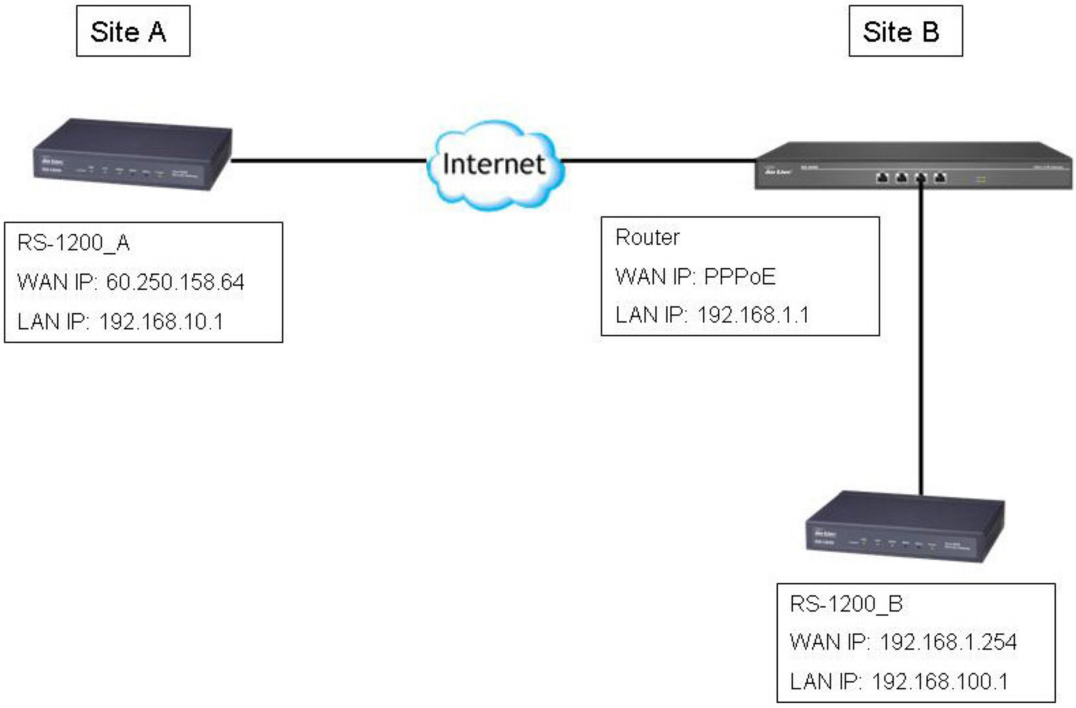
How to create IPSec VPN via NAT

Topology:



Environment:

RS-1200_A:

WAN IP address: 60.250.158.64

LAN IP address: 192.168.10.1

Router at Site B:

WAN IP address: PPPoE

DDNS: enable, DDNS name is airlive15.dyndns.org

LAN IP address: 192.168.1.1

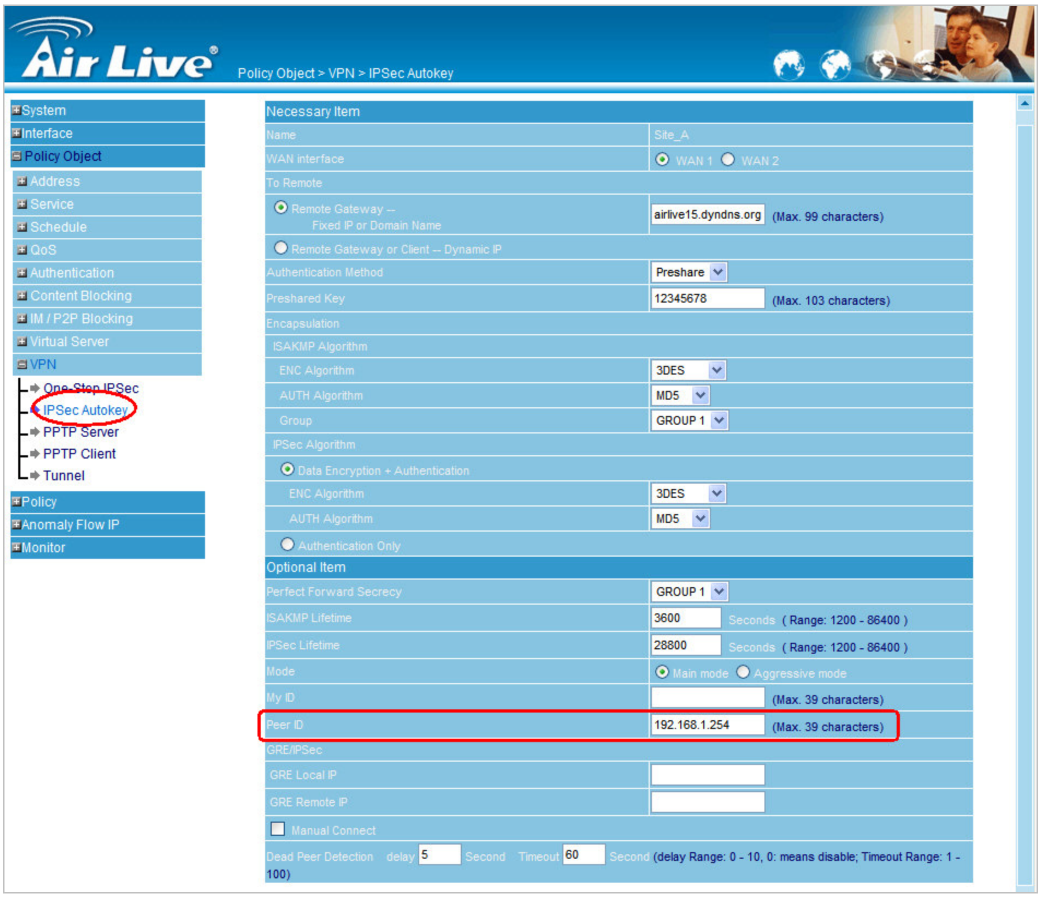
RS-1200_B:

WAN IP address: 192.168.1.254

LAN IP address: 192.168.100.1

Configuration of RS-1200 at Site A

1. **Policy Object → VPN → IPSec Autokey**: Configure IPSec setting

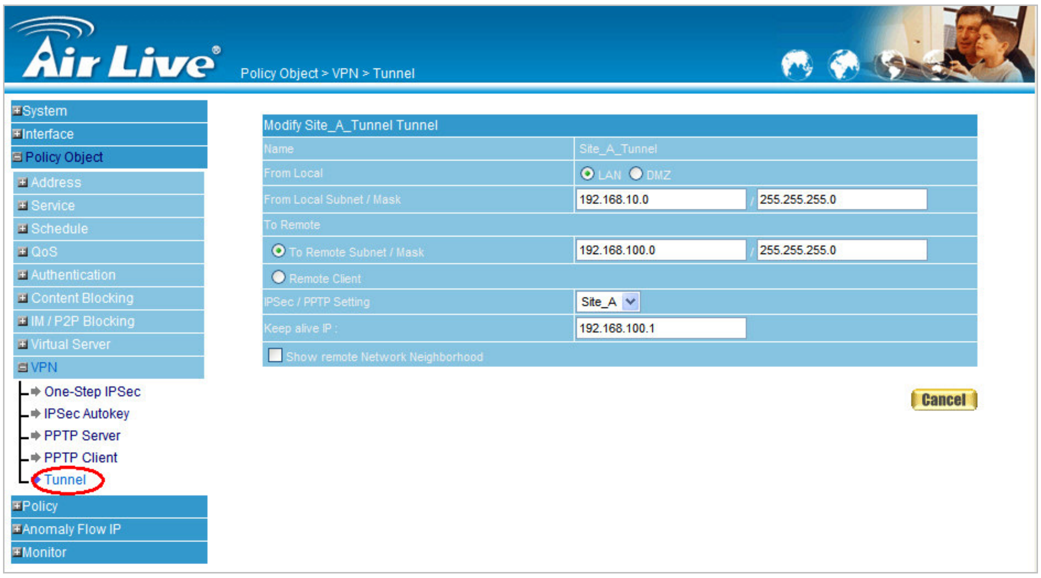


Necessary Item	
Name	Site_A
WAN interface	● WAN 1 ○ WAN 2
To Remote	
● Remote Gateway -- Fixed IP or Domain Name	airlive15.dyndns.org (Max. 99 characters)
○ Remote Gateway or Client -- Dynamic IP	
Authentication Method	Preshare
Preshared Key	12345678 (Max. 103 characters)
Encapsulation	
ISAKMP Algorithm	
ENC Algorithm	3DES
AUTH Algorithm	MD5
Group	GROUP 1
IPSec Algorithm	
● Data Encryption + Authentication	
ENC Algorithm	3DES
AUTH Algorithm	MD5
○ Authentication Only	
Optional Item	
Perfect Forward Secrecy	GROUP 1
ISAKMP Lifetime	3600 Seconds (Range: 1200 - 86400)
IPSec Lifetime	28800 Seconds (Range: 1200 - 86400)
Mode	● Main mode ○ Aggressive mode
My ID	(Max. 39 characters)
Peer ID	192.168.1.254 (Max. 39 characters)
GRE/IPSec	
GRE Local IP	
GRE Remote IP	
□ Manual Connect	

Dead Peer Detection delay 5 Second Timeout 60 Second (delay Range: 0 - 10, 0: means disable; Timeout Range: 1 - 100)

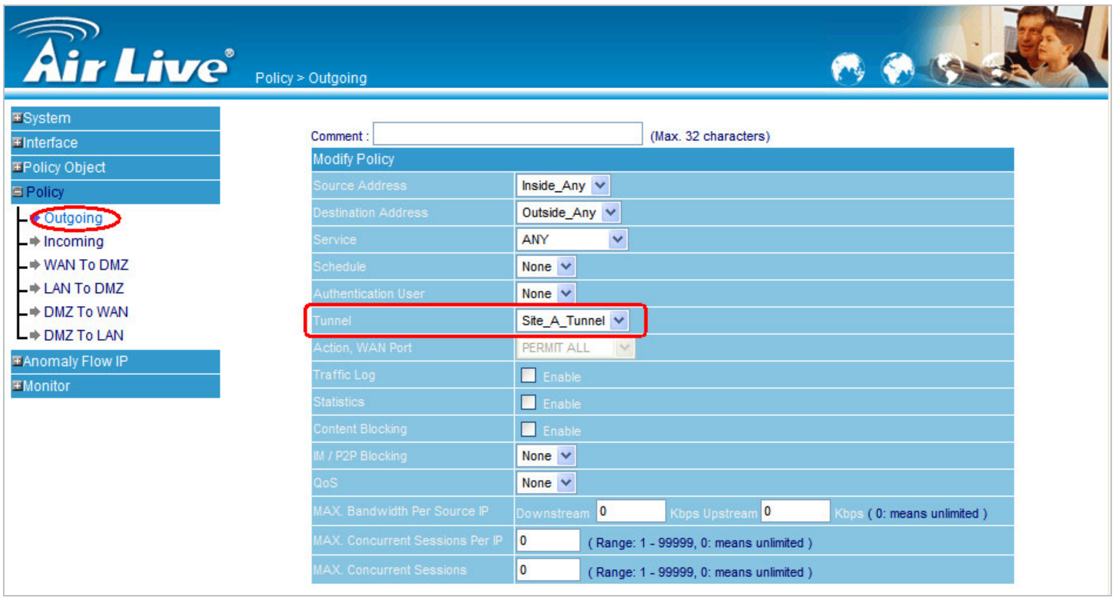
Note: In order to identify the WAN IP address of RS-1200 at Site B, user needs to specify the Peer ID on Site A RS-1200 IPSec setting, the Peer ID must be the WAN IP address of Site B RS-1200, in this example, the Peer ID is 192.168.1.254.

2. **Policy Object → VPN → Tunnel**: Define the further IPSec information



Modify Site_A_Tunnel Tunnel		
Name	Site_A_Tunnel	
From Local	● LAN ○ DMZ	
From Local Subnet / Mask	192.168.10.0	255.255.255.0
To Remote		
● To Remote Subnet / Mask	192.168.100.0	255.255.255.0
○ Remote Client		
IPSec / PPTP Setting	Site_A	
Keep alive IP :	192.168.100.1	
□ Show remote Network Neighborhood		

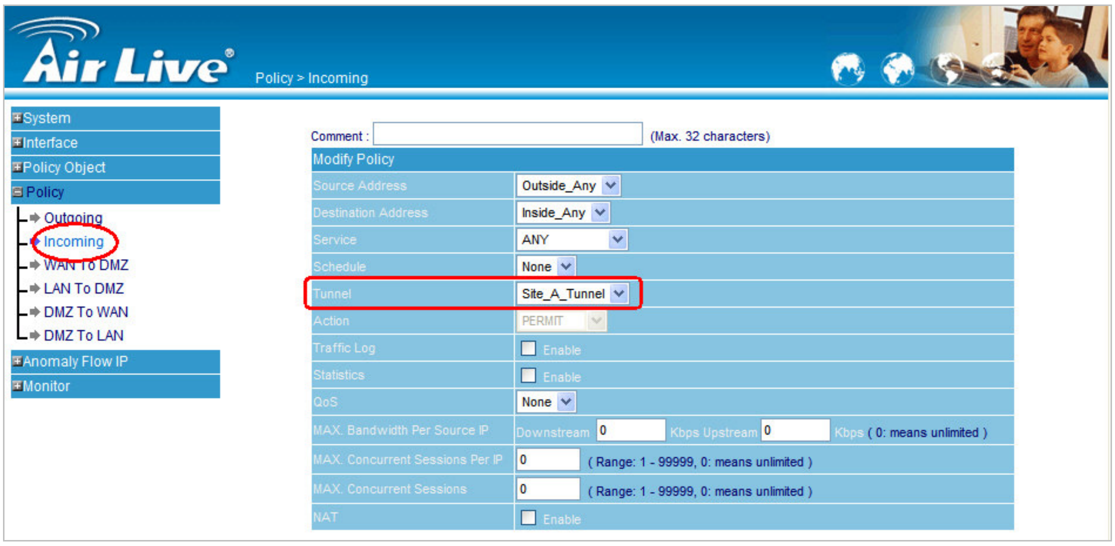
3. **Policy → Outgoing:** enable IPSec VPN



Comment : (Max. 32 characters)

Modify Policy	
Source Address	Inside_Any
Destination Address	Outside_Any
Service	ANY
Schedule	None
Authentication User	None
Tunnel	Site_A_Tunnel
Action, WAN Port	PERMIT ALL
Traffic Log	□ Enable
Statistics	□ Enable
Content Blocking	□ Enable
IM / P2P Blocking	None
QoS	None
MAX. Bandwidth Per Source IP	Downstream 0 Kbps Upstream 0 Kbps (0: means unlimited)
MAX. Concurrent Sessions Per IP	0 (Range: 1 - 99999, 0: means unlimited)
MAX. Concurrent Sessions	0 (Range: 1 - 99999, 0: means unlimited)

4. **Policy → Incoming:** enable IPSec VPN



Comment : (Max. 32 characters)

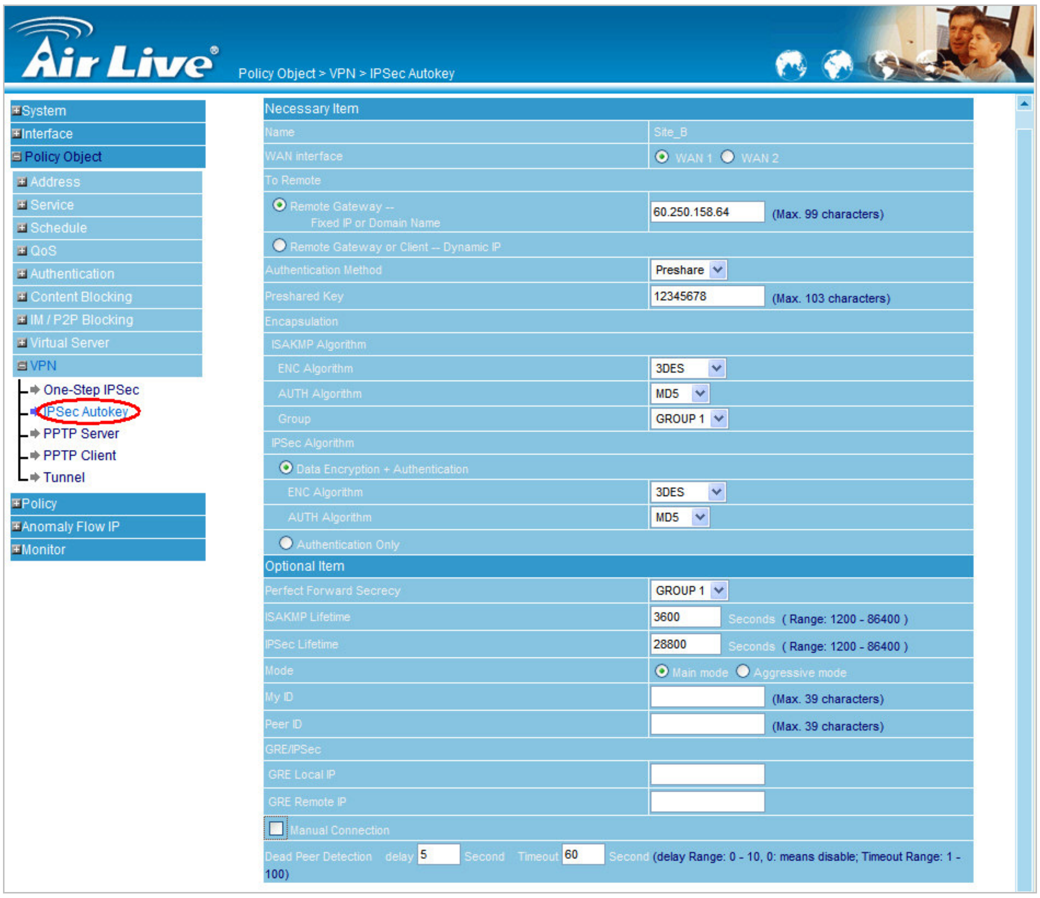
Modify Policy	
Source Address	Outside_Any
Destination Address	Inside_Any
Service	ANY
Schedule	None
Tunnel	Site_A_Tunnel
Action	PERMIT
Traffic Log	□ Enable
Statistics	□ Enable
QoS	None
MAX. Bandwidth Per Source IP	Downstream 0 Kbps Upstream 0 Kbps (0: means unlimited)
MAX. Concurrent Sessions Per IP	0 (Range: 1 - 99999, 0: means unlimited)
MAX. Concurrent Sessions	0 (Range: 1 - 99999, 0: means unlimited)
NAT	□ Enable

Configuration of NAT Router at Site B

1. If the router connects to ISP with PPPoE, user can enable DDNS service to resolve the changeable WAN IP address, in order to keep IPSec VPN connecting.
2. Define **Virtual Server** or **Port Forwarding** to redirect **IP 50**, **IP 51**, **UDP 500**, **UDP 4500** to RS-1200 in Router’s LAN site.

Configuration of RS-1200 at Site B

1. **Policy Object → VPN → IPSec Autokey**: Configure IPSec setting

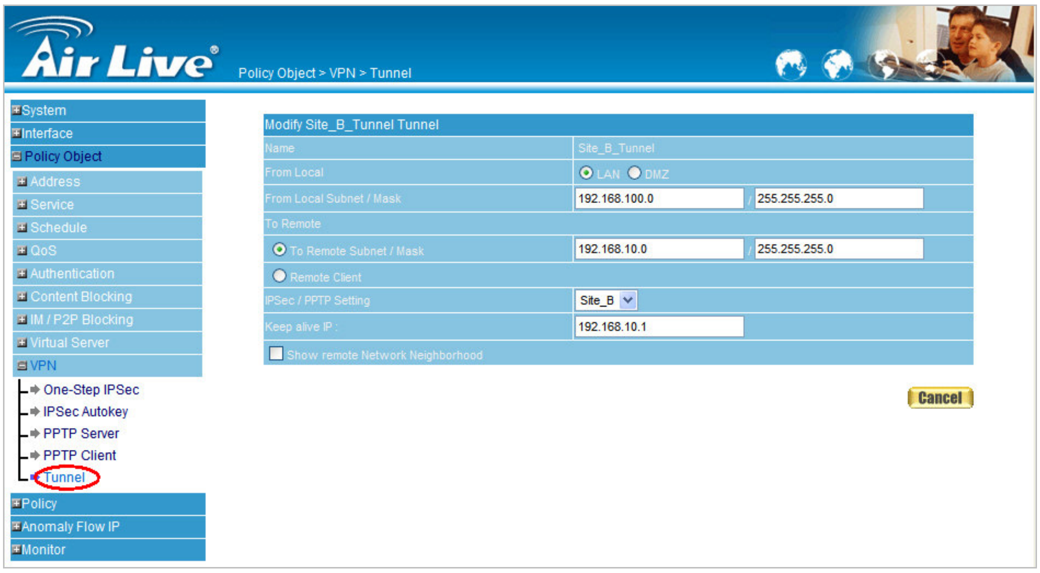


Necessary Item	
Name	Site_B
WAN interface	● WAN 1 ○ WAN 2
To Remote	
● Remote Gateway -- Fixed IP or Domain Name	60.250.158.64 (Max. 99 characters)
○ Remote Gateway or Client -- Dynamic IP	
Authentication Method	Preshare
Preshared Key	12345678 (Max. 103 characters)
Encapsulation	
ISAKMP Algorithm	
ENC Algorithm	3DES
AUTH Algorithm	MD5
Group	GROUP 1
IPSec Algorithm	
● Data Encryption + Authentication	
ENC Algorithm	3DES
AUTH Algorithm	MD5
○ Authentication Only	
Optional Item	
Perfect Forward Secrecy	GROUP 1
ISAKMP Lifetime	3600 Seconds (Range: 1200 - 86400)
IPSec Lifetime	28800 Seconds (Range: 1200 - 86400)
Mode	● Main mode ○ Aggressive mode
My ID	(Max. 39 characters)
Peer ID	(Max. 39 characters)
GRE/IPSec	
GRE Local IP	
GRE Remote IP	
□ Manual Connection	

Dead Peer Detection delay 5 Second Timeout 60 Second (delay Range: 0 - 10, 0: means disable; Timeout Range: 1 - 100)

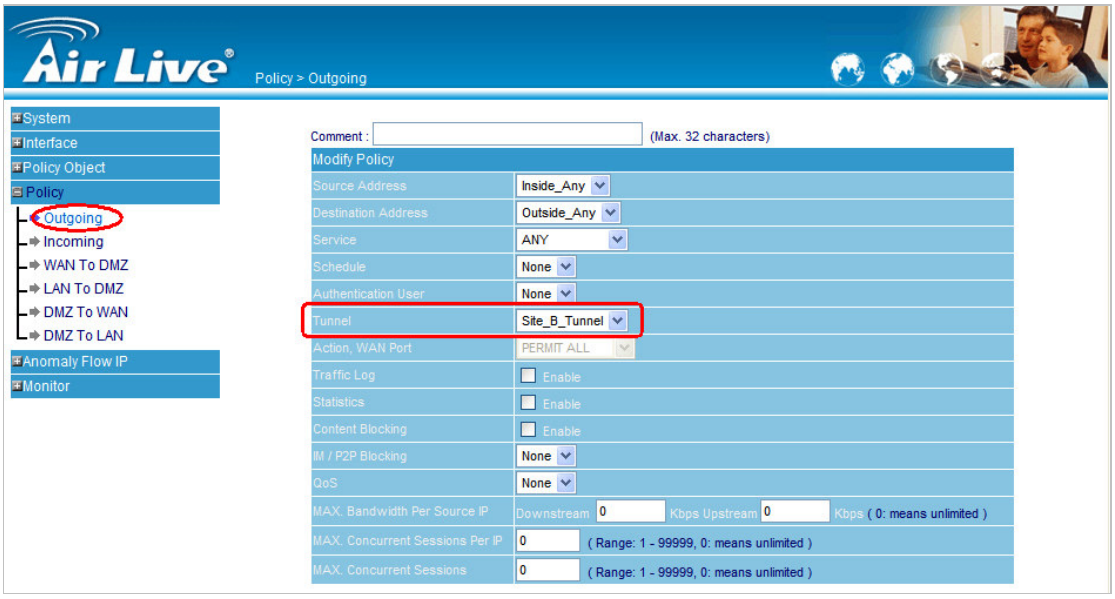
Note: User does not need to specify Peer ID on RS-1200 of Site B.

2. **Policy Object → VPN → Tunnel**: Define the further IPSec information



Modify Site_B_Tunnel Tunnel		
Name	Site_B_Tunnel	
From Local	● LAN ○ DMZ	
From Local Subnet / Mask	192.168.100.0	/ 255.255.255.0
To Remote		
● To Remote Subnet / Mask	192.168.10.0	/ 255.255.255.0
○ Remote Client		
IPSec / PPTP Setting	Site_B	
Keep alive IP :	192.168.10.1	
□ Show remote Network Neighborhood		

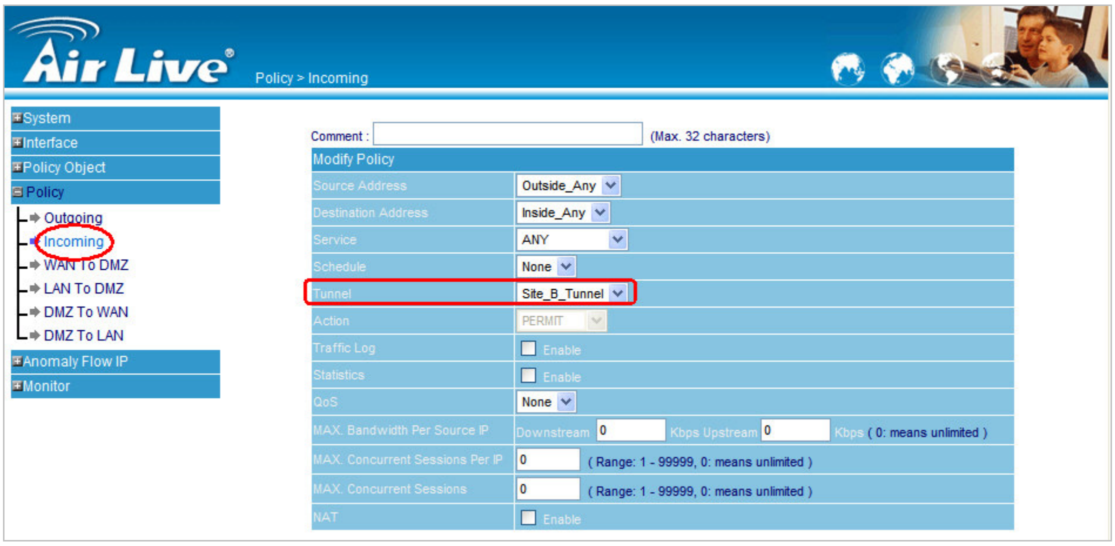
3. **Policy → Outgoing:** enable IPSec VPN



Comment : (Max. 32 characters)

Modify Policy	
Source Address	Inside_Any
Destination Address	Outside_Any
Service	ANY
Schedule	None
Authentication User	None
Tunnel	Site_B_Tunnel
Action, WAN Port	PERMIT ALL
Traffic Log	□ Enable
Statistics	□ Enable
Content Blocking	□ Enable
IM / P2P Blocking	None
QoS	None
MAX. Bandwidth Per Source IP	Downstream 0 Kbps Upstream 0 Kbps (0: means unlimited)
MAX. Concurrent Sessions Per IP	0 (Range: 1 - 99999, 0: means unlimited)
MAX. Concurrent Sessions	0 (Range: 1 - 99999, 0: means unlimited)

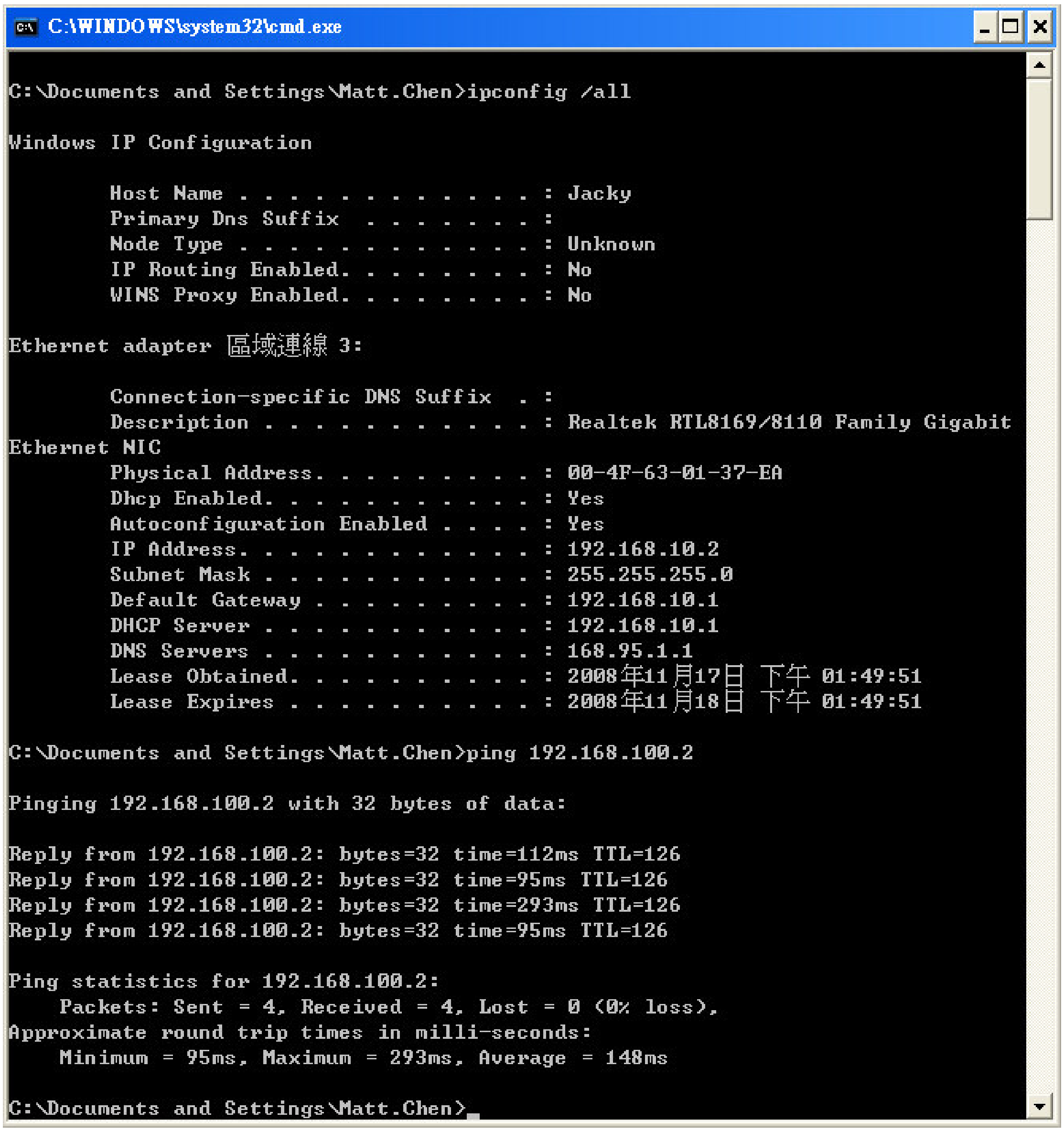
4. **Policy → Incoming:** enable IPSec VPN



Comment : (Max. 32 characters)

Modify Policy	
Source Address	Outside_Any
Destination Address	Inside_Any
Service	ANY
Schedule	None
Tunnel	Site_B_Tunnel
Action	PERMIT
Traffic Log	□ Enable
Statistics	□ Enable
QoS	None
MAX. Bandwidth Per Source IP	Downstream 0 Kbps Upstream 0 Kbps (0: means unlimited)
MAX. Concurrent Sessions Per IP	0 (Range: 1 - 99999, 0: means unlimited)
MAX. Concurrent Sessions	0 (Range: 1 - 99999, 0: means unlimited)
NAT	□ Enable

5. Then the user in Site A or Site B can connect to the other side of server or PC to access data.



```
C:\Documents and Settings\Matt.Chen>ipconfig /all

Windows IP Configuration

        Host Name . . . . . . . . . . . . : Jacky
        Primary Dns Suffix  . . . . . . . :
        Node Type . . . . . . . . . . . . : Unknown
        IP Routing Enabled. . . . . . . . : No
        WINS Proxy Enabled. . . . . . . . : No

Ethernet adapter 區域連線 3:

        Connection-specific DNS Suffix  . :
        Description . . . . . . . . . . . : Realtek RTL8169/8110 Family Gigabit
Ethernet NIC
        Physical Address. . . . . . . . . : 00-4F-63-01-37-EA
        Dhcp Enabled. . . . . . . . . . . : Yes
        Autoconfiguration Enabled . . . . : Yes
        IP Address. . . . . . . . . . . . : 192.168.10.2
        Subnet Mask . . . . . . . . . . . : 255.255.255.0
        Default Gateway . . . . . . . . . : 192.168.10.1
        DHCP Server . . . . . . . . . . . : 192.168.10.1
        DNS Servers . . . . . . . . . . . : 168.95.1.1
        Lease Obtained. . . . . . . . . . : 2008年11月17日 下午 01:49:51
        Lease Expires . . . . . . . . . . : 2008年11月18日 下午 01:49:51

C:\Documents and Settings\Matt.Chen>ping 192.168.100.2

Pinging 192.168.100.2 with 32 bytes of data:

Reply from 192.168.100.2: bytes=32 time=112ms TTL=126
Reply from 192.168.100.2: bytes=32 time=95ms TTL=126
Reply from 192.168.100.2: bytes=32 time=293ms TTL=126
Reply from 192.168.100.2: bytes=32 time=95ms TTL=126

Ping statistics for 192.168.100.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 95ms, Maximum = 293ms, Average = 148ms

C:\Documents and Settings\Matt.Chen>_
```

Attention: There are two key points for the configuration:

1. The router of Site B must support to forward IP protocol, and it is not available if the router only supports to forward TCP and UDP protocol.
2. The RS-1200 of Site A must be specified an IP address at Peer ID, otherwise the VPN tunnel can not be created.