

## CCNA LAB 4-8: Virtual Private Network (VPN) IIUU IPsec (Site-to-Site)

[ตั้งค่าที่ Ranet BR (คลิกที่เครื่อง console)] :

(ไปยังแท็บ Desktop > คลิก Terminal > กด OK)

```
Ranet-BR>en
Ranet-BR#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Ranet-BR(config)#int fa0/0
Ranet-BR(config-if)#no sh

%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up
Ranet-BR(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
Ranet-BR(config-if)#ip add 192.168.1.1 255.255.255.240
Ranet-BR(config-if)#ip nat inside
Ranet-BR(config-if)#int s0/0/0
Ranet-BR(config-if)#no sh

%LINK-5-CHANGED: Interface Serial0/0/0, changed state to up
Ranet-BR(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/0, changed state to up
Ranet-BR(config-if)#ip add 202.170.100.30 255.255.255.252
Ranet-BR(config-if)#ip nat outside
Ranet-BR(config-if)#exit
Ranet-BR(config)#ip route 0.0.0.0 0.0.0.0 s0/0/0
Ranet-BR(config)#access-list 100 deny ip 192.168.1.0 0.0.0.15 192.168.0.0 0.0.0.255
Ranet-BR(config)#access-list 100 permit ip 192.168.1.0 0.0.0.15 any
Ranet-BR(config)#ip nat pool Ranet 202.170.100.9 202.170.100.14 netmask 255.255.255.248
Ranet-BR(config)#ip nat inside source list 100 pool Ranet overload
Ranet-BR(config)#crypto isakmp policy 101
Ranet-BR(config-isakmp)#encryption aes 128
Ranet-BR(config-isakmp)#hash sha
```

```
Ranet-BR(config-isakmp)#authentication pre-share
Ranet-BR(config-isakmp)#group 5
Ranet-BR(config-isakmp)#lifetime 86400
Ranet-BR(config-isakmp)#exit
Ranet-BR(config)#crypto isakmp key ranetvpnpass address 202.170.100.130
Ranet-BR(config)#access-list 101 permit ip 192.168.1.0 0.0.0.15 192.168.0.0 0.0.0.255
Ranet-BR(config)#crypto ipsec transform-set Ranet esp-aes esp-sha-hmac
Ranet-BR(config)#crypto map Site-to-Site 101 ipsec-isakmp
% NOTE: This new crypto map will remain disabled until a peer
        and a valid access list have been configured.
Ranet-BR(config-crypto-map)#set peer 202.170.100.130
Ranet-BR(config-crypto-map)#set transform-set Ranet
Ranet-BR(config-crypto-map)#match address 101
Ranet-BR(config-crypto-map)#exit
Ranet-BR(config)#int s0/0/0
Ranet-BR(config-if)#crypto map Site-to-Site
*Jan 3 07:16:26.785: %CRYPTO-6-ISA_KMP_ON_OFF: ISAKMP is ON
Ranet-BR(config-if)#end
Ranet-BR#
%SYS-5-CONFIG_: Configured from console by console
Ranet-BR#sh crypto isakmp policy

Global IKE policy
Protection suite of priority 101
  encryption algorithm: AES - Advanced Encryption Standard (128 bit keys).
  hash algorithm:      Secure Hash Standard
  authentication method: Pre-Shared Key
  Diffie-Hellman group: #5 (1536 bit)
  lifetime:           86400 seconds, no volume limit
Default protection suite
  encryption algorithm: DES - Data Encryption Standard (56 bit keys).
  hash algorithm:      Secure Hash Standard
  authentication method: Rivest-Shamir-Adleman Signature
  Diffie-Hellman group: #1 (768 bit)
  lifetime:           86400 seconds, no volume limit
Ranet-BR#sh crypto ipsec sa
```

```
interface: Serial0/0/0
  Crypto map tag: Site-to-Site, local addr 202.170.100.30

  protected vrf: (none)
  local ident (addr/mask/prot/port): (192.168.1.0/255.255.255.240/0/0)
  remote ident (addr/mask/prot/port): (192.168.0.0/255.255.255.0/0/0)
  current_peer 202.170.100.130 port 500
  PERMIT, flags={origin_is_acl,}
  #pkts encaps: 0, #pkts encrypt: 0, #pkts digest: 0
  #pkts decaps: 0, #pkts decrypt: 0, #pkts verify: 0
  #pkts compressed: 0, #pkts decompressed: 0
  #pkts not compressed: 0, #pkts compr. failed: 0
  #pkts not decompressed: 0, #pkts decompress failed: 0
  #send errors 0, #recv errors 0

  local crypto endpt.: 202.170.100.30, remote crypto endpt.:202.170.100.130
  path mtu 1500, ip mtu 1500, ip mtu idb Serial0/0/0
  current outbound spi: 0x0(0)

  inbound esp sas:

  inbound ah sas:

  inbound pcp sas:

  outbound esp sas:

  outbound ah sas:

  outbound pcp sas:

Ranet-BR#copy run start
Destination filename [startup-config]?
Building configuration...
[OK]
Ranet-BR#
```



[ไปยังเครื่อง Ranet-Host] :

(ไปยังแท็บ Desktop > คลิกไอคอน IP Configuration)

IP Address: 192.168.1.14  
 Subnet Mask: 255.255.255.240  
 Default Gateway: 192.168.1.1  
 DNS Server: 202.170.100.54

(ไปยังแท็บ Desktop > คลิกไอคอน Command Prompt)

Packet Tracer PC Command Line 1.0  
 PC>ping 192.168.0.7  
  
 Pinging 192.168.0.7 with 32 bytes of data:  
  
 Request timed out.  
 Request timed out.  
 Reply from 192.168.0.7: bytes=32 time=32ms TTL=126  
 Reply from 192.168.0.7: bytes=32 time=31ms TTL=126  
  
 Ping statistics for 192.168.0.7:  
     Packets: Sent = 4, Received = 2, Lost = 2 (50% loss),  
 Approximate round trip times in milli-seconds:  
     Minimum = 31ms, Maximum = 32ms, Average = 31ms  
  
 PC>

(ไปยังแท็บ Desktop > คลิกไอคอน Web Browser)

URL: <http://www.ranet.co.th>  
 Output: RANET Co.,Ltd. - Ranet Co.,Ltd. We make iT easy! :)

[ตั้งค่าที่ Ranet BR (คลิกที่เครื่อง console)] :

(ไปยังแท็บ Desktop > คลิก Terminal > กด OK)

```
Ranet-BR#sh ip nat translations
Pro  Inside global   Inside local   Outside local  Outside global
udp  202.170.100.9:1025 192.168.1.14:1025 202.170.100.54:53 202.170.100.54:53
tcp  202.170.100.9:1025 192.168.1.14:1025 202.170.100.70:80 202.170.100.70:80
```

```
Ranet-BR#sh crypto ipsec sa
```

```
interface: Serial0/0/0
```

```
  Crypto map tag: Site-to-Site, local addr 202.170.100.30
```

```
protected vrf: (none)
```

```
local  ident (addr/mask/prot/port): (192.168.1.0/255.255.255.240/0/0)
```

```
remote  ident (addr/mask/prot/port): (192.168.0.0/255.255.255.0/0/0)
```

```
current_peer 202.170.100.130 port 500
```

```
  PERMIT, flags={origin_is_acl,}
```

```
#pkts encaps: 3, #pkts encrypt: 3, #pkts digest: 0
```

```
#pkts decaps: 2, #pkts decrypt: 2, #pkts verify: 0
```

```
#pkts compressed: 0, #pkts decompressed: 0
```

```
#pkts not compressed: 0, #pkts compr. failed: 0
```

```
#pkts not decompressed: 0, #pkts decompress failed: 0
```

```
#send errors 1, #recv errors 0
```

```
local crypto endpt.: 202.170.100.30, remote crypto endpt.:202.170.100.130
```

```
path mtu 1500, ip mtu 1500, ip mtu idb Serial0/0/0
```

```
current outbound spi: 0x593A3356(1496986454)
```

```
inbound esp sas:
```

```
spi: 0x17D06856(399534166)
```

```
transform: esp-aes esp-sha-hmac ,
```

```
in use settings ={Tunnel, }
```

```
conn id: 2004, flow_id: FPGA:1, crypto map: Site-to-Site
```

```
sa timing: remaining key lifetime (k/sec): (4525504/3502)
```

```
IV size: 16 bytes
```

```
replay detection support: N
```

```
Status: ACTIVE
```

```
inbound ah sas:
```

```
inbound pcp sas:
```

```
outbound esp sas:
```



spi: 0x593A3356(1496986454)  
transform: esp-aes esp-sha-hmac ,  
in use settings ={Tunnel, }  
conn id: 2005, flow\_id: FPGA:1, crypto map: Site-to-Site  
sa timing: remaining key lifetime (k/sec): (4525504/3502)  
IV size: 16 bytes  
replay detection support: N  
Status: ACTIVE

outbound ah sas:

outbound pcp sas:

Ranet-BR#

