as IPX which is no longer in the exam.

### Cisco Modes

Description	Keyboard short cut
User mode	Switch>
Enter Privilege mode	Switch>enable
Privileged mode	Switch#
Enter configuration mode	Switch#configure terminal
Global Config mode	Switch(config)#
Enter Interface mode	Switch(config)#interface fa0/1
Interface mode	Switch(config-if)
Return to global configuration	Switch(config-if)exit
Exit Global Config mode	Switch(config)#exit
Return to use mode	Switch#disable
Logout	Switch>exit

### Keyboard Shortcuts

Description	Keyboard shortcut
Recall Previous command	Up arrow or <Ctrl> p
Recall Next command	Down arrow or <Ctrl> n
Beginning of command	<Ctrl> a
End of command	<Ctrl> e
Delete input	<Ctrl> d
Exit Configuration Mode	<Ctrl> z
Complete command	TAB



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## Device Configuration

Description	Commands
Configure device system name	Switch(config)#hostname sw1
Sets the encrypted enable password	Switch(config)#enable secret cisco
Sets the unencrypted enable password	Switch(config)#enable password cisco
Enable password encryption on all clear text password within the configuration file	Switch(config)#service password-encryption
Configure a Message Of The Banner, with an ending character of \$	Switch(config)#banner motd \$
Assign IP address to vlan	Switch(config)#int vlan 1 Switch(config-if)#ip addr 172.22.1.11 255.255.255.0
Assign Default gateway, note the mode	Switch(config)#ip default-gateway 10.1.1.1
Select one interface	Switch(config)#int fa0/1
Select a range of interfaces (version dependant)	Switch(config)#int range fa0/1 - 12
Set the interface description	Switch(config-if)#description
Add vlan using config mode	switch(config)#vlan 11 switch(config-vlan)#name test
Configure Interface fa0/1 @ speed 100 Mbps and full duplex	Switch(config-if)#speed 100 Switch(config-if)#duplex full
Assign interface to vlan	switch(config-if)#switchport access vlan 11
Enable Port Security.	Switch(config-if)#switchport mode access Switch(config-if)#switchport port-security Switch(config-if)#switchport port-security mac-address sticky
Disable Interface	Switch(config-if)shutdown
Enable Interface	Switch(config-if)no shutdown



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Configures 5 Telnet sessions each with a password of 'cisco'	Switch(config)#line vty 0 4 Switch(config-line)#login Switch(config-line)#password cisco
Enable and define console password of 'cisco'	Switch(config)#line con 0 Switch(config-line)#login Switch(config-line)#password cisco
Synchronise console messages (keep what you have typing on the screen)	Switch(config-line)#logging synchronous
Set the timezone and automatically adjust	Switch(config)#clock timezone gmt 0 Switch(config)#clock summer-time gmt recurring
Sets the switch priority for the vlan. This combined with the switch mac address creates the switch BID	Switch(config)#spanning-tree vlan 1 priority 4096
Enables portfast	Switch(config)#int fa0/1 Switch(config-if)#spanning-tree portfast
Enables RSTP. Other options are, PVST and MST	Switch(config)#spanning-tree mode rapid-pvst
Creates a vlan. Note this now done in config mode not vlan database. Also note the 'int vlan' command does <b>NOT</b> create vlans	Switch(config)#vlan 2 Switch(config-vlan)#name sales
Assign an interface to vlan 2	Switch(config-if)#switchport access vlan 2
Unconditionally forces an interface into trunking. Other options are access and dynamic	Switch(config-if)#switchport mode trunk
Manually assign a switch to a VTP domain. A switch will automatically become part of a VTP domain if it's currently in the 'null' domain and receives a VTP frame	Switch(config)#vtp domain lab
Changes the VTP mode from the default 'server' mode to client mode. In client mode no changes can be made	Switch(config)#vtp mode client
Enable the http server to SDM can be used	Router(config)#ip http server



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Defines a username and password. The list can be used for many things from PPP authentication to user access	<pre>Router(config)#username sue password cisco</pre>
Defines a local host file. Like /etc/hosts in unix	<pre>Router(config)#ip host mypc 10.1.1.3</pre>
Disables DNS lookup. Useful when a command as been miss typed	<pre>Router(config)#no ip domain-lookup</pre>
Sets the logical (not physical) bandwidth of interface. This is used by routing protocols, SNMP queuing etc	<pre>Router(config)#int s0 Router(config-if)#bandwidth</pre>
Sets the physical clock	<pre>Router(config-if)#clock rate 64000</pre>
Set the serial interface WAN encapsulation. Other options are PPP or frame-relay	<pre>Router(config-if)#encapsulation hdlc</pre>
Authentication on PPP is optional. This command enable chap on the interface. Other option PAP	<pre>Router(config-if)#ppp authentication chap</pre>
Defines the type of LMI being used. If left un-configured the correct LMI type should be automatically detected	<pre>Router(config-if)#frame-relay lmi-type cisco</pre>
Defines a static route. Renumbr static routes have an admin distance of 1. Therefore will over ride any dynamic routing.	<pre>Router(config)#ip route 50.0.0.0 255.0.0.0 10.1.2.1</pre>
Enables RIP version 1 on all LOCAL interfaces which have a 10.x.x.x address	<pre>Router(config)#router rip Router(config-router)#network 10.0.0.0</pre>
Enables RIP version 2	<pre>Router(config-router)#version 2</pre>
Enable the router to provide a DHCP service.	<pre>Router(config)#ip dhcp pool MYPOOL Router(dhcp-config)#network 10.1.1.0 255.255.255.0 Router(dhcp-config)#default-router 10.1.1.1 Router(dhcp-config)#exit Router(config)#ip dhcp excluded-address 10.1.1.1 10.1.1.99</pre>
Changes the config register which controls what the	<pre>Router(config)#config-register 0x2102</pre>



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router does when the router boots	
Creates a logical sub interface below the physical interface	Router(config)#int fa0/0.1
Enables 802.1q trunking on the interface	Router(config-subif)#encapsulation dot1Q 1
Define the ip address	Router(config-subif)#ip address 10.1.1.1 255.255.255.0
Enable OSPF on any local interface which start with the ip address 10.1.x.x. Note the inverted mask	Router(config)#router ospf 1 Router(config-router)#network 10.1.0.0 0.0.255.255 area 0
EIGRP can be configured in a similar way to RIP or the mask option could be used	Router(config)#router eigrp 1 Router(config-router)#network 172.16.0.0 Or Router(config-router)#network 172.16.2.0 0.0.0.255
Defines a standard ACL. Standard ACL use number 1-99	Router(config)#access-list 1 permit 172.16.1.1
Defines an Extended ACL. The first address is the source IP address	Router(config)#access-list 101 deny tcp host 172.16.1.1 host 172.16.2.1 eq telnet Router(config)#access-list 101 permit ip any any
Use the group command to attach an ACL to an interface. is used under an interface if the ACL is to filter traffic	Router(config)#interface fa0/0 Router(config-if)#ip access-group 1 out
An example using named ACL in stead of numbers	Router(config)#ip access-list extended my_list Router(config-ext-nacl)# deny tcp host 172.16.1.1 host 172.16.2.1 eq ftp Router(config-ext-nacl)# permit ip any any
Attaching a named ACL to an interface	Router(config)#int fa0/0 Router(config-if)#ip access-group my_list in
Configuring a static NAT to allow a server to be access via the Internet, using the IP address on interface s0/0/1	Router(config)#ip nat inside source static 10.1.1.2 interface s0/0/1
Defining interface which NAT takes place between	Router(config)#int fa0/0.1 Router(config-if)#ip nat inside
Enables RIPng	Router(config)#ipv6 unicast-routing ROuter(config)#ipv6 router rip ccna



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	Router(config)#int s0/0/0 Router(config-if)#ipv6 rip ccna enable
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### Privilege Commands

Description	Commands
Manually starts the setup dialog which is automatically invoked when the device starts with no config	Switch#setup
Displays the config held in DRAM. Which is lost if not copy run start command is not used	Switch#show running-config
Displays the NVRAM (None volatile) config.	Switch#show startup-config
Saves the config. Without this command all changes/configuration will be lost.	Switch#copy running-config startup-config
Saves the running config to a TFTP server	Switch#copy running-config tftp
Copies IOS files to a TFTP server	Switch#copy flash tftp
Copies files from a TFTP server the device flash	Switch#copy tftp flash
Erase the config held in NVRAM. If this is followed with the reload command all configuration is lost	Switch#erase startup-config
Reboots the device	Switch#reload
Abort sequence	<Shift> <Ctrl> 6
Suspend Telnet Session	<Shift> <Ctrl> 6(then let all keys go, then)x
Show the current sessions. The one with a * is your active session	Switch#show sessions
Forcible closes a telnet session	Switch#disconnect
Set the device local clock. <b>Note</b> this is not done in config mode	Switch#clock set 10:00:00 april 2 2008



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Display the IOS version along with other useful info e.g sys uptime, config register etc	Switch#show version
Displays the file contents of the flash	Switch#show flash
Displays the clock	Switch#show clock
Displays the users currently logged on	Switch#show users
By default displays the last 10 commands	Switch#show history
Displays the ARP cache	Switch#show arp
Displays the spanning tree status on vlan 1	Switch#show spanning-tree vlan 1
Lists all the configured vlans	Switch#show vlan
Displays VTP info such as VTP mode, VTP domain, VTP counter.	Switch#sh vtp status
Ping selected address	Switch#ping 10.1.1.1
Extended ping. Must be in privilege mode	Switch#ping
Display the interface status	Switch#show int fa0/1
Displays the vlan status and the IP address VLAN 1 (often the management vlan)	Switch#show interfaces vlan 1
Displays a list of CDP neighbours	Switch#show cdp neighbors
Extended information on the above	Switch#show cdp neighbors details
Display CDP packets as they arrive	Switch#debug cdp packets
Display ping packets as they arrive	Switch#debug icmp packets
Display switch MAC Addresses table. These entries are learnt from the source mac address in the Ethernet frames	Switch#show mac address-table



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Displays the interface operational status and IP addresses for all router interfaces	Router#show ip interface brief
Displays all the configured routing protocols	Router#show ip protocols
Displays the IP routing table	Router#show ip route
Displays the NAT translations	Router#show ip nat translations
Displays the physical cable DTE/DCE, x.21, V.35, RS232 configuration	Router#show controllers s 0
Displays the end-to-end status. Recall that 'show interface' does not	Router#show frame-relay pvc
Displays the type of LMI and the number LMI frames	Router#show frame-relay lmi
Displays the frame relay inverse ARP table	Router#show frame-relay map
To be come neighbours both the local and remote interface must be correctly configured.	Router#show ip ospf neighbor
If adjacent routers don't become neighbours. Then use the command to check the local router interface is configured correctly	Router#show ip ospf interface
Same information as the above OSPF commands but with EIGRP. Remember that AS numbers <b>MUST</b> match	Router#show ip eigrp neighbor
Same information as the above OSPF commands but with EIGRP	Router#show ip eigrp interface
IPv6 ping. Recall that :: means all zero in between	Router#ping 2000:1000:500:3::1