ROUTER CONFIGURATION COMMANDS 2800 SERIES

Command	Explanation
BASIC MODE CHANGING COMMANDS	router is used for generic router name and Lab-b for name after change
router> enable	Move from User to Privilege mode. Prompt changes from Routername> to routername#
router# configure terminal	Changes the routers interface from Privileged mode to Global Configuration mode. Prompt becomes Routername(config)#
router(config)#CRTL-Z	Will exit Global configuration mode and return to Privileged mode.
router(config)#exit	Will exit the level of configuration and drop you down one level or back to privileged mode.
router# `copy running-config startup-config`	Copies the Running-config (ram) to the Startup-config (nvram). The configuration in NVRAM will be saved when the router is powered off
GLOBAL CONFIGURATION COMMANDS	Commands entered here affect the entire router.
router(config)#no	No followed by any command will negate or reverse the command. To unset or set the opposite behavior of a command.
router(config)#hostname Lab-B	Name the router Lab-B Name is case sensitive
Lab-B(config)#enable secret class	Sets the encrypted version of the routers password to “class” *Secret password overrides standard password.*
Lab-B(config)#enable password cisco *Should not use - enable secret should be used in its place.*	Sets standard clear text password for router access.
Lab-B(config)#logging synchronous	Stops unsolicited system messages from interfering with your typing at the console. When a message appears in your typing it will clear the line and echo the keyboard buffer for you to continue working.
Lab-B(config)#ip classless *Prior to IOS 11.3, no ip classless was the default behavior for Cisco routers. After 11.3 ip classess is the default.*	Enables classless IP routing behavior on the router. Affects the way certain routing protocols look up network addresses in the routing table.
Lab-B(config)# ip domain-lookup	Enables DNS lookup entered in global configuration mode

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INTERFACE CONFIGURATION –FAST ETHERNET PORT	
Lab-B(config)#interface fastethernet 0/0	Interface FastEthernet 0/0 - Changes the configuration mode from Global to Interface for the FastEthernet (100 Mps)
Lab-B(config-if)#ip address 219.17.100.1 255.255.255.0	Assigns the IP address 219.17.100.1 to the interface. Subnet mask for Class C address.
`Lab-B(config-if)#description Connected to LAN B`	Provides a description to an interface.
`Lab-B(config-if)#no shutdown` ***Shutdown*** *is the actual command –* ***no shutdown*** *is the most popular use of the command*	Enables the interface. By default all interface are shutdown. You must use "no shutdown" to remove the shutdown command
INTERFACE CONFIGURATION –SERIAL PORT	
Lab-B(config)#interface serial 0/0/0	Interface Serial 0/0/0 - Changes the configuration mode from Global to Interface for the Serial port.
Lab-B(config-if)#ip address 199.6.13.1 255.255.255.0	Assigns the IP address 199.6.13.1 to the interface. Subnet mask for Class C address.
`Lab-B(config-if)#clock rate 56000`	For Serial interfaces the DCE side of the interface cable must have the clock rate set. This controls the speed of the serial connection
`Lab-B(config-if)#no shutdown`	Enables the interface. By default all interface are shutdown. You must use "no shutdown" to remove the shutdown command
ROUTING – STATIC AND DEFAULT	Default Route = "gateway of last resort"
Lab-B(config)# ip route 192.169.1.0 255.255.255.0 Serial0/0/0	Static Routes are used to add a route into the routing table manually. The command "ip route" the network address and subnet mask are standard. In the example the exit interface Serial0/0/0 is where the router will send packets out headed for the network. It is preferred to use the exit interface unless sending out an Ethernet interface.

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Lab-B(config)# ip route 192.169.1.0 255.255.255.0 219.17.100.2	Static routes for Ethernet interfaces need to use the "next hop" routers IP address instead of exit interface. 219.17.100.2 is the interface's address of the router the packet is to be sent to. Exit interface should be used on point-to-point links so that a recursive lookup is not required. The router will have to look up in its routing table what interface to send out a packet headed to 219.17.100.2. This added step takes time and should be avoided when possible.
Lab-B(config)#ip route 0.0.0.0 0.0.0.0 Serial0/0/0	The route of 0.0.0.0 with a subnet mask of 0.0.0.0 is considered the default route. If a network does not match any other route in the routing table the default route should be used. Certain routing protocols and routing behaviors may cause packets to be dropped before using the default route.
ROUTING PROTOCOL CONFIGURATION – RIP	
Lab-B(config)#router rip	Changes from Global configuration to Router configuration for the RIP protocol.
Lab-B(config-router)#network 219.17.100.0	Defines the networks (directly connected) that RIP will advertise
Lab-B(config-router)#network 199.6.13.0	Defines the networks (directly connected) that RIP will advertise
Lab-B(config-router)#passive-interface fastethernet 0/0	Disables the sending of routing updates out the specific interface.
Lab-B(config-router)#version 2	Will set the RIP protocol to send and receive version 2 of RIP which allows for CIDR and VLSM
CONFIGURE THE LINE CON 0 AND LINE VTY 0 4 (TELNET)	
Lab-B(config)#line con 0	Changes from Global configuration to Line Console 0. Used for initial configuration of the router from the serial port of a PC. Connected by a Roll-over cable.
Lab-B(config-line)#login	Requires that the password be used to log into the post. Requires "password" command
Lab-B(config-line)#password cisco	When used to "login" assigns the password to be used for a port

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Lab-B(config-line)#line vty 0 4	Changes from Global configuration to the 5 (0-4) telnet or virtual terminals configuration.
Lab-B(config-line)#login	Requires that the password be used to log into the post. Requires “password” command
Lab-B(config-line)#password cisco	When used with “login” assigns the password to be used for a port
SHOW COMMANDS	
Show Version	Displays IOS Version, ROM Bootstrap Program, Location of IOS, CPU, all memory amounts, interfaces and configuration register. ** Only command that will display the configuration register **
Show running-config	Displays the router configuration in RAM.
Show startup-config	Displays the router configuration stored in NVRAM