User Levels | Routers & Switches

User Exec	Router Name>
Privileged Exec	Router Name# `[where network devices are co nfig ured]`
Global Exec	Router Name(config)# `[confi gur ation impact the entire device]`
Interface Config	Router Name(config-if)# `[impacts a particular interface]`
Line Config	Router Name(config-line)

Basic Config | Routers & Switches

router> ***enable*** | ***disable***	logs the user into/out of privileged exec
router# ***configure terminal***	logs user into global config
router(config)#> ***hostname***	re/name current device
no hostname	removes name
router(config)# ***exit***	backs out one level to a previous levvel
router> ***reload***	reboots the device
router(config)# ***end***	`Drops back to user exec mode`

Basic Commands | Routers & Switches

Router(config)# ***interface f0/0*** int f0/0

> `Enter interface config`

or

Router(config)# ***line console 0***

or

Router(config)# ***interface gigabitethernet 0/0*** int g0/0

Router(config-line)# ***exit***

> `back up one step from any level`

Router(config-line)# ***end***

> `straight to user exec mode`



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Cisco CLI Comprehensive Commands Cheat Sheet

by Mary F. Smith (boogie) via cheatography.com/86236/cs/21148/

Basic Security

Securing privileged EXEC

S1(config)# ***enable secret Cisc0***

```
pw protects the privileged exec line
```

Securing console port

S1(config)# ***line console 0***

```
moves into line config uration mode
```

S1(config-line)# ***passsword Cisc0***

```
sets console access password to " Cis c0"
```

S1(config-line)# ***login***

```
turns on the password requir ement
```

Securing the Virtual Ports [ssh & telnet]

S1(config)# ***line vty 0 15***

```
moves into line config uration mode
```

S1(config-line)# ***Password Cisc0***

```
sets virtual terminal access password to " Cis c0"
```

S1(config-line)@ ***login***

```
turns on the password requir ementturns on the password requir eme
nt
```

Encrypting all Passwords

S1(config)# ***service password-encryption***

```
encrypts all passwords
```

Message of the Day

S1(config)# ***banner motd #*** Authorized Access Only *#

S1# ***copy run start***

adding Pipe Commands

R1# do show run |

- ***include interface***
- ***exclude interface***
- ***begin hostname***

NOTES

commands are case sensitive after the pipe

Startup-Config

```
regardless of current config; router will start up
```

```
until the current config is saved
```

Vocabulary

rommon	read only memory

Hints

R1># ***no ip domain-lookup***	`[turns off auto dns query]`
R1(config-if)# ***no ip address***	`[Removes IP Address]`
ctl+a	`[cursor moved to the beginning of the line]`
ctl+e	`[cursor moved to the end of the line]`
copy run start	`[copys running config to startup config]`
show run start	`[displays startup config]`
* ctl+shift+6	STOP SEARCH
ip host switch1 1.1.1.1	Assigns the listed ip address [1.1.1.1] to Switch1
?	Open help documentation
enable secret abc123	Enables secret password and sets to abc123

vty - virtual telnet line

Remote Access

R2# ***telnet 10.1.1.1***	`with PW & access allowed; you will enter the remote router *

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CONFIGURE SERIAL PORT

R1(config)#

interface serial 0/0/0 int f0/0 `[moves into config for s0/0/0]`

R1(config-if)#

ip address 192.168.1.254 255.255.255.0 `[sets ip & subnet]`

R1(config-if)#

no shut `[powers on interface]`

shut `[powers off interface]`

R1(config-if)#

copy run start

CONFIGURE FAST ETHERNET PORT

R1(config)#

interface f0/0 int f0/0 `[moves into config for f0/0]`

R1(config-if)#

ip address 192.168.1.254 255.255.255.0 `[sets ip & subnet]`

R1(config-if)#

no shut `[powers on interface]`

shut `[powers off interface]`

R1(config-if)#

copy run start

Configure VLAN

Create and Name VLANs

Switch(config)# ***vlan 10***

`moves to vlan 10 config`

Switch(config-vlan)# ***name Support***

`names vlan 10, " sup por t"`

Switch(config)# ***vlan 20***

`moves into vlan 20 from vlan 10`

Switch(config)# ***name Development***

`names vlan 20, " dev elo pme nt"`

Assign switchport access

Configure VLAN (cont)

Switch(config)# ***int f0/1***

`enters config for f0/1`

Switch(config-if)# ***switchport access vlan 10`*** *

Switch(config)# ***int f0/2***

Switch(config-if)# ***switchport access vlan 20`*** *

Routing Configuration

Gateway of Last Resort [restricted to edge [stub] routers only]

R1(config)# ***ip route 0.0.0.0 0.0.0.0 s0/0/0***

Static Route `admini str ative distance = 150`

R1(config)# ***ip route 192.168.2.0 255.255.255.0 s0/0/0 150***

routers only " kno w" what they are connected too

`s* - default static route`

`c - direct connect`

"Advanced" Show Commands

show access-list	Displays the access-lists located on the device; including every line of the access-list [not which interface the list is list is applied to
show vlan	Displays info and status of VLANs [on the device] i.e. VLAN names, numbers, and the interfaces on which each VLAN can be found
show ip protocols	Displays info about Layer 3 protocols; RIP, OSPF and EIGRP [high level overview each protocol has its own show command]
show interface trunk	Displays all trunk ports on the device; which VLANs are allowed on which trunk, what the native VLAN is.

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Verification Commands

R1# ***show ip route***	displays routing table
R1# ***show ip interface***	
R1# ***show ip interface brief***	displays the interface configurations
R1# ***show running-config***	
	R1# ***show interface s0/0/0***
	R1# ***show interface f0/0***
	R1# ***show interface g0/0***
R1# ***show version***	displays IOS info and previous method of restart
R1# ***show mac address-table***	dispalys contents of MAC Address Table
R1# ***int g0/0***	displays the listed interface info
R1# ***show clock***	
R1# ***clock set***	`09:10:01 11 December 2019`

** 'Do' - in front of a command will run the command at any level i.e. my device
(config)# do show ip interface brief -OR- my device (config)# do reload
Add a Ne

Managing IOS Files

R1# ***copy run flash:my config***	`copies running config \saves to flash; names it my confi g`
R1# ***erase start***	`erases startup config`
R1# ***copy flash:my config start***	`copies my config and overwrites start up config`
R1# ***copy run tftp***	
requests a remote host	`add ip address of remote router`
requests a file name	`add unique file name w/ data`

Managing IOS Files (cont)

R1# ***more flash:my config***	`allows you to view the config file

Storage for Operating System

```
IOS - Flash
startup Config - NVRAM
 Running config - RAM
```

Error Messages

% Invalid input detected at '^' marker	You are at the wrong level to run command
% Incomplete command	
[command brings a null response]	This is not a bad command, there is just no results to display

Your CLI command fails - are you in the right mode | level - are you on the right device

Shortcuts

ctl+shift+6	stop current activity
ctl+k	erases from cursor to end of line
ctl+x	erases from cursor to beginning of line
tab	completes the command

Misc

mydevice (config)# sdm pre dual def	used if switch won't take IPv6 address

Execute Commands

Build a server w/IP	***ip host Server1 1.1.1.1***
Rename the router "My Router"	***hostname MyRouter***

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