

Basic Router Configuration

To clear the router for initial configuration:

Router> enable	Enter privilege mode
Router# erase startup-config	Erase the startup-config
Router# reload	Reboot the router

To change the host name of the router:

Router> enable	Enter privilege mode
Router# configure terminal	Enter global configuration mode
Router(config)# hostname R1	Name the router

Useful commands:

R1(config)# ip subnet-zero	Allows subnet zero
R1(config)# ip http server	Access router using browser
	Prevents router from trying to access a DNS server when you misspell a command
R1(config)# no ip domain-lookup	

Setting up passwords:

R1(config)# enable password cisco	Enter unencrypted password
R1(config)# enable secret class	Enter encrypted password
R1(config)# line console 0	Enter line configuration mode
R1(config-line)# password cisco	Enter console password
R1(config-line)# login	Enable password checking
R1(config-line)# logging synchronous	Returns to fresh line
R1(config-line)# exec-timeout 0 0	Prevents session from timing out
R1(config-line)# exit	Leave line configuration mode
R1(config)# line vty 0 4	Enter line configuration mode
R1(config-line)# password cisco	Enter telnet password
R1(config-line)# login	Enable password checking
R1(config-line)# exit	Leave line configuration mode
R1(config)# line aux 0	Enter line configuration mode
R1(config-line)# password cisco	Enter auxiliary line password
R1(config-line)# login	Enable password checking
R1(config-line)# exit	Leave line configuration mode
R1(config)# service password-encryption	Encrypts display of passwords

Banner messages:

R1(config)# banner motd # message #	Message of the Day banner that will appear first
R1(config)# banner login # message #	Login banner that appears after MOTD banner
R1(config)# banner exec # message #	Banner that appears when entering privilege mode

An appropriate login banner should never say "welcome". Here is an example:

WARNING

This system is solely for the use of authorized users for official purposes. You have no expectation of privacy in its use. You are subject to having your activities monitored and recorded. Using this system evidences an express consent to such monitoring and recording, and to providing the results to appropriate officials if possible abuse or criminal activity is revealed.

Configuring interfaces:

```
R1(config)# interface f0/0
R1(config-if)# description HR LAN
R1(config-if)# ip address 192.168.2.1
255.255.255.0
R1(config-if)# no shutdown
R1(config-if)# exit
```

Enter interface configuration mode
Document purpose of interface
Configure IP address and subnet mask
Turn on interface
Leave interface configuration mode

```
R1(config)# interface s0/0
R1(config-if)# description WAN link
R1(config-if)# ip address 192.168.0.2
255.255.255.0
R1(config-if)# clock rate 64000
R1(config-if)# no shutdown
R1(config-if)# exit
```

Enter interface configuration mode
Document purpose of interface
Configure IP address and subnet mask
Sets clock rate on DCE interfaces
Turns interface on
Leave interface configuration mode

Configuring routing protocol:

```
R1(config)# router rip
R1(config-router)# network 192.168.0.0
R1(config-router)# network 192.168.2.0
R1(config-router)# version 2
R1(config-router)# exit
```

Enter router configuration mode
Specifies network available to advertise
Specifies network available to advertise
Use RIP version 2
Leave router configuration mode

Configuring the host table:

```
R1(config)# ip host R2 192.168.0.2 192.168.2.1
R1(config)# exit
```

Establishes hostname-to-IP address mappings
Leaves global configuration mode

Viewing and saving configuration files:

```
R1# show running-config
R1# copy running-config startup-config
```

View running-configuration file
Save running configuration in DRAM to startup configuration in NVRAM

Troubleshooting commands:

```
PC1> ping 127.0.0.1
PC1> ping 192.168.1.3
PC1> ping 192.168.1.1
PC1> ping 192.168.2.2
```

Pings loopback interface to test IP protocol stack
Pings another node on same LAN
Pings default gateway
Pings host on another network

```
PC1> traceroute 192.168.2.2
R1# traceroute 192.168.2.2
```

Command on PC to trace a route
Command on a router to trace a route

