

TASK 2: Design IP address plan

TUT VLAN

Subnet address	First usable address	Last usable address	Subnet mask
172.30.0.0	172.30.0.1	172.30.0.254	255.255.255.0

DUT VLAN

Subnet address	First usable address	Last usable address	Subnet mask
172.30.1.128	172.30.1.129	172.30.1.254	255.255.255.128

CPUT VLAN

Subnet address	First usable address	Last usable address	Subnet mask
172.30.1.0	172.30.1.1	172.30.1.126	255.255.255.128

VUT VLAN

Subnet address	First usable address	Last usable address	Subnet mask
172.30.2.0	172.30.2.1	172.30.2.62	255.255.255.192

WAN1

Subnet address	First usable address	Last usable address	Subnet mask
172.30.2.64	172.30.2.65	172.30.2.66	255.255.255.252

WAN2

Subnet address	First usable address	Last usable address	Subnet mask
172.30.2.68	172.30.2.69	172.30.2.70	255.255.255.252

WAN3

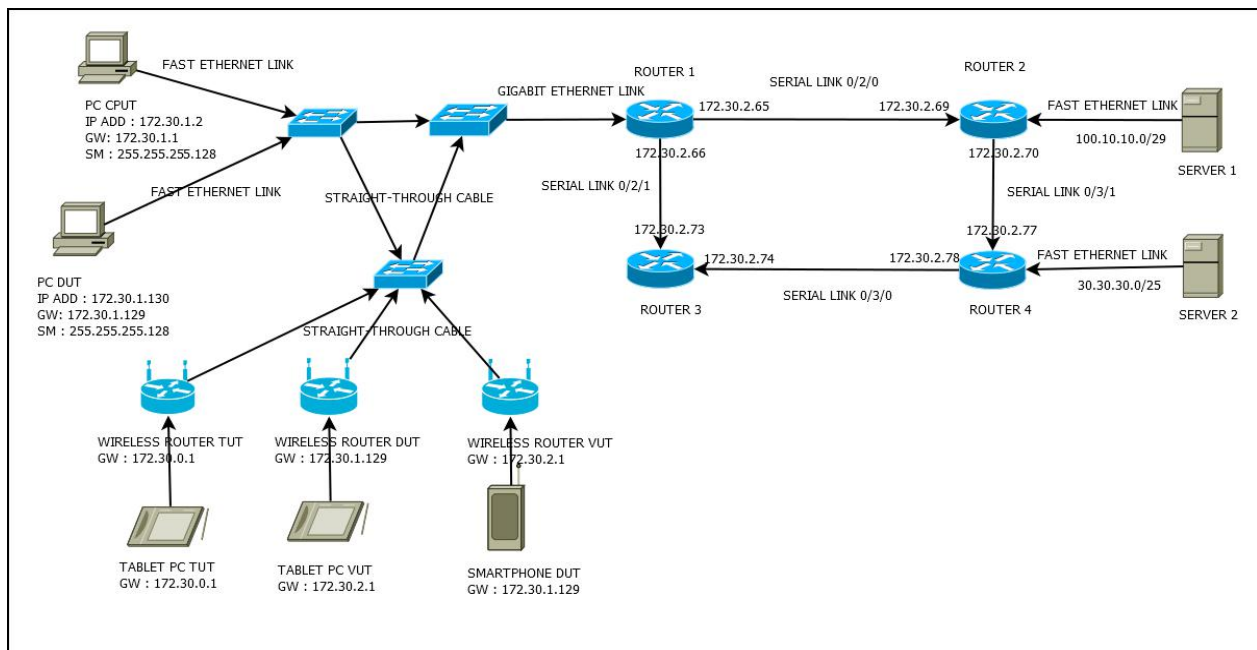
Subnet address	First usable address	Last usable address	Subnet mask
172.30.2.72	172.30.2.73	172.30.2.74	255.255.255.252

WAN4

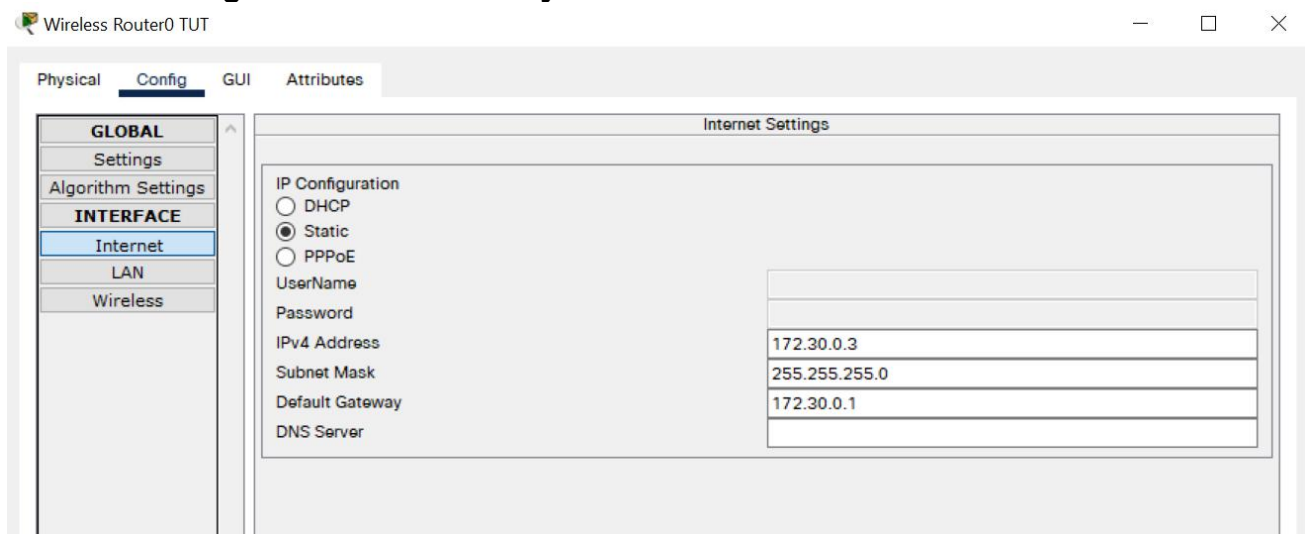
Subnet address	First usable address	Last usable address	Subnet mask
172.30.2.76	172.30.2.77	172.30.2.78	255.255.255.252

DEVICE	INTERFAC E	IP ADDRESS	SUBNET MASK	DEFAULT GATEWAY
Router1	S0/2/0	172.30.2.65	255.255.255.252	N/A
	S0/2/1	172.30.2.69	255.255.255.252	N/A
	G0/1.10	172.30.0.1	255.255.255.0	N/A
	G0/1.20	172.30.1.129	255.255.255.128	N/A
	G0/1.30	172.30.1.1	255.255.255.128	N/A
	G0/1.40	172.30.2.1	255.255.255.192	N/A
Router 2	S0/2/0	172.30.2.66	255.255.255.252	N/A
	S0/3/1	172.30.2.73	255.255.255.252	N/A
	G0/1	30.30.30.1	255.255.255.128	N/A
Router 3	S0/2/1	172.30.2.70	255.255.255.252	N/A
	S0/3/0	172.30.2.78	255.255.255.252	N/A
Router 4	S0/3/0	172.30.2.77	255.255.255.252	N/A
	S0/3/1	172.30.2.74	255.255.255.252	N/A
	G0/1	100.10.10.1	255.255.255.240	N/A
Wireless Router TUT	NIC	172.30.0.3	255.255.255.0	172.30.0.1
Wireless Router DUT	NIC	172.30.1.132	255.255.255.128	172.30.1.129
Wireless Router VUT	NIC	172.30.2.3	255.255.255.192	172.30.2.1
PC0 (CPUT)	NIC	172.30.1.2	255.255.255.128	172.30.1.1
PC2 (DUT)	NIC	172.30.1.130	255.255.255.128	172.30.1.129
TABLET PC (TUT)	NIC	192.168.0.100	255.255.255.0	192.168.0.1
TABLET PC (VUT)	NIC	192.168.0.100	255.255.255.0	192.168.0.1
SMARTPHONE (DUT)	NIC	192.168.0.100	192.168.0.1	192.168.0.1
Server1	NIC	100.10.10.2	255.255.255.240	100.10.10.1
Server2	NIC	30.30.30.2	255.255.255.128	30.30.30.1

Logical network diagram



TASK 4: Configure wireless security



Physical **Config** GUI Attributes

GLOBAL

Settings

Algorithm Settings

INTERFACE

Internet

LAN

Wireless

Wireless Settings

SSID: TUT Wifi

2.4 GHz Channel: 1 - 2.412GHz

Coverage Range (meters): 250,00

Authentication:

☐ Disabled ☒ WEP ☐ WPA-PSK ☐ WPA2-PSK ☐ WPA ☐ WPA2

WEP Key: 1234567890

PSK Pass Phrase:

RADIUS Server Settings

IP Address:

Shared Secret:

Encryption Type: 40/64-Bits (10 Hex digits)

Physical **Config** GUI Attributes

GLOBAL

Settings

Algorithm Settings

INTERFACE

Internet

LAN

Wireless

Internet Settings

IP Configuration:

☐ DHCP ☒ Static ☐ PPPoE

UserName:

Password:

IPv4 Address: 172.30.2.3

Subnet Mask: 255.255.255.192

Default Gateway: 172.30.2.1

DNS Server:

Physical **Config** GUI Attributes

GLOBAL

Settings

Algorithm Settings

INTERFACE

Internet

LAN

Wireless

Wireless Settings

SSID: VUT Wifi

2.4 GHz Channel: 1 - 2.412GHz

Coverage Range (meters): 250,00

Authentication:

☐ Disabled ☒ WEP ☐ WPA-PSK ☐ WPA2-PSK ☐ WPA ☐ WPA2

WEP Key: 2345678912

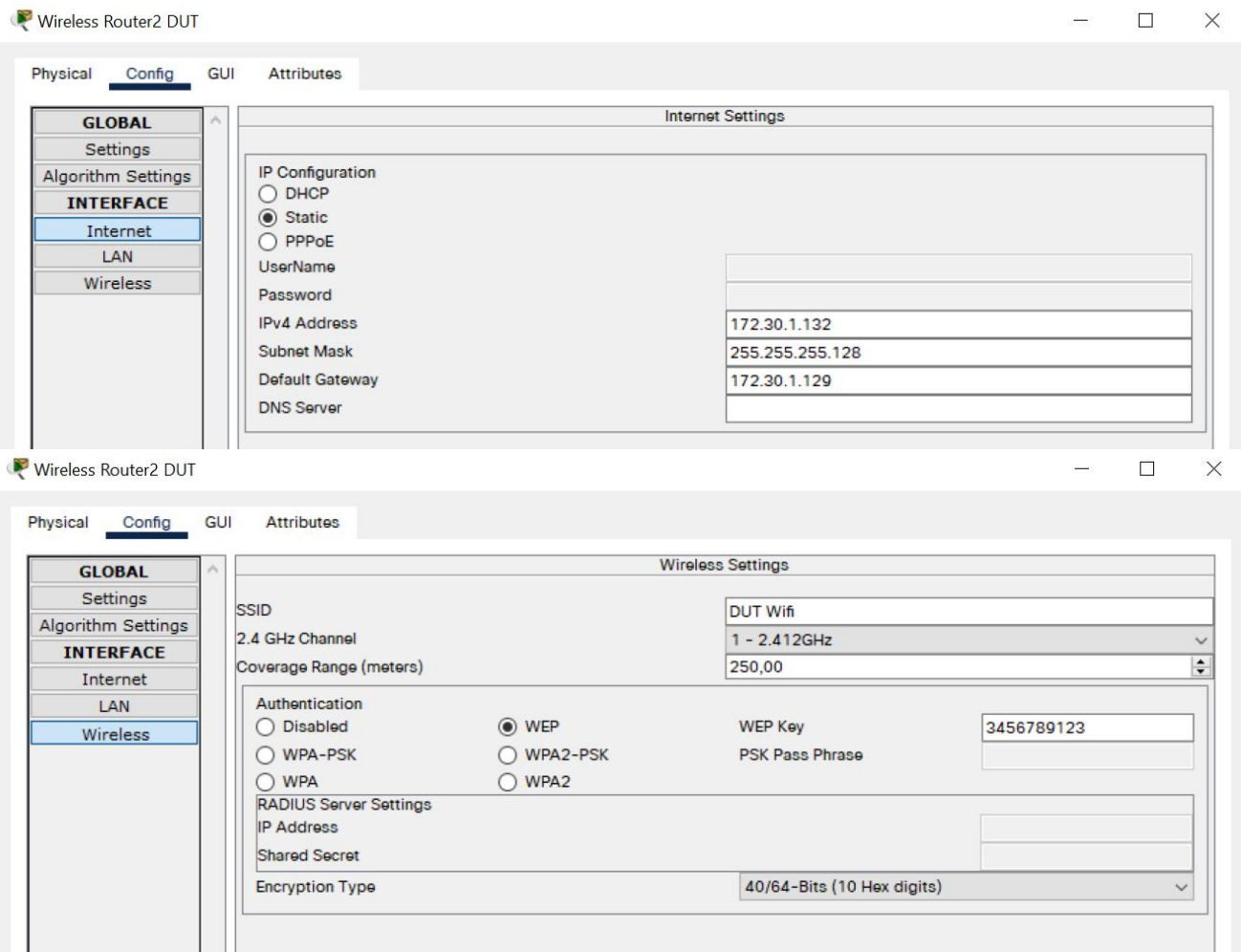
PSK Pass Phrase:

RADIUS Server Settings

IP Address:

Shared Secret:

Encryption Type: 40/64-Bits (10 Hex digits)



TASK 5: Configure VTP on all switches.

Switch 1

```

S1#show vtp status
VTP Version capable       : 1 to 2
VTP version running       : 2
VTP Domain Name           : cob
VTP Pruning Mode          : Disabled
VTP Traps Generation      : Disabled
Device ID                  : 0030.F25E.0B00
Configuration last modified by 0.0.0.0 at 3-1-93 00:06:31
Local updater ID is 0.0.0.0 (no valid interface found)

Feature VLAN :
-----
VTP Operating Mode        : Server
Maximum VLANs supported locally : 255
Number of existing VLANs   : 10
Configuration Revision     : 10
MD5 digest                : 0xE4 0xDD 0x6A 0x4E 0xB1 0x6E 0xF0 0xD6
                           0xF2 0xD5 0xD0 0x34 0x98 0xBB 0x5E 0x2E

S1#show vtp password
VTP Password: cob31lt
S1#

```

Switch 2

```

S2#show vtp status
VTP Version capable      : 1 to 2
VTP version running      : 2
VTP Domain Name          : cob
VTP Pruning Mode         : Disabled
VTP Traps Generation     : Disabled
Device ID                : 0001.43C1.2100
Configuration last modified by 0.0.0.0 at 0-0-00 00:00:00

Feature VLAN :
-----
VTP Operating Mode       : Client
Maximum VLANs supported locally : 255
Number of existing VLANs : 5
Configuration Revision   : 0
MD5 digest               : 0x55 0xE6 0xA5 0x5E 0x77 0xC3 0x94 0xA2
                        : 0xAA 0x8A 0xB6 0x45 0x14 0x59 0xD9 0x7C

S2#show vtp password
VTP Password: cob3llt
S2#

```

Switch 3

```

S3#show vtp status
VTP Version capable      : 1 to 2
VTP version running      : 2
VTP Domain Name          : cob
VTP Pruning Mode         : Disabled
VTP Traps Generation     : Disabled
Device ID                : 000A.F3C4.E700
Configuration last modified by 0.0.0.0 at 0-0-00 00:00:00

Feature VLAN :
-----
VTP Operating Mode       : Client
Maximum VLANs supported locally : 255
Number of existing VLANs : 5
Configuration Revision   : 0
MD5 digest               : 0x55 0xE6 0xA5 0x5E 0x77 0xC3 0x94 0xA2
                        : 0xAA 0x8A 0xB6 0x45 0x14 0x59 0xD9 0x7C

S3#show vtp password
VTP Password: cob3llt
S3#

```

TASK 6: Create VLANs to separate tut, vut, cput and dut on Backbone

S1(config)#do show vlan brief

VLAN Name	Status	Ports
1 default	active	Fa0/1, Fa0/2, Fa0/3, Fa0/4 Fa0/5, Fa0/6, Fa0/7, Fa0/8 Fa0/9, Fa0/10, Fa0/11, Fa0/12 Fa0/13, Fa0/14, Fa0/15, Fa0/16 Fa0/17, Fa0/18, Fa0/19, Fa0/20 Fa0/21, Fa0/22, Fa0/23, Fa0/24 Gig0/1, Gig0/2
10 TUT	active	
20 DUT	active	
30 CPUT	active	
40 VUT	active	
99 Management	active	
1002 fddi-default	active	
1003 token-ring-default	active	
1004 fddinet-default	active	
1005 trnet-default	active	

S1(config)#

TASK 7: Assign ports to VLANs that you created on all switches.

Switch 1

```
S1#sh vlan brief
```

VLAN	Name	Status	Ports
1	default	active	Fa0/21, Fa0/22, Fa0/23
10	TUT	active	Fa0/1, Fa0/2, Fa0/3, Fa0/4 Fa0/5
20	DUT	active	Fa0/6, Fa0/7, Fa0/8, Fa0/9 Fa0/10
30	CPUT	active	Fa0/11, Fa0/12, Fa0/13, Fa0/14 Fa0/15
40	VUT	active	Fa0/16, Fa0/17, Fa0/18, Fa0/19 Fa0/20
99	Management	active	
1002	fddi-default	active	
1003	token-ring-default	active	
1004	fddinet-default	active	
1005	trnet-default	active	

```
S1#sh int trunk
```

Port	Mode	Encapsulation	Status	Native vlan
Fa0/24	on	802.1q	trunking	99
Gig0/1	on	802.1q	trunking	99
Gig0/2	on	802.1q	trunking	99

```
Port Vlan allowed on trunk
```

Fa0/24	1-1005
Gig0/1	1-1005
Gig0/2	1-1005

Switch2

```
S2#sh vlan brief
```

VLAN	Name	Status	Ports
1	default	active	Fa0/21, Fa0/22, Fa0/23, Fa0/24 Gig0/1
10	TUT	active	Fa0/1, Fa0/2, Fa0/3, Fa0/4 Fa0/5
20	DUT	active	Fa0/6, Fa0/7, Fa0/8, Fa0/9 Fa0/10
30	CPUT	active	Fa0/11, Fa0/12, Fa0/13, Fa0/14 Fa0/15
40	VUT	active	Fa0/16, Fa0/17, Fa0/18, Fa0/19 Fa0/20
99	Management	active	
1002	fddi-default	active	
1003	token-ring-default	active	
1004	fddinet-default	active	
1005	trnet-default	active	

```
S2#sh int trunk
```

Port	Mode	Encapsulation	Status	Native vlan
Gig0/2	on	802.1q	trunking	99

```
Port Vlan allowed on trunk
```

Gig0/2	1-1005
--------	--------

```
Port Vlan allowed and active in management domain
```

Gig0/2	1,10,20,30,40,99
--------	------------------

```
Port Vlan in spanning tree forwarding state and not pruned
```

Gig0/2	1,10,20,30,40,99
--------	------------------

Switch 3

```
S3#sh vlan brief
```

VLAN	Name	Status	Ports
1	default	active	Fa0/21, Fa0/22, Fa0/23, Fa0/24 Gig0/2
10	TUT	active	Fa0/1, Fa0/2, Fa0/3, Fa0/4 Fa0/5
20	DUT	active	Fa0/6, Fa0/7, Fa0/8, Fa0/9 Fa0/10
30	CPUT	active	Fa0/11, Fa0/12, Fa0/13, Fa0/14 Fa0/15
40	VUT	active	Fa0/16, Fa0/17, Fa0/18, Fa0/19 Fa0/20
99	Management	active	
1002	fddi-default	active	
1003	token-ring-default	active	
1004	fddinet-default	active	
1005	trnet-default	active	

```
S3#sh int trunk
```

Port	Mode	Encapsulation	Status	Native vlan
Gig0/1	on	802.1q	trunking	99

```
Port Gig0/1 Vlans allowed on trunk 1-1005
```

```
Port Gig0/1 Vlans allowed and active in management domain 1,10,20,30,40,99
```

```
Port Gig0/1 Vlans in spanning tree forwarding state and not pruned 1,10,20,30,40,99
```

TASK 8: Connect VLANs together

Router 1

```
R1#show ip interface brief
```

Interface	IP-Address	OK?	Method	Status	Protocol
GigabitEthernet0/0	unassigned	YES	manual	up	down
GigabitEthernet0/1	unassigned	YES	manual	up	up
GigabitEthernet0/1.10	172.30.0.1	YES	manual	up	up
GigabitEthernet0/1.20	172.30.1.129	YES	manual	up	up
GigabitEthernet0/1.30	172.30.1.1	YES	manual	up	up
GigabitEthernet0/1.40	172.30.2.1	YES	manual	up	up
Serial0/2/0	172.30.2.65	YES	manual	up	up
Serial0/2/1	172.30.2.69	YES	manual	up	up
Serial0/3/0	unassigned	YES	unset	administratively down	down
Serial0/3/1	unassigned	YES	unset	administratively down	down
Vlan1	unassigned	YES	unset	administratively down	down

```
R1#
```

TASK 9: Configure router interfaces on all routers

Router 1

```
Current configuration : 1439 bytes
```

```
!  
version 15.1  
no service timestamps log datetime msec  
no service timestamps debug datetime msec  
no service password-encryption  
!  
hostname R1  
!  
enable secret 5 $1$mERr$Pclz9xBekrICIT0dGLQz80  
!  
no ip cef  
no ipv6 cef  
!  
license udi pid CISCO2901/K9 sn FTX15241C18-  
!  
no ip domain-lookup  
!  
spanning-tree mode pvst  
!  
interface GigabitEthernet0/0  
no ip address  
duplex auto  
speed auto  
!  
interface GigabitEthernet0/1
```



```

no ip address
duplex auto
speed auto
!
interface GigabitEthernet0/1.10
encapsulation dot1Q 10
ip address 172.30.0.1 255.255.255.0
!
interface GigabitEthernet0/1.20
encapsulation dot1Q 20
ip address 172.30.1.129 255.255.255.128
!
interface GigabitEthernet0/1.30
encapsulation dot1Q 30
ip address 172.30.1.1 255.255.255.128
!
interface GigabitEthernet0/1.40
encapsulation dot1Q 40
ip address 172.30.2.1 255.255.255.192
!
interface Serial0/2/0
ip address 172.30.2.65 255.255.255.252
!
interface Serial0/2/1
ip address 172.30.2.69 255.255.255.252
!
interface Serial0/3/0
no ip address
clock rate 2000000
shutdown
!
interface Serial0/3/1
no ip address
clock rate 2000000
shutdown
!
interface Vlan1
no ip address
shutdown
!
router rip
version 2
network 172.30.0.0
no auto-summary
!
ip classless
!
ip flow-export version 9
!
no cdp run
!
line con 0
password password@123
login
!
line aux 0
!
line vty 0 4
password password@123
login
!
end

```

Router 2

```

Current configuration : 1145 bytes
!
hostname R2
!
enable secret 5 $1$mERr$Pclz9xBekrICIT0dGLQz80
!
no ip cef
no ipv6 cef
!
license udi pid CISCO2901/K9 sn FTX1524F8XD-

```

```

!
no ip domain-lookup
!
spanning-tree mode pvst
!
interface GigabitEthernet0/0
  no ip address
  duplex auto
  speed auto
  shutdown
!
interface GigabitEthernet0/1
  ip address 100.10.10.1 255.255.255.240
  duplex auto
  speed auto
!
interface Serial0/2/0
  ip address 172.30.2.66 255.255.255.252
  clock rate 2000000
!
interface Serial0/2/1
  no ip address
  clock rate 2000000
  shutdown
!
interface Serial0/3/0
  no ip address
  clock rate 2000000
  shutdown
!
interface Serial0/3/1
  ip address 172.30.2.73 255.255.255.252
  clock rate 2000000
!
interface Vlan1
  no ip address
  shutdown
!
router rip
  version 2
  network 100.0.0.0
  network 172.30.0.0
  no auto-summary
!
ip classless
!
ip flow-export version 9
!
no cdp run
!
line con 0
  password password@123
  login
!
line aux 0
!
line vty 0 4
  password password@123
  login
!
End

```

Router 3

```

Current configuration : 1091 bytes
!
version 15.1
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname R3
!
enable secret 5 $1$mERr$Pclz9xBekrICIT0dGLQz80
!
no ip cef
no ipv6 cef

```

```

!
license udi pid CISCO2901/K9 sn FTX15240468-
!
no ip domain-lookup
!
!
spanning-tree mode pvst
!
interface GigabitEthernet0/0
no ip address
duplex auto
speed auto
shutdown
!
interface GigabitEthernet0/1
no ip address
duplex auto
speed auto
shutdown
!
interface Serial0/2/0
no ip address
clock rate 2000000
shutdown
!
interface Serial0/2/1
ip address 172.30.2.70 255.255.255.252
clock rate 2000000
!
interface Serial0/3/0
ip address 172.30.2.78 255.255.255.252
!
interface Serial0/3/1
no ip address
clock rate 2000000
shutdown
!
interface Vlan1
no ip address
shutdown
!
router rip
version 2
network 172.30.0.0
no auto-summary
!
ip classless
!
ip flow-export version 9
!
no cdp run
!
line con 0
password password@123
login
!
line aux 0
!
line vty 0 4
password password@123
login
!
end

```

Router 4

```

Current configuration : 1123 bytes
!
version 15.1
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname R4
!
enable secret 5 $1$mERr$Pclz9xBekrICIT0dGLQz80

```

```

!
no ip cef
no ipv6 cef
!
license udi pid CISCO2901/K9 sn FTX15243459-
!
no ip domain-lookup
!
spanning-tree mode pvst
!
interface GigabitEthernet0/0
no ip address
duplex auto
speed auto
shutdown
!
interface GigabitEthernet0/1
ip address 30.30.30.1 255.255.255.252
duplex auto
speed auto
!
interface Serial0/2/0
no ip address
clock rate 2000000
shutdown
!
interface Serial0/2/1
no ip address
clock rate 2000000
shutdown
!
interface Serial0/3/0
ip address 172.30.2.77 255.255.255.252
clock rate 2000000
!
interface Serial0/3/1
ip address 172.30.2.74 255.255.255.252
!
interface Vlan1
no ip address
shutdown
!
router rip
version 2
network 30.0.0.0
network 172.30.0.0
no auto-summary
!
ip classless
!
ip flow-export version 9
!
no cdp run
!
line con 0
password password@123
login
!
line aux 0
!
line vty 0 4
password password@123
login
!
end

```

TASK 10: Configure dynamic routing

Router 1

```
R1#show ip route
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

    30.0.0.0/30 is subnetted, 1 subnets
R       30.30.30.0/30 [120/2] via 172.30.2.70, 00:00:16, Serial0/2/1
           [120/2] via 172.30.2.66, 00:00:09, Serial0/2/0
    100.0.0.0/28 is subnetted, 1 subnets
R       100.10.10.0/28 [120/1] via 172.30.2.66, 00:00:09, Serial0/2/0
    172.30.0.0/16 is variably subnetted, 14 subnets, 5 masks
C       172.30.0.0/24 is directly connected, GigabitEthernet0/1.10
L       172.30.0.1/32 is directly connected, GigabitEthernet0/1.10
C       172.30.1.0/25 is directly connected, GigabitEthernet0/1.30
L       172.30.1.1/32 is directly connected, GigabitEthernet0/1.30
C       172.30.1.128/25 is directly connected, GigabitEthernet0/1.20
L       172.30.1.129/32 is directly connected, GigabitEthernet0/1.20
C       172.30.2.0/26 is directly connected, GigabitEthernet0/1.40
L       172.30.2.1/32 is directly connected, GigabitEthernet0/1.40
C       172.30.2.64/30 is directly connected, Serial0/2/0
L       172.30.2.65/32 is directly connected, Serial0/2/0
C       172.30.2.68/30 is directly connected, Serial0/2/1
L       172.30.2.69/32 is directly connected, Serial0/2/1
R       172.30.2.72/30 [120/1] via 172.30.2.66, 00:00:09, Serial0/2/0
R       172.30.2.76/30 [120/1] via 172.30.2.70, 00:00:16, Serial0/2/1
```

Router 2

```
R2#show ip route
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

    30.0.0.0/28 is subnetted, 1 subnets
R       30.30.30.0/28 [120/1] via 172.30.2.74, 00:00:08, Serial0/3/1
    100.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C       100.10.10.0/28 is directly connected, GigabitEthernet0/1
L       100.10.10.1/32 is directly connected, GigabitEthernet0/1
    172.30.0.0/16 is variably subnetted, 6 subnets, 2 masks
C       172.30.2.64/30 is directly connected, Serial0/2/0
L       172.30.2.66/32 is directly connected, Serial0/2/0
R       172.30.2.68/30 [120/1] via 172.30.2.65, 00:00:09, Serial0/2/0
C       172.30.2.72/30 is directly connected, Serial0/3/1
L       172.30.2.73/32 is directly connected, Serial0/3/1
R       172.30.2.76/30 [120/2] via 172.30.2.65, 00:00:09, Serial0/2/0
```

Router 3

```
R3#show ip route
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

    30.0.0.0/28 is subnetted, 1 subnets
R       30.30.30.0/28 [120/1] via 172.30.2.77, 00:00:19, Serial0/3/0
    100.0.0.0/28 is subnetted, 1 subnets
R       100.10.10.0/28 [120/2] via 172.30.2.69, 00:00:11, Serial0/2/1
           [120/2] via 172.30.2.77, 00:00:19, Serial0/3/0
    172.30.0.0/16 is variably subnetted, 6 subnets, 2 masks
R       172.30.2.64/30 [120/1] via 172.30.2.69, 00:00:11, Serial0/2/1
C       172.30.2.68/30 is directly connected, Serial0/2/1
L       172.30.2.70/32 is directly connected, Serial0/2/1
R       172.30.2.72/30 [120/1] via 172.30.2.77, 00:00:19, Serial0/3/0
C       172.30.2.76/30 is directly connected, Serial0/3/0
L       172.30.2.78/32 is directly connected, Serial0/3/0
```

Router 4

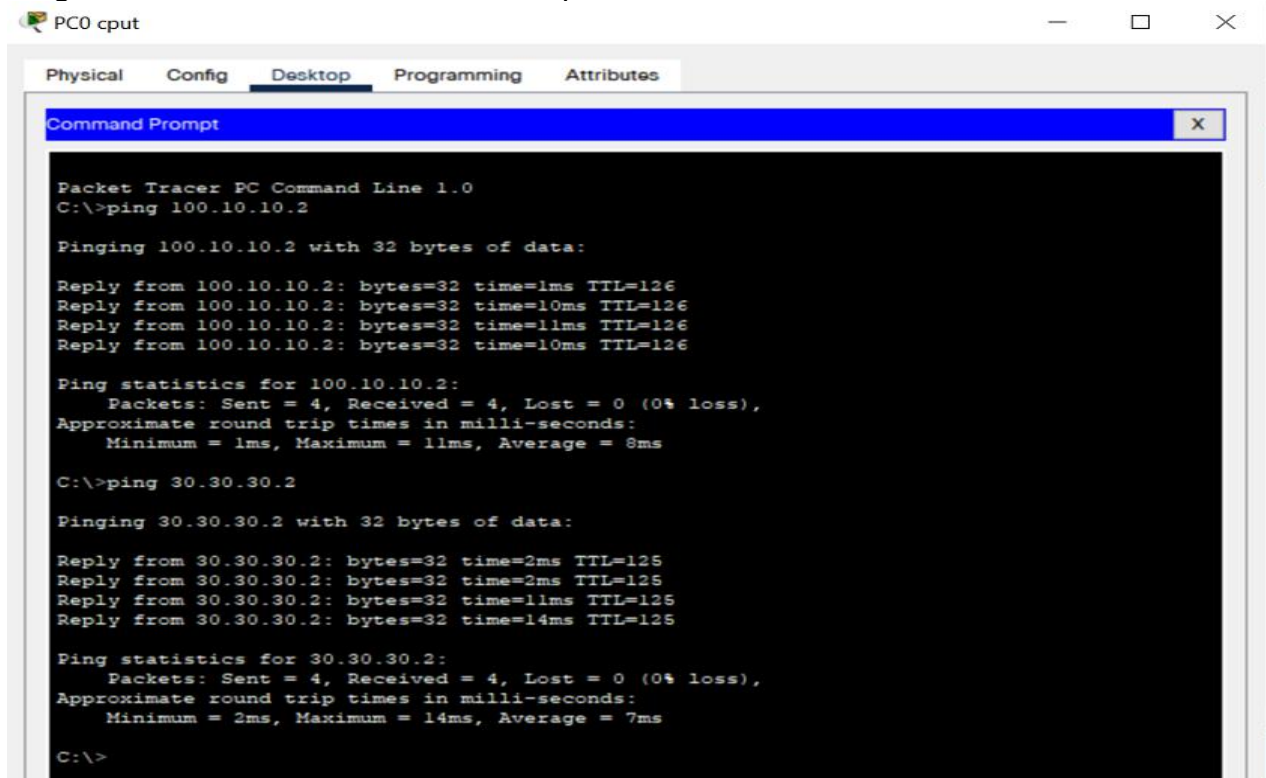
```
R4#show ip route
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

    30.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C       30.30.30.0/28 is directly connected, GigabitEthernet0/1
L       30.30.30.1/32 is directly connected, GigabitEthernet0/1
    100.0.0.0/28 is subnetted, 1 subnets
R       100.10.10.0/28 [120/1] via 172.30.2.73, 00:00:17, Serial0/3/1
    172.30.0.0/16 is variably subnetted, 6 subnets, 2 masks
R       172.30.2.64/30 [120/1] via 172.30.2.73, 00:00:17, Serial0/3/1
R       172.30.2.68/30 [120/1] via 172.30.2.78, 00:00:06, Serial0/3/0
C       172.30.2.72/30 is directly connected, Serial0/3/1
L       172.30.2.74/32 is directly connected, Serial0/3/1
C       172.30.2.76/30 is directly connected, Serial0/3/0
L       172.30.2.77/32 is directly connected, Serial0/3/0
```


Test connectivity

Ping Server 1 and Server 2 from PC0 cput:



The screenshot shows a Packet Tracer PC window for PC0 cput. The 'Desktop' tab is active, displaying a Command Prompt window. The Command Prompt shows the execution of two ping commands. The first command is 'ping 100.10.10.2', which results in four successful replies with times ranging from 1ms to 11ms and a TTL of 126. The second command is 'ping 30.30.30.2', which also results in four successful replies with times ranging from 2ms to 14ms and a TTL of 125. Both tests show 0% packet loss.

```
Packet Tracer PC Command Line 1.0
C:\>ping 100.10.10.2

Pinging 100.10.10.2 with 32 bytes of data:

Reply from 100.10.10.2: bytes=32 time=1ms TTL=126
Reply from 100.10.10.2: bytes=32 time=10ms TTL=126
Reply from 100.10.10.2: bytes=32 time=11ms TTL=126
Reply from 100.10.10.2: bytes=32 time=10ms TTL=126

Ping statistics for 100.10.10.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 11ms, Average = 8ms

C:\>ping 30.30.30.2

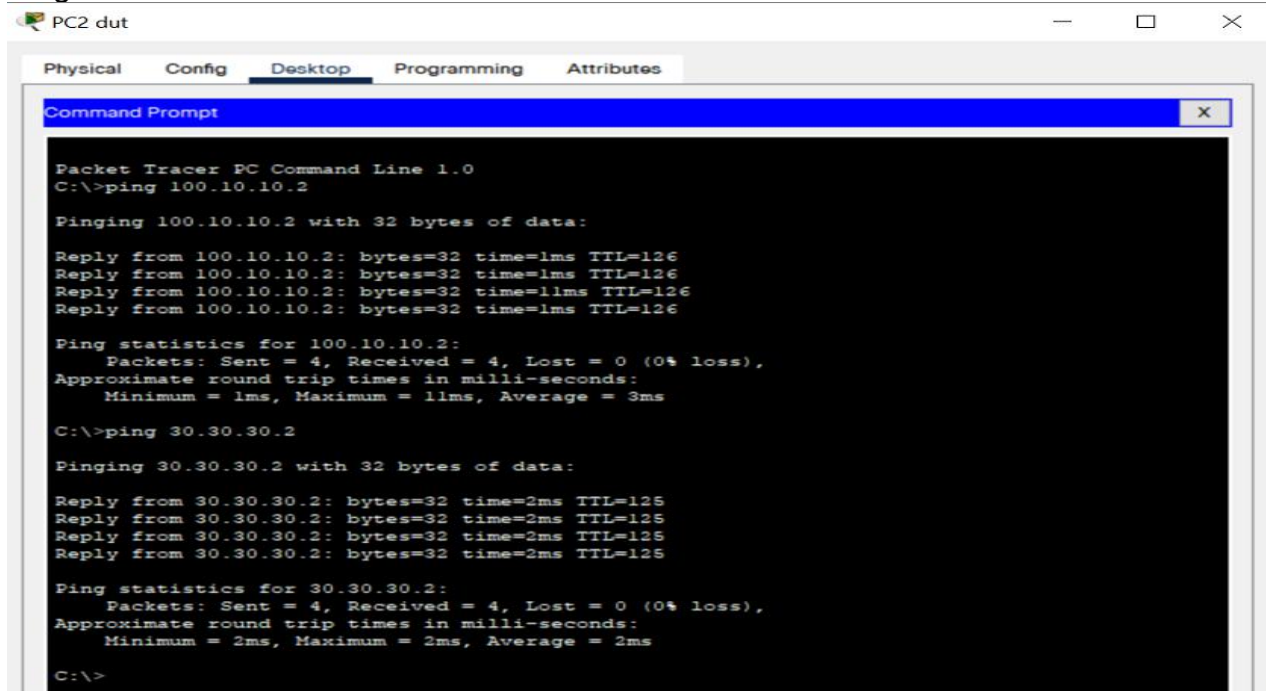
Pinging 30.30.30.2 with 32 bytes of data:

Reply from 30.30.30.2: bytes=32 time=2ms TTL=125
Reply from 30.30.30.2: bytes=32 time=2ms TTL=125
Reply from 30.30.30.2: bytes=32 time=11ms TTL=125
Reply from 30.30.30.2: bytes=32 time=14ms TTL=125

Ping statistics for 30.30.30.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 14ms, Average = 7ms

C:\>
```

Ping Server 1 and Server 2 from PC2 dut:



The screenshot shows a Packet Tracer PC window for PC2 dut. The 'Desktop' tab is active, displaying a Command Prompt window. The Command Prompt shows the execution of two ping commands. The first command is 'ping 100.10.10.2', which results in four successful replies with times ranging from 1ms to 11ms and a TTL of 126. The second command is 'ping 30.30.30.2', which also results in four successful replies with times ranging from 2ms to 2ms and a TTL of 125. Both tests show 0% packet loss.

```
Packet Tracer PC Command Line 1.0
C:\>ping 100.10.10.2

Pinging 100.10.10.2 with 32 bytes of data:

Reply from 100.10.10.2: bytes=32 time=1ms TTL=126
Reply from 100.10.10.2: bytes=32 time=1ms TTL=126
Reply from 100.10.10.2: bytes=32 time=11ms TTL=126
Reply from 100.10.10.2: bytes=32 time=1ms TTL=126

Ping statistics for 100.10.10.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 11ms, Average = 3ms

C:\>ping 30.30.30.2

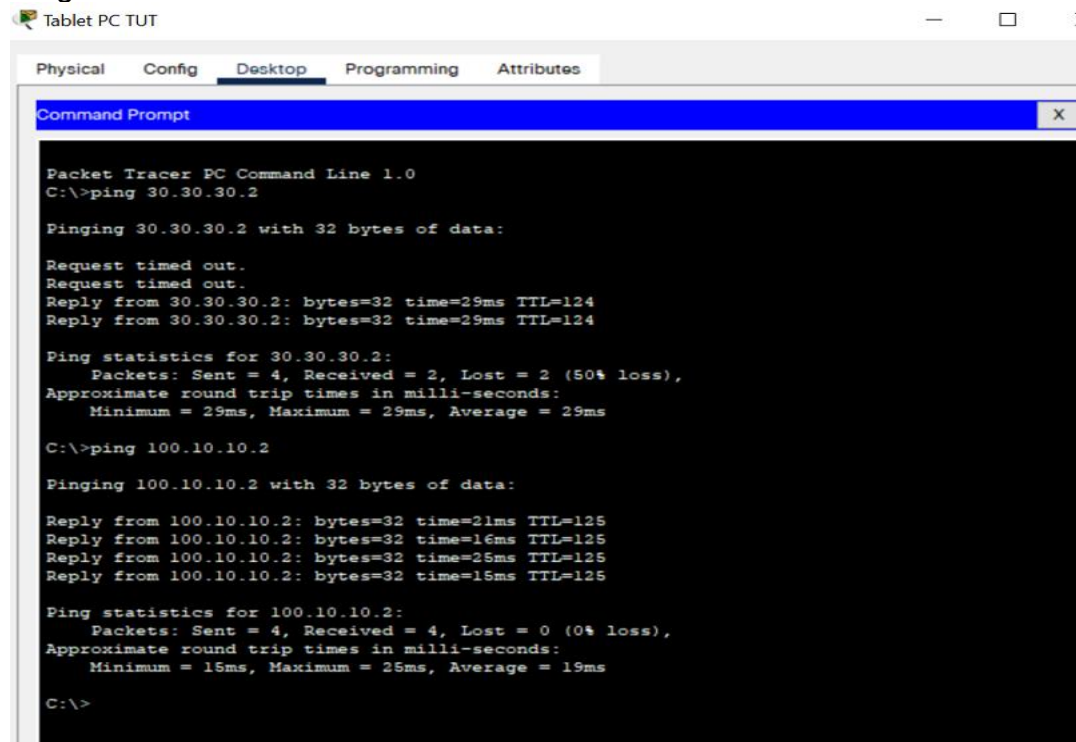
Pinging 30.30.30.2 with 32 bytes of data:

Reply from 30.30.30.2: bytes=32 time=2ms TTL=125
Reply from 30.30.30.2: bytes=32 time=2ms TTL=125
Reply from 30.30.30.2: bytes=32 time=2ms TTL=125
Reply from 30.30.30.2: bytes=32 time=2ms TTL=125

Ping statistics for 30.30.30.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 2ms, Average = 2ms

C:\>
```

Ping Server 1 and Server 2 from Tablet PC TUT:



```
Packet Tracer PC Command Line 1.0
C:\>ping 30.30.30.2

Pinging 30.30.30.2 with 32 bytes of data:

Request timed out.
Request timed out.
Reply from 30.30.30.2: bytes=32 time=29ms TTL=124
Reply from 30.30.30.2: bytes=32 time=29ms TTL=124

Ping statistics for 30.30.30.2:
    Packets: Sent = 4, Received = 2, Lost = 2 (50% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 29ms, Maximum = 29ms, Average = 29ms

C:\>ping 100.10.10.2

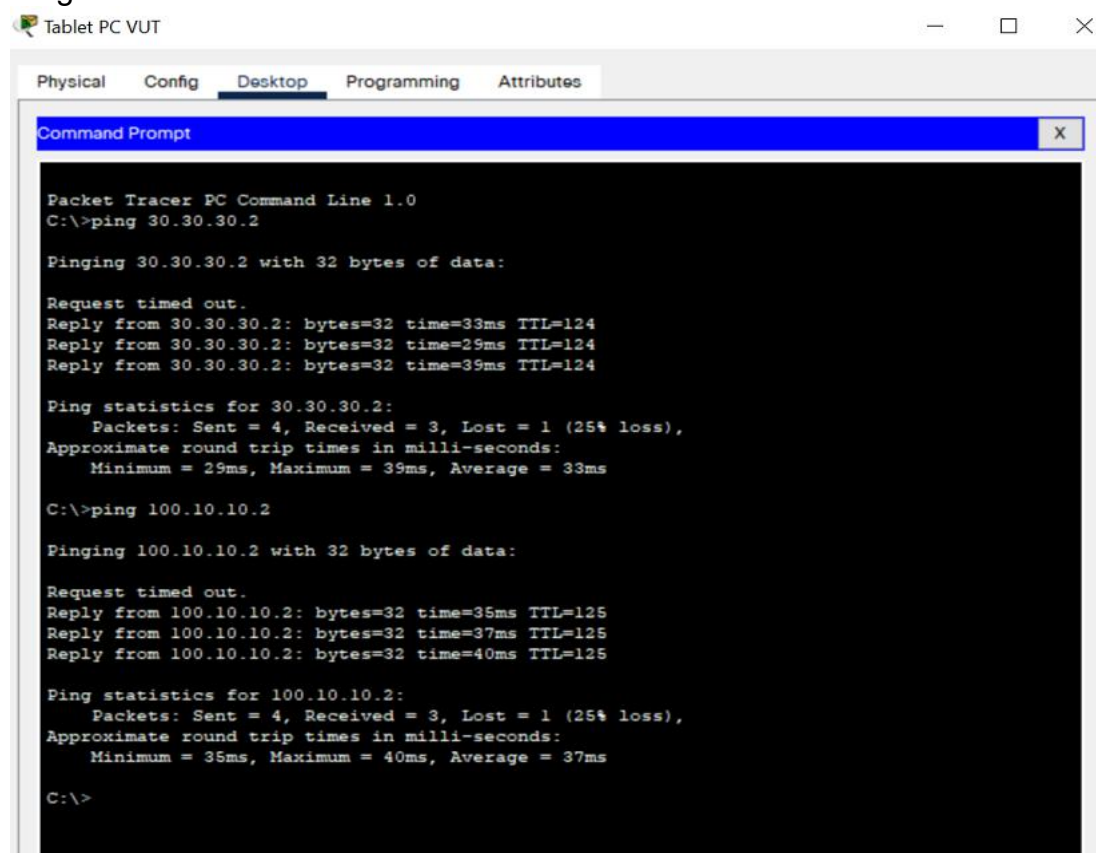
Pinging 100.10.10.2 with 32 bytes of data:

Reply from 100.10.10.2: bytes=32 time=21ms TTL=125
Reply from 100.10.10.2: bytes=32 time=16ms TTL=125
Reply from 100.10.10.2: bytes=32 time=25ms TTL=125
Reply from 100.10.10.2: bytes=32 time=15ms TTL=125

Ping statistics for 100.10.10.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 15ms, Maximum = 25ms, Average = 19ms

C:\>
```

Ping Server 1 and Server 2 from Tablet PC VUT:



```
Packet Tracer PC Command Line 1.0
C:\>ping 30.30.30.2

Pinging 30.30.30.2 with 32 bytes of data:

Request timed out.
Reply from 30.30.30.2: bytes=32 time=33ms TTL=124
Reply from 30.30.30.2: bytes=32 time=29ms TTL=124
Reply from 30.30.30.2: bytes=32 time=39ms TTL=124

Ping statistics for 30.30.30.2:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 29ms, Maximum = 39ms, Average = 33ms

C:\>ping 100.10.10.2

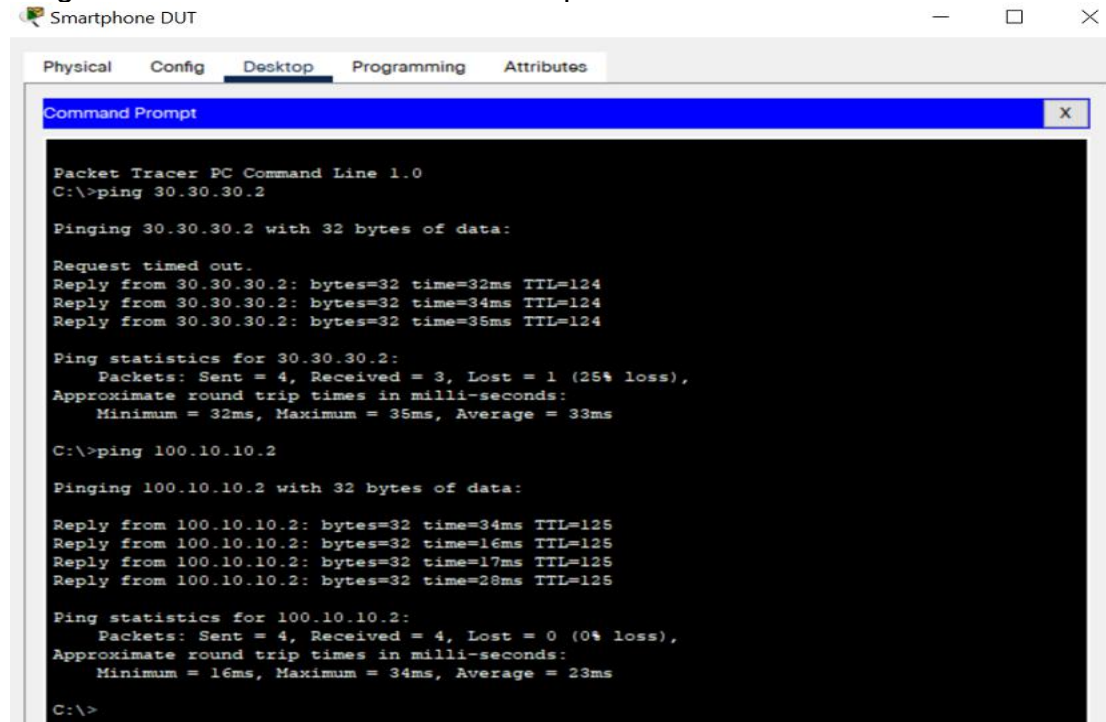
Pinging 100.10.10.2 with 32 bytes of data:

Request timed out.
Reply from 100.10.10.2: bytes=32 time=35ms TTL=125
Reply from 100.10.10.2: bytes=32 time=37ms TTL=125
Reply from 100.10.10.2: bytes=32 time=40ms TTL=125

Ping statistics for 100.10.10.2:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 35ms, Maximum = 40ms, Average = 37ms

C:\>
```

Ping Server 1 and Server 2 from Smartphone DUT:



The screenshot shows a Packet Tracer interface with the 'Smartphone DUT' selected. The 'Desktop' tab is active, displaying a 'Command Prompt' window. The window contains the following text:

```
Packet Tracer PC Command Line 1.0
C:\>ping 30.30.30.2

Pinging 30.30.30.2 with 32 bytes of data:

Request timed out.
Reply from 30.30.30.2: bytes=32 time=32ms TTL=124
Reply from 30.30.30.2: bytes=32 time=34ms TTL=124
Reply from 30.30.30.2: bytes=32 time=35ms TTL=124

Ping statistics for 30.30.30.2:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 32ms, Maximum = 35ms, Average = 33ms

C:\>ping 100.10.10.2

Pinging 100.10.10.2 with 32 bytes of data:

Reply from 100.10.10.2: bytes=32 time=34ms TTL=125
Reply from 100.10.10.2: bytes=32 time=16ms TTL=125
Reply from 100.10.10.2: bytes=32 time=17ms TTL=125
Reply from 100.10.10.2: bytes=32 time=28ms TTL=125

Ping statistics for 100.10.10.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 16ms, Maximum = 34ms, Average = 23ms

C:\>
```