

CapeTown-commands-v8b. txt

```
*****
*
*   Hosts network configuration
*
*****
```

Host	Type	IP	mask	gateway
pc	dhcp	na	na	na
server	static	172. 16. 0. 130	255. 255. 255. 192	172. 16. 0. 129 (br_1)

```
*****
*
*   2900XL (switch1) Configuration
*
*****
```

Rack Order

Router (br_1)	- console cable to Red Host
Router (br_2)	- console cable to white host
Router (isp)	- console cable to Blue host
frame-relay	
Router (corporate)	- console cable to Green host
Switch (distribution)	- console cable to Purple host
Switch (access)	- console cable to Yellow host

! cleanup previous configs

```
delete flash: vlan.dat
erase startup-config
reload
```

! privilege mode

```
clear mac-address-table secure
vlan database
vtp client
vtp domain corporate
vtp password cisco
exit
```

! conf t

```
hostname switch1
enable secret class
no ip domain-lookup
```

```
int fa 0/1
switchport trunk encaps dot1q
switchport mode trunk
switchport access vlan 1
```

```
int fa 0/2
switchport mode access
switchport access vlan 1
port security max 1
```

```
int fa 0/3
  switchport mode access
  switchport access vlan 1
  port security max 1

int fa 0/4
  switchport mode access
  port security max 1
  switchport access vlan 10

int fa 0/5
  switchport mode access
  port security max 1
  switchport access vlan 10

int fa 0/6
  switchport mode access
  port security max 1
  switchport access vlan 10

int fa 0/7
  switchport mode access
  port security max 1
  switchport access vlan 20

int fa 0/8
  switchport mode access
  port security max 1
  switchport access vlan 20

int fa 0/9
  switchport mode access
  port security max 1
  switchport access vlan 20

int fa 0/10
  switchport mode access
  port security max 1
  switchport access vlan 99

int fa 0/11
  switchport mode access
  port security max 1
  switchport access vlan 99

int fa 0/12
  switchport mode access
  port security max 1
  switchport access vlan 99

int VLAN1
  ip address 192.168.10.3 255.255.255.224
  no shut

line con 0
  exec-timeout 0 0
  logging synchronous
line vty 0 4
  password cisco
  login
```

Verify Configuration

```
show run
show vtp status
show vlan
show spanning-tree
show port security
show int fa 0/1 switchport
```

```
*****
*
* 2950 (switch2) Configuration
*
*****
```

Rack Order

```
Router (br_1)      - console cable to Red Host
Router (br_2)      - console cable to white host
Router (isp)       - console cable to Blue host
frame-relay
Router (corporate) - console cable to Green host
Switch (distribution) - console cable to Purple host
Switch (access)   - console cable to Yellow host
```

```
!cleanup previous configs
```

```
delete flash: vlan.dat
erase startup-config
reload
```

```
!privilege mode
```

```
clear port-security dynamic
vlan database
vtp server
vtp domain corporate
vtp password cisco
vlan 10 name accounting
vlan 20 name marketing
vlan 99 name engineering
exit
```

```
!conf t
```

```
hostname switch2
enable secret class
no ip domain-lookup
```

```
spanning-tree vlan 1 root primary
```

```
int range fa 0/1 - 6
switchport mode access
switchport access vlan 1
```

```
int range fa 0/7 - 12
switchport mode access
switchport access vlan 10
```

```

int range fa 0/13 - 18
  switchport mode access
  switchport access vlan 20

int range fa 0/19 - 24
  switchport mode access
  switchport access vlan 99

int gi 0/1
  switchport mode trunk

int gi 0/2
  switchport mode trunk

int range fa 0/1 - 24
! enable port security
switchport port-security
! set the number of mac addresses
switchport port-security maximum 1
! set the action to shutdown (other options are protect and restrict)
switchport port-security violation shutdown

int Vlan1
  ip address 192.168.10.2 255.255.255.224
  no shut

line con 0
  exec-timeout 0 0
  logging synchronous
line vty 0 4
  password cisco
  login

```

Verify Configuration

```

show run
show vtp status
show vlan
show spanning-tree
show port-security
show port-security int fa 0/1
show int gi 0/1 switchport

```

```

*****
*                                     *
*   Router (corporate) Configuration   *
*                                     *
*****

```

Rack Order

Router (br_1)	- console cable to Red Host
Router (br_2)	- console cable to white host
Router (isp)	- console cable to Blue host
frame-relay	
Router (corporate)	- console cable to Green host
Switch (distribution)	- console cable to Purple host
Switch (access)	- console cable to Yellow host

```
erase startup-config
reload
```

```
hostname corporate
enable secret class
no ip domain-lookup
```

```
ip dhcp excluded-address 192.168.10.1 192.168.10.3
ip dhcp excluded-address 192.168.10.33
ip dhcp excluded-address 192.168.10.65
ip dhcp excluded-address 192.168.10.81
```

```
ip dhcp pool vlan1
network 192.168.10.0 255.255.255.224
default-router 192.168.10.1
```

```
ip dhcp pool vlan10
network 192.168.10.32 255.255.255.224
default-router 192.168.10.33
```

```
ip dhcp pool vlan20
network 192.168.10.64 255.255.255.240
default-router 192.168.10.65
```

```
ip dhcp pool vlan99
network 192.168.10.80 255.255.255.240
default-router 192.168.10.81
```

```
int fa0/0
no shut
```

```
int fa0/0.1
encaps dot1q 1 native
ip address 192.168.10.1 255.255.255.224
ip nat inside
no shut
```

```
int fa0/0.10
encaps dot1q 10
ip address 192.168.10.33 255.255.255.224
ip nat inside
no shut
```

```
int fa0/0.20
encaps dot1q 20
ip address 192.168.10.65 255.255.255.240
ip nat inside
no shut
```

```
int fa0/0.99
encaps dot1q 99
ip address 192.168.10.81 255.255.255.240
ip nat inside
no shut
```

```
int s0/0
ip address 63.88.27.66 255.255.255.252
ip nat outside
encaps frame-relay
frame-relay map ip 63.88.27.65 102
```

```
no shut
```

```
ip nat inside source list 1 int s0/0 overload
```

```
access-list 1 permit 192.168.10.0 0.0.0.31
access-list 1 permit 192.168.10.32 0.0.0.31
access-list 1 permit 192.168.10.64 0.0.0.15
access-list 1 permit 192.168.10.80 0.0.0.15
```

```
! Must specify next hop on GW when going through frame-relay
ip route 0.0.0.0 0.0.0.0 63.88.27.65
!Set discard route
ip route 192.168.0.0 255.255.0.0 Null0
```

```
line con 0
  exec-timeout 0 0
  logging synchronous
line aux 0
line vty 0 4
  password cisco
  login
```

Verify Configuration

```
-----
```

```
show ip route
show ip protocols
show run
show ip int brief
show frame relay map
show ip dhcp binding
show ip nat translation
show ip nat statistics
```

```
debug ip nat
debug ip icmp
```

```
*****
*
*   Router (ISP) Configuration
*
*****
```

Rack Order

```
-----
```

Router (br_1)	- console cable to Red Host
Router (br_2)	- console cable to white host
Router (isp)	- console cable to Blue host
frame-relay	
Router (corporate)	- console cable to Green host
Switch (distribution)	- console cable to Purple host
Switch (access)	- console cable to Yellow host

```
erase startup-config
reload
```

```
hostname isp
username br_1 password cisco
username br_2 password cisco
enable secret class
no ip domain-lookup

int fa0/0
ip address 63.88.27.129 255.255.255.128
no shut

int s0/0
ip address 63.88.27.65 255.255.255.252
encaps frame-relay
frame-relay map ip 63.88.27.66 201
no shut

int s0/1
ip address 207.62.41.25 255.255.255.252
encaps ppp
ppp authentication chap
no shut

int s0/3
ip address 207.62.41.21 255.255.255.252
encaps ppp
ppp authentication chap
no shut

! Note comment out either OSPF or EIGRP below

! *** start EIGRP config ***
ip route 63.88.27.64 255.255.255.252 63.88.27.66

router eigrp 1
network 207.62.41.20 0.0.0.3
network 207.62.41.24 0.0.0.3
network 63.88.27.128 0.0.0.127
no auto-summary
redistribute static
! tip from Gary for frame-relay
redistribute connected
! *** end EIGRP config ***

! *** start OSPF config ***
! router ospf 10
! network 207.62.41.20 0.0.0.3 area 0
! network 207.62.41.24 0.0.0.3 area 0
! network 63.88.27.128 0.0.0.127 area 0
! network 63.88.27.64 0.0.0.3 area 0
! *** end OSPF config ***

passive-interface fa 0/0

line con 0
exec-timeout 0 0
logging synchronous
line aux 0
line vty 0 4
```

```
password ci sco
login
```

Veri fy Confi gurati on

```
show ip route
show ip int brief
show ip protocols
```

```
show frame-relay route
show frame-relay map
show frame-relay
```

```
debug ip icmp
debug ip eigrp
traceroute x.x.x.x
ping x.x.x.x
ping (extended)
```

```
*****
*
* Router (br_2) Confi gurati on
*
*****
```

Rack Order

Router (br_1)	- console cable to Red Host
Router (br_2)	- console cable to white host
Router (isp)	- console cable to Blue host
frame-relay	
Router (corporate)	- console cable to Green host
Switch (distribution)	- console cable to Purple host
Switch (access)	- console cable to Yellow host

```
erase startup-config
reload
```

```
hostname br_2
username br_1 password ci sco
username isp password ci sco
enable secret class
no ip domain-lookup
```

```
int fa0/0
ip address 172.16.0.1 255.255.255.128
no shut
```

```
int s0/0
ip address 207.62.41.30 255.255.255.252
encaps ppp
ppp authentication chap
clock rate 64000
```



```

no shut

int s0/1
ip address 207.62.41.26 255.255.255.252
encaps ppp
ppp authentication chap
clock rate 64000
no shut

int loopback100
ip add 10.10.10.10 255.255.255.252
no shut

ip route 0.0.0.0 0.0.0.0 loopback100

```

! Note comment out either OSPF or EIGRP below

```

! *** start EIGRP config ***
router eigrp 1
network 207.62.41.24 0.0.0.3
network 207.62.41.28 0.0.0.3
network 172.16.0.0 0.0.0.127
no auto-summary
redistribute static
! *** end EIGRP config ***

```

```

! *** start OSPF config ***
! router ospf 10
! network 207.62.41.24 0.0.0.3 area 0
! network 207.62.41.28 0.0.0.3 area 0
! network 172.16.0.0 0.0.0.127 area 0
! default-information originate
! *** end OSPF config ***

```

```

passive-interface fa 0/0

```

```

line con 0
exec-timeout 0 0
logging synchronous
line aux 0
line vty 0 4
password cisco
login

```

Verify Configuration

```

show ip route
show ip int brief
show ip protocols

```

```

traceroute x.x.x.x
ping x.x.x.x
ping (extended)

```

CapeTown-commands-v8b.txt

```
*****
*
* Router (br_1) Configuration
*
*****
```

Rack Order

```
-----
Router (br_1)          - console cable to Red Host
Router (br_2)          - console cable to white host
Router (isp)           - console cable to Blue host
frame-relay
Router (corporate)     - console cable to Green host
Switch (distribution) - console cable to Purple host
Switch (access)        - console cable to Yellow host
```

```
erase startup-config
reload
```

```
hostname br_1
username br_2 password cisco
username isp password cisco
enable secret class
no ip domain-lookup
```

```
int fa0/0
ip address 172.16.0.129 255.255.255.192
no shut
```

```
int s0/0
ip address 207.62.41.29 255.255.255.252
encaps ppp
ppp authentication chap
no shut
```

```
int s0/1
ip address 207.62.41.22 255.255.255.252
encaps ppp
ppp authentication chap
clock rate 64000
no shut
```

! Note comment out either OSPF or EIGRP below

```
! *** start EIGRP config ***
router eigrp 1
network 207.62.41.28 0.0.0.3
network 207.62.41.20 0.0.0.3
network 172.16.0.128 0.0.0.63
no auto-summary
! *** end EIGRP config ***
```

```
! *** start OSPF config ***
! router ospf 10
! network 207.62.41.28 0.0.0.3 area 0
! network 207.62.41.20 0.0.0.3 area 0
! network 172.16.0.128 0.0.0.63 area 0
```

```
!*** end OSPF config ***
```

```
passive-interface fa 0/0
```

```
line con 0
  exec-timeout 0 0
  logging synchronous
line aux 0
line vty 0 4
  password cisco
  login
```

Verify Configuration

```
show ip route
show ip int brief
show ip protocols
```

```
traceroute x.x.x.x
ping x.x.x.x
ping (extended)
```