

Advance Class-4

VPN basic

SECURE VPN : SITE-TO-SITE VPN ---> IPsec

REMOTE ACCESS VPN ---> SSL

TRUSTED VPN: BGP MPLS VLAN

PPTP: L2TP: IPsec --> UNICAST

GRE : IPsec ---> MULTICAST

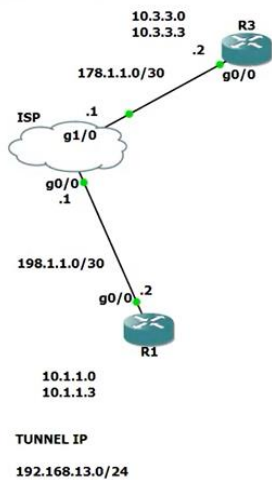
IPsec: AH ESP

SSL:

ESP:

DES: 56 BIT 3DES:168 BIT AES : 128 192 256

MD5 SHA



#ISP

```
ISP#
ISP#CONFIG T
Enter configuration commands, one per line. End with CNTL/Z.
ISP(config)#int gig0/0
ISP(config-if)#ip add 198.1.1.1 255.255.255.252
ISP(config-if)#no shut
ISP(config-if)#int gig1/0
ISP(config-if)#
*Sep 20 21:24:09.239: %LINK-3-UPDOWN: Interface GigabitEthernet0/0, changed state to up
*Sep 20 21:24:10.239: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0, changed state to up
ISP(config-if)#ip add 178.1.1.1 255.255.255.252
ISP(config-if)#no shut
ISP(config-if)#^Z
```

#R1

```
R1(config-if)#ip add 10.1.1.0 255.255.255.255
R1(config-if)#int loop 1
R1(config-if)#ip add 10.1.1.0 255.255.255.255
*Sep 20 21:25:28.955: %LINEPROTO-5-UPDOWN: Line protocol on Interface Loopback1, changed state to up
R1(config-if)#ip add 10.1.1.1 255.255.255.255
R1(config-if)#int loop 2
R1(config-if)#ip add 10.1.1.1 255.255.255.255
*Sep 20 21:25:33.459: %LINEPROTO-5-UPDOWN: Line protocol on Interface Loopback2, changed state to up
R1(config-if)#ip add 10.1.1.2 255.255.255.255
R1(config-if)#int loop 3
R1(config-if)#ip add 10.1.1.2 255.255.255.255
*Sep 20 21:25:37.959: %LINEPROTO-5-UPDOWN: Line protocol on Interface Loopback3, changed state to up
R1(config-if)#ip add 10.1.1.3 255.255.255.255
```

****config Ip address and loopback**

**** same on the router 3 [#R3]**

#R3

```
R3(config)#
R3(config)#
R3(config)#ip route 0.0.0.0 0.0.0.0 178.1.1.1
R3(config)#
R3(config)#
```

****config the default route to the Gateway**

**** config same on the #R1**

##config the tunnel

#R1

```
R1(config)#int tunnel 1
R1(config-if)#
*Sep 20 21:29:53.887: %LINEPROTO-5-UPDOWN: Line protocol on Interface Tunnel1, changed state t
o down
R1(config-if)#ip add 192.168.13.1 255.255.255.0
R1(config-if)#tunnel source gig0/0
R1(config-if)#tunnel destination 178.1.1.2
R1(config-if)#exit
R1(config)#
*Sep 20 21:30:54.835: %LINEPROTO-5-UPDOWN: Line protocol on Interface Tunnel1, changed state t
```

#R3

```
R3(config)#int tunnel 3
R3(config-if)#
*Sep 20 21:31:13.647: %LINEPROTO-5-UPDOWN: Line protocol on Interface Tunnel3, changed state to
down
R3(config-if)#ip add 192.168.13.3 255.255.255.0
R3(config-if)#tunnel source gig0/0
R3(config-if)#tunnel destination 198.1.1.2
R3(config-if)#e
*Sep 20 21:31:38.911: %LINEPROTO-5-UPDOWN: Line protocol on Interface Tunnel3, changed state to
up
R3(config-if)#exit
R3(config)#
R3(config)#do sh run int
```

**** sh run int tunnel <num>**

#R1

```
R1(config)#
R1(config)#router eigrp 50
R1(config-router)#no au
R1(config-router)#net 192.168.13.0
R1(config-router)#net 10.1.1.0 0.0.0.3
R1(config-router)#
```

#R3

****config same on the R3**

13	19.468040	192.168.13.1	224.0.0.10	EIGRP	98 Hello	
14	20.008908	ca:02:22:80:00:08	ca:02:22:80:00:08	LOOP	60 Reply	
15	20.024568	ca:01:31:1c:00:08	ca:01:31:1c:00:08	LOOP	60 Reply	
16	20.272888	192.168.13.3	224.0.0.10	EIGRP	98 Hello	
17	23.930247	192.168.13.1	224.0.0.10	EIGRP	98 Hello	
18	24.501373	10.1.1.3	10.3.3.2	ICMP	138 Echo (ping) request	id=0x0004, seq=0/0, ttl=255 (req
19	24.545859	10.3.3.2	10.1.1.3	ICMP	138 Echo (ping) reply	id=0x0004, seq=0/0, ttl=255 (re
20	24.561042	10.1.1.3	10.3.3.2	ICMP	138 Echo (ping) request	id=0x0004, seq=1/256, ttl=255 (i
21	24.592150	192.168.13.3	224.0.0.10	EIGRP	98 Hello	
22	24.607926	10.3.3.2	10.1.1.3	ICMP	138 Echo (ping) reply	id=0x0004, seq=1/256, ttl=255 (i
23	24.623060	10.1.1.3	10.3.3.2	ICMP	138 Echo (ping) request	id=0x0004, seq=2/512, ttl=255 (i
24	24.669528	10.3.3.2	10.1.1.3	ICMP	138 Echo (ping) reply	id=0x0004, seq=2/512, ttl=255 (i

> Frame 20: 138 bytes on wire (1104 bits), 138 bytes captured (1104 bits) on interface -, id 0

> Ethernet II, Src: ca:01:31:1c:00:08 (ca:01:31:1c:00:08), Dst: ca:02:22:80:00:08 (ca:02:22:80:00:08)

> Internet Protocol Version 4, Src: 198.1.1.2, Dst: 178.1.1.2

> Generic Routing Encapsulation (IP)

> Internet Protocol Version 4, Src: 10.1.1.3, Dst: 10.3.3.2

> Internet Control Message Protocol

**** GRE header.**