

**Experts in Networking**

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

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| router does when the router boots |  |
| --- | --- |
| Creates a logical sub  interface below the physical interface  Enables 802.1q trunking on the interface  Define the ip address | Router(config)#int fa0/0.1  Router(config-subif)#encapsulation dot1Q 1  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 |
| --- | --- |

**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. **Note** 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 routeing 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 **MUST** 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 |

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