Internet Key Exchange (IKE) Policy Settings on RV130 and RV130W VPN Routers

Objective

Internet Key Exchange (IKE) is a protocol that establishes secure communication between two networks. With IKE, packets are encrypted and locked and unlocked with keys used by two parties.

You need to create an Internet Key Exchange policy before configuring a VPN Policy. Refer to *VPN Policy Configuration on RV130 and RV130W* for more information.

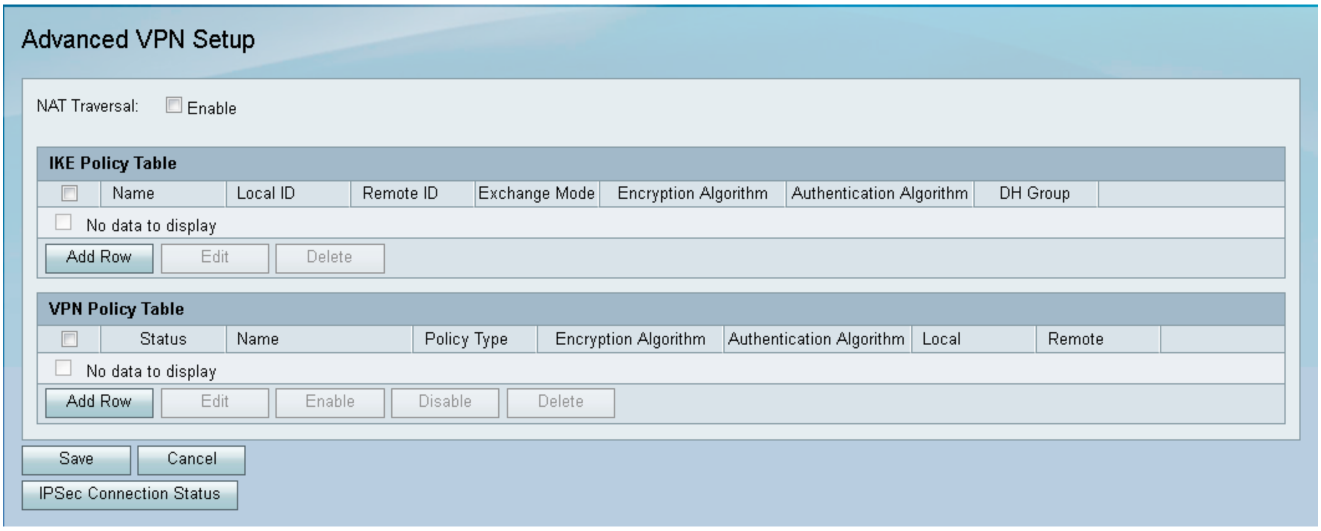
The objective of this document is to show you how to add an IKE profile to RV130 and RV130W VPN Routers.

Applicable Devices

- RV130
- RV130W

Steps of Procedure

Step 1. Use Router Configuration Utility to choose **VPN** > **Site-to-Site IPSec VPN** > **Advanced VPN Setup** from the menu on the left. The *Advanced VPN Setup* page appears:



Advanced VPN Setup

NAT Traversal: □ Enable

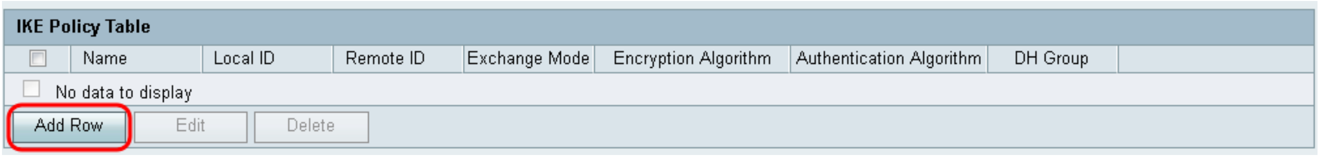
IKE Policy Table

□	Name	Local ID	Remote ID	Exchange Mode	Encryption Algorithm	Authentication Algorithm	DH Group
□	No data to display						

VPN Policy Table

□	Status	Name	Policy Type	Encryption Algorithm	Authentication Algorithm	Local	Remote
□	No data to display						

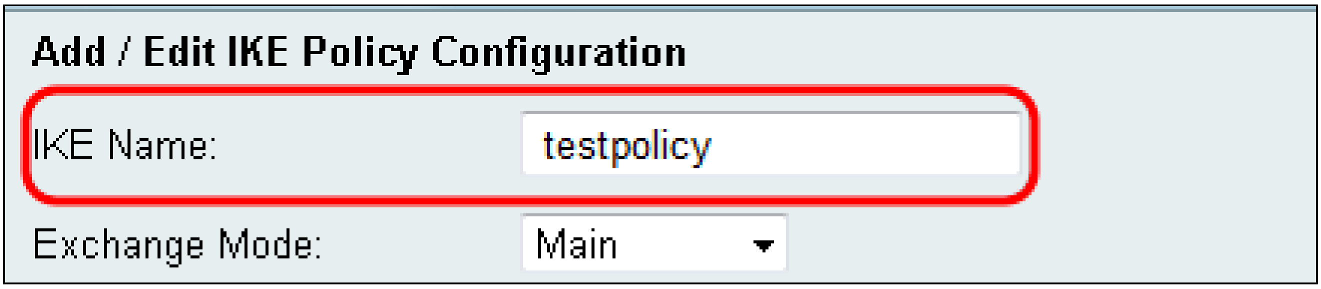
Step 2. Under the IKE Policy Table, click **Add Row**. A new window appears:



IKE Policy Table

□	Name	Local ID	Remote ID	Exchange Mode	Encryption Algorithm	Authentication Algorithm	DH Group
□ No data to display							

Step 3. Enter a name for the IKE policy in the *IKE Name* field.

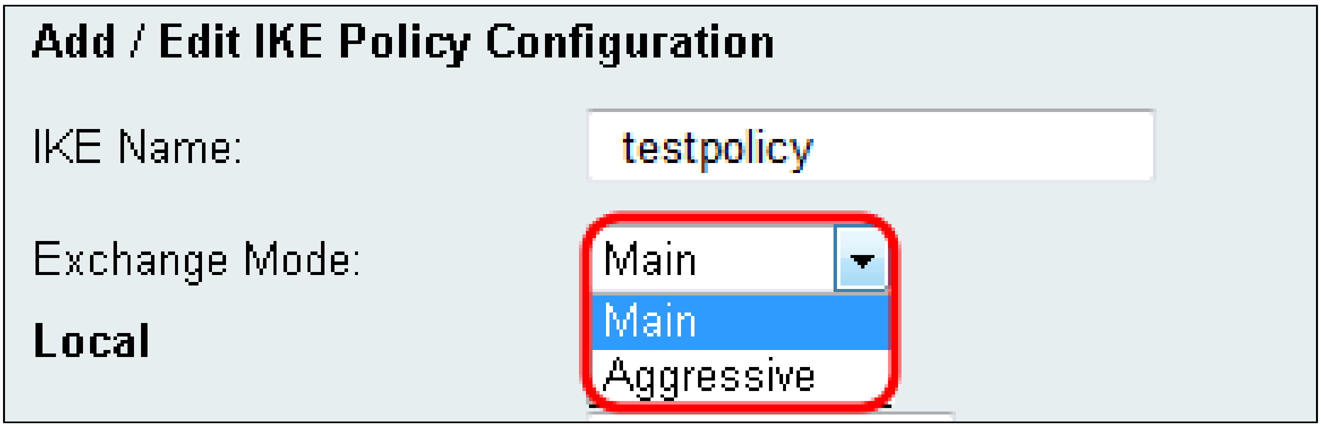


Add / Edit IKE Policy Configuration

IKE Name: testpolicy

Exchange Mode: Main

Step 4. From the *Exchange Mode* drop-down menu, choose the mode in which a key exchange is used to establish secure communication.



Add / Edit IKE Policy Configuration

IKE Name: testpolicy

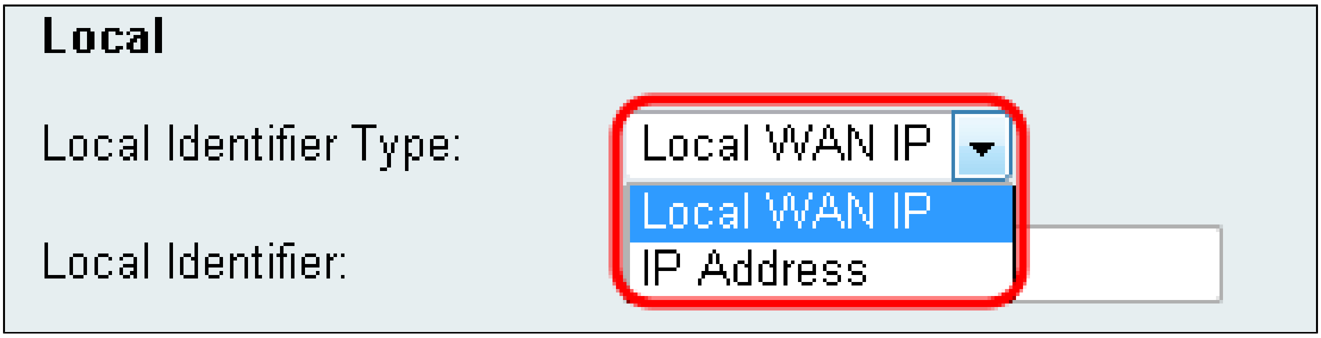
Exchange Mode: Main

Local

The available options are defined as follows:

- Main — Protects the identity of peers for increased security.
- Aggressive — No protection of peer identity but provides a quicker connection.

Step 5. From *Local Identifier Type* drop-down menu, choose the type of identity the profile has.


Local

Local Identifier Type: Local WAN IP

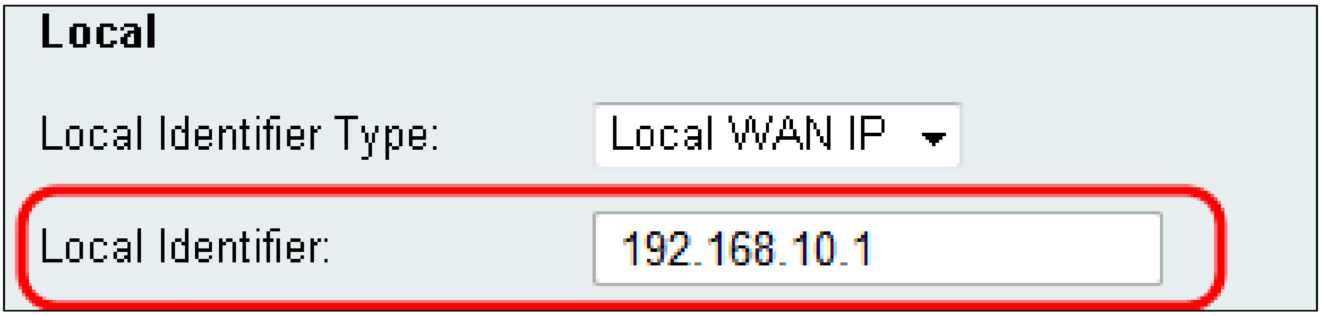
Local Identifier:

The available options are defined as follows:

- Local WAN (Internet) IP — Connects through the Internet.

- IP Address — Unique string of numbers separated by periods that identifies each machine using the Internet Protocol to communicate over a network.

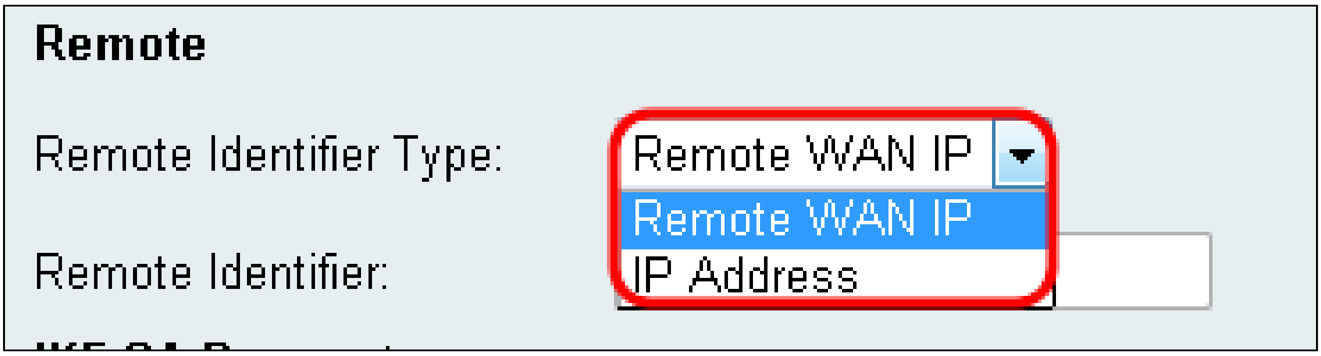
Step 6. (Optional) If **IP Address** is selected from the drop-down list in step 5, enter the local IP address in the *Local Identifier* field.


Local

Local Identifier Type: Local WAN IP

Local Identifier: 192.168.10.1

Step 7. From the *Remote Identifier Type* drop-down menu, choose the type of identity the profile has.


Remote

Remote Identifier Type: Remote WAN IP

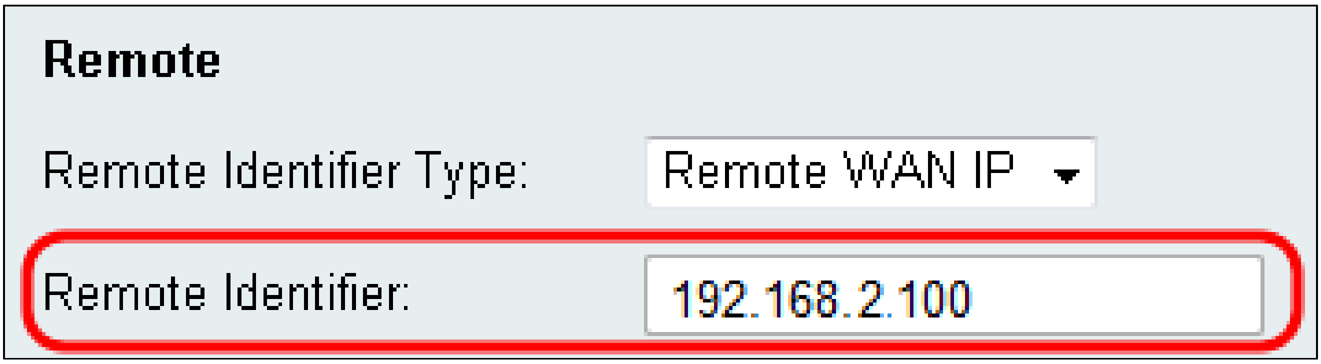
Remote Identifier:

The available options are defined as follows:

- Local WAN (Internet) IP — Connects through the Internet.

- IP Address — Unique string of numbers separated by periods that identifies each machine using the Internet Protocol to communicate over a network.

Step 8. (Optional) If **IP Address** is selected from the drop-down list in Step 7, enter the remote IP address in the *Remote Identifier* field.

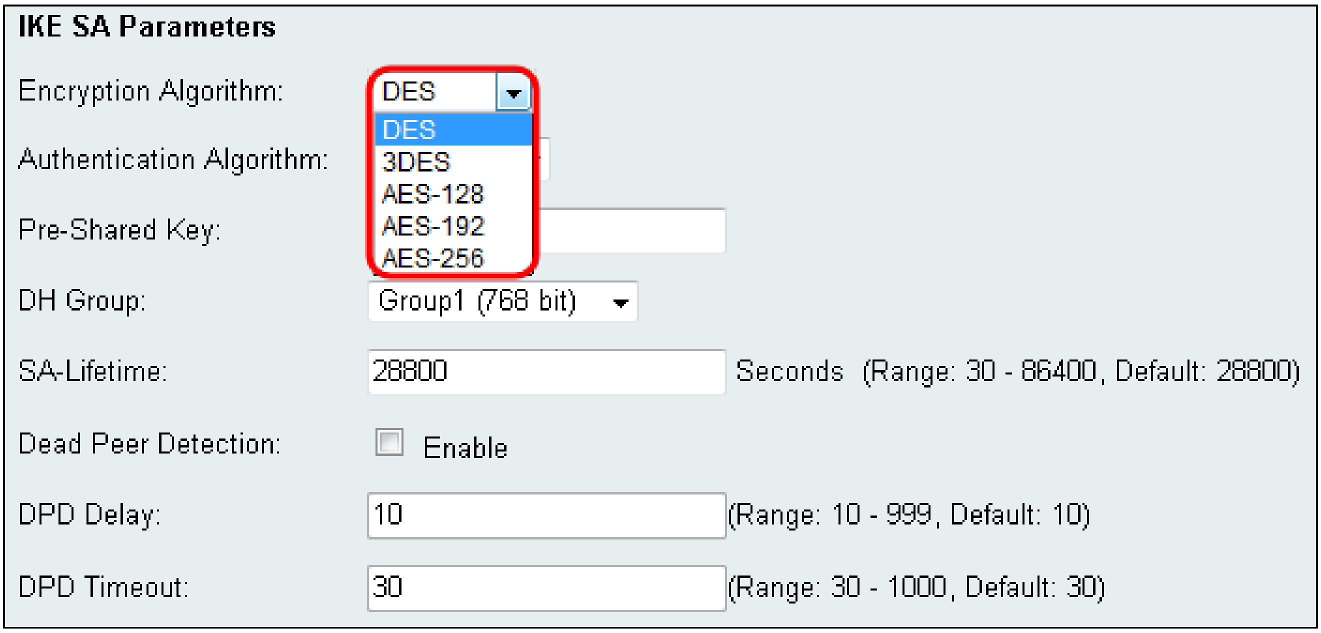


Remote

Remote Identifier Type: Remote WAN IP

Remote Identifier: 192.168.2.100

Step 9. From the *Encryption Algorithm* drop-down menu, choose an algorithm to encrypt your communications. **AES-128** is chosen as default.



IKE SA Parameters

Encryption Algorithm: DES

Authentication Algorithm:

Pre-Shared Key:

DH Group: Group1 (768 bit)

SA-Lifetime: 28800 Seconds (Range: 30 - 86400, Default: 28800)

Dead Peer Detection: □ Enable

DPD Delay: 10 (Range: 10 - 999, Default: 10)

DPD Timeout: 30 (Range: 30 - 1000, Default: 30)

The available options are listed as follows from least to greatest security:

- DES — Data Encryption Standard.

- 3DES — Triple Data Encryption Standard.

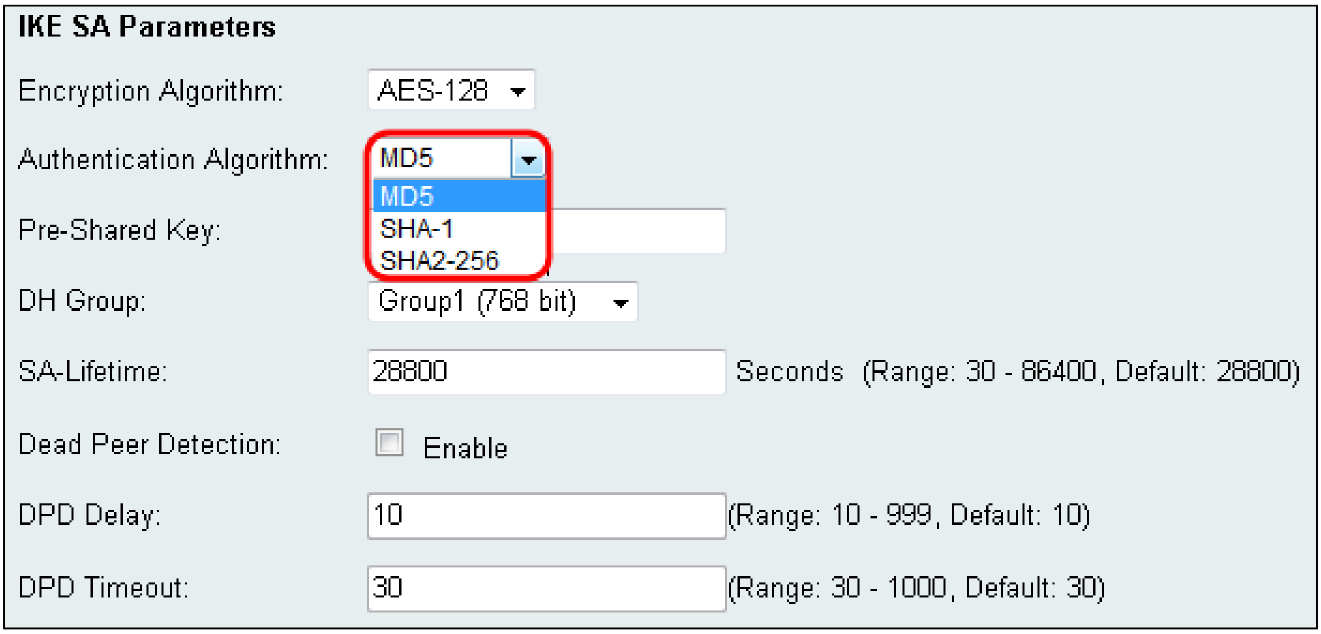
- AES-128 — Advanced Encryption Standard uses a 128 bit key.

- AES-192 — Advanced Encryption Standard uses a 192 bit key.

- AES-256 — Advanced Encryption Standard uses a 256 bit key.

Note: AES is the standard method of encryption over DES and 3DES for its greater performance and security. Lengthening the AES key will increase security with a drop in performance. AES-128 is recommended as it provides the best compromise between speed and security.

Step 10. From the *Authentication Algorithm* drop-down menu, choose an algorithm to authenticate your communications. **SHA-1** is chosen as default.



IKE SA Parameters

Encryption Algorithm:	AES-128
Authentication Algorithm:	MD5
Pre-Shared Key:	
DH Group:	Group1 (768 bit)
SA-Lifetime:	28800 Seconds (Range: 30 - 86400, Default: 28800)
Dead Peer Detection:	□ Enable
DPD Delay:	10 (Range: 10 - 999, Default: 10)
DPD Timeout:	30 (Range: 30 - 1000, Default: 30)

The available options are defined as follows:

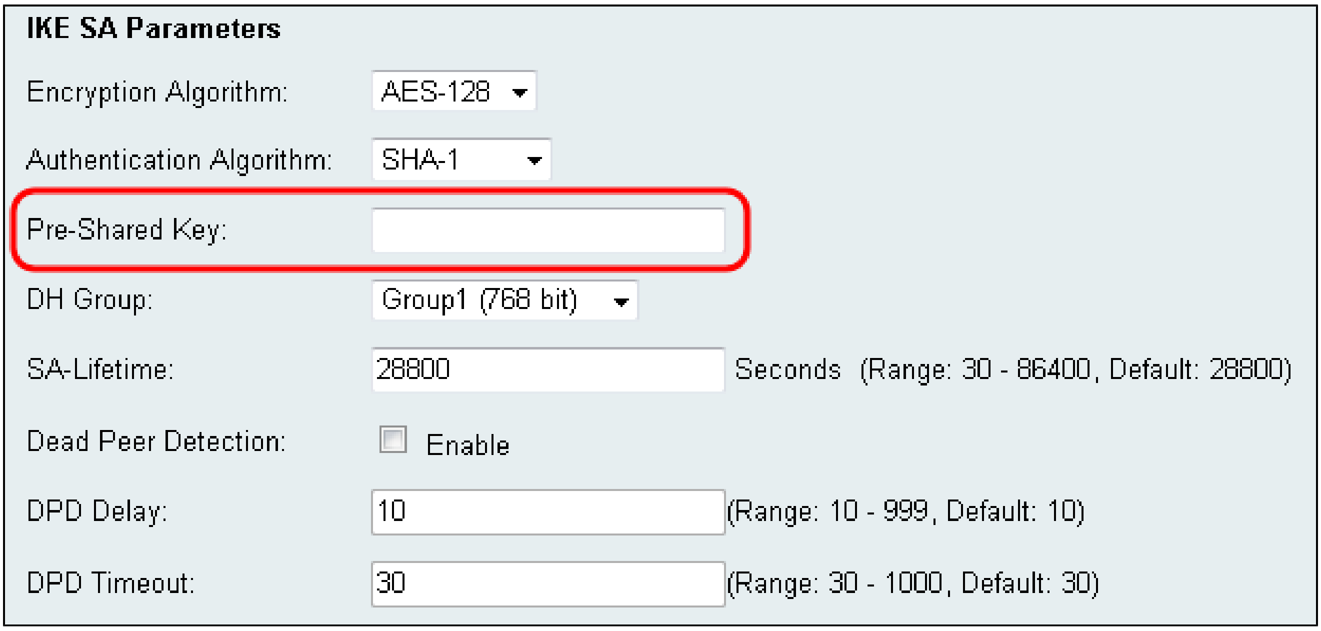
- MD5 — Message Digest Algorithm has a 128 bit hash value.

- SHA-1 — Secure Hash Algorithm has a 160 bit hash value.

- SHA2-256 — Secure Hash Algorithm with a 256 bit hash value.

Note: MD5 and SHA are both cryptographic hash functions. They take a piece of data, compact it, and create a unique hexadecimal output that is typically not reproducible. MD5 provides essentially no security against hashing collisions and should only be used in a small business environment setting where collision-resistance is not needed. SHA1 is a better choice than the MD5 because it offers better security at negligibly slower speeds. For best results, SHA2-256 has no known attacks of practical relevance and will offer the best security. As mentioned before, higher security means slower speeds.

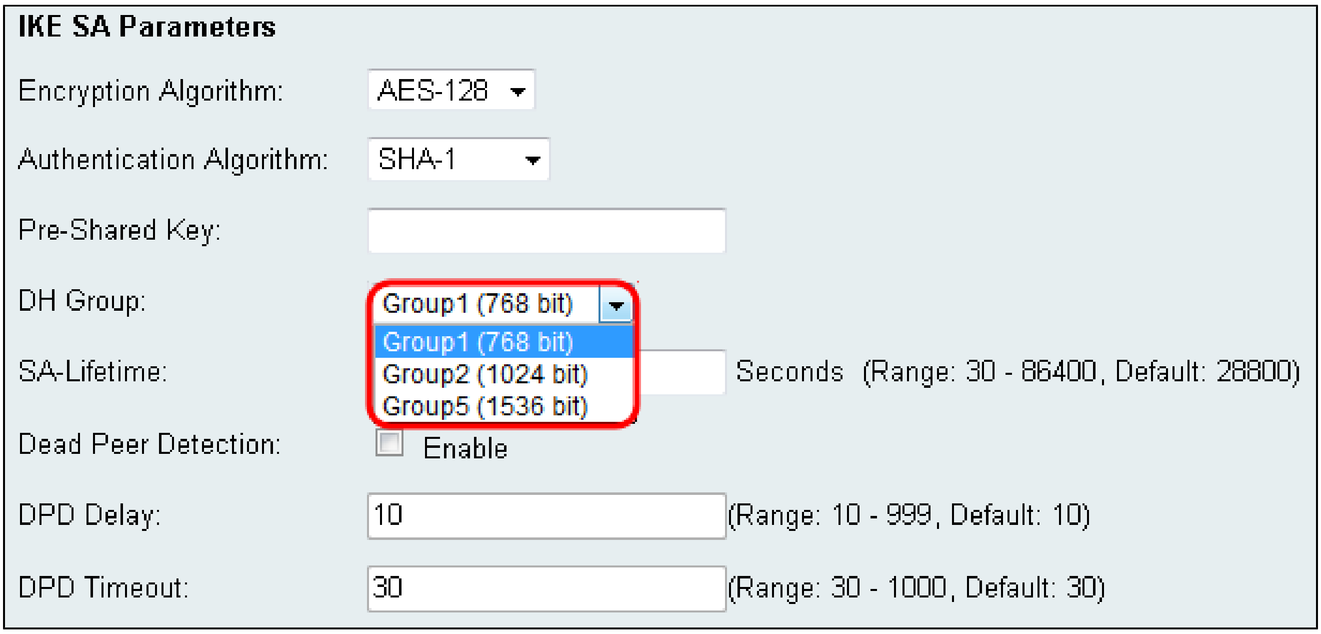
Step 11. In the *Pre-Shared Key* field, enter a password that is between 8 and 49 characters in length.



IKE SA Parameters

Encryption Algorithm:	AES-128	
Authentication Algorithm:	SHA-1	
Pre-Shared Key:		
DH Group:	Group1 (768 bit)	
SA-Lifetime:	28800	Seconds (Range: 30 - 86400, Default: 28800)
Dead Peer Detection:	□ Enable	
DPD Delay:	10	(Range: 10 - 999, Default: 10)
DPD Timeout:	30	(Range: 30 - 1000, Default: 30)

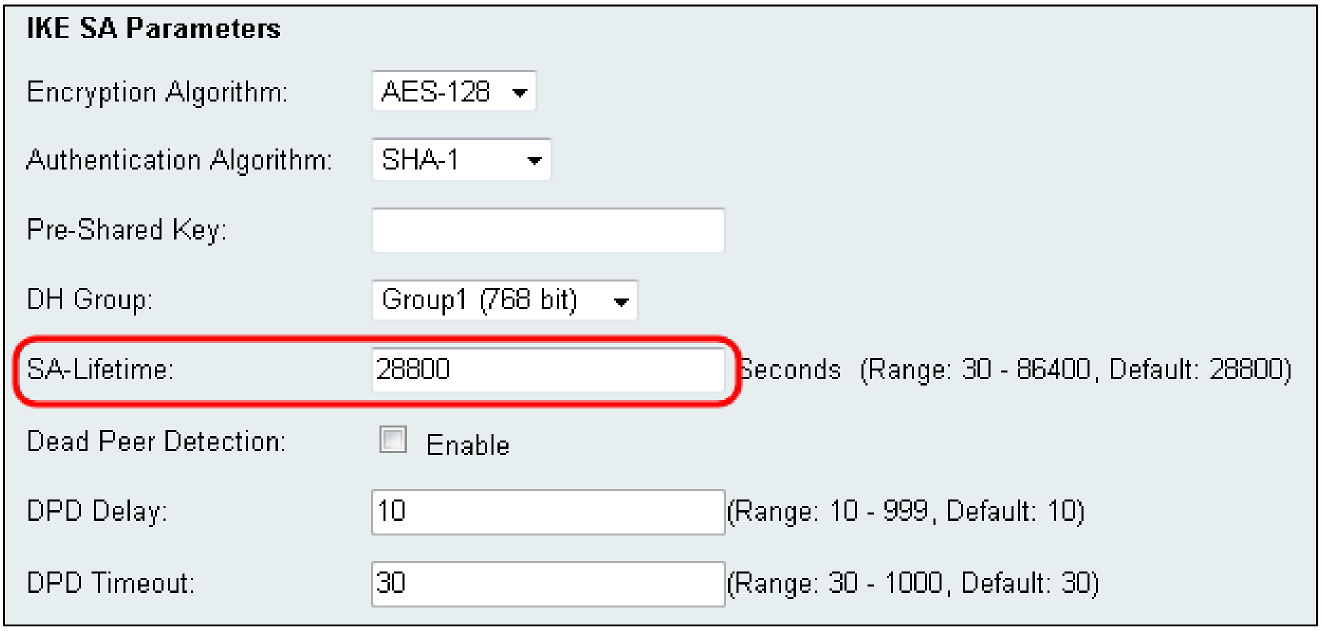
Step 12. From the *DH Group* drop-down menu, choose a DH group. The number of bits indicates the level of security. Both ends of the connection must be in the same group.



IKE SA Parameters

Encryption Algorithm:	AES-128	
Authentication Algorithm:	SHA-1	
Pre-Shared Key:		
DH Group:	Group1 (768 bit)	
SA-Lifetime:		Seconds (Range: 30 - 86400, Default: 28800)
Dead Peer Detection:	□ Enable	
DPD Delay:	10	(Range: 10 - 999, Default: 10)
DPD Timeout:	30	(Range: 30 - 1000, Default: 30)

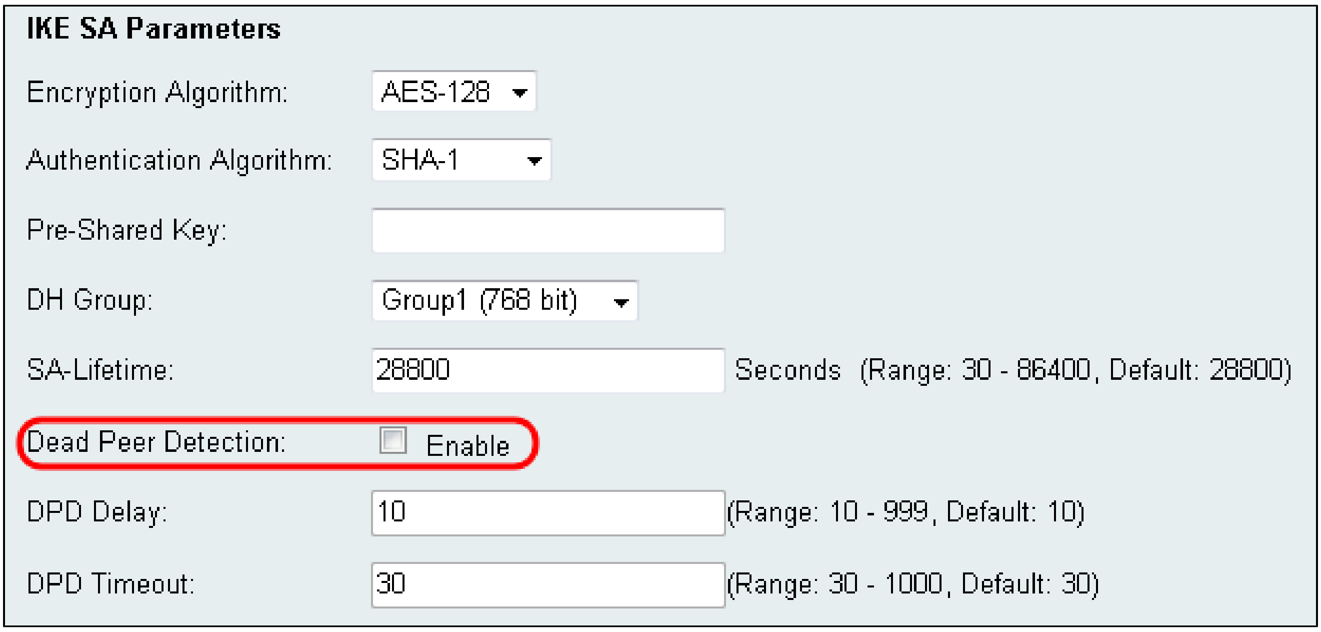
Step 13. In the *SA-Lifetime* field, enter how long the Security Association will be valid in seconds. The default is 28800 seconds.



IKE SA Parameters

Encryption Algorithm:	AES-128 ▾	
Authentication Algorithm:	SHA-1 ▾	
Pre-Shared Key:		
DH Group:	Group1 (768 bit) ▾	
SA-Lifetime:	28800	Seconds (Range: 30 - 86400, Default: 28800)
Dead Peer Detection:	□ Enable	
DPD Delay:	10	(Range: 10 - 999, Default: 10)
DPD Timeout:	30	(Range: 30 - 1000, Default: 30)

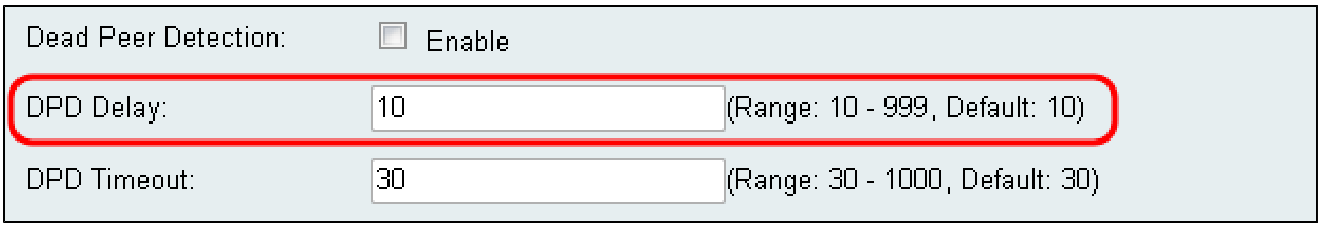
Step 14. (Optional) Check the **Enable** check box in the *Dead Peer Detection* field if you want to disable a connection with inactive peer. Skip to step 17 if you did not enable Dead peer Detection.



IKE SA Parameters

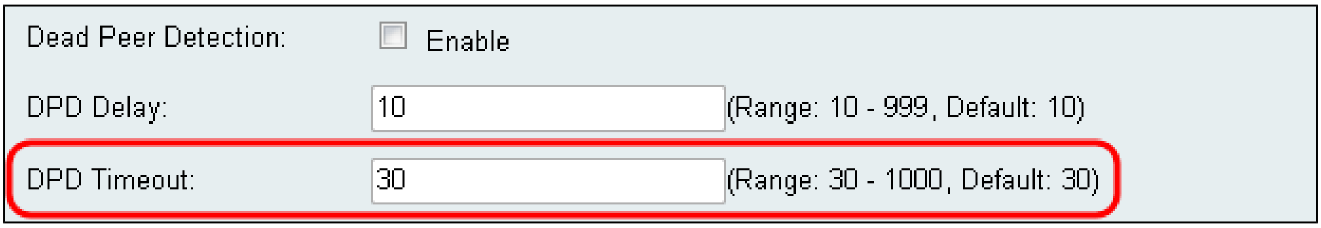
Encryption Algorithm:	AES-128 ▾	
Authentication Algorithm:	SHA-1 ▾	
Pre-Shared Key:		
DH Group:	Group1 (768 bit) ▾	
SA-Lifetime:	28800	Seconds (Range: 30 - 86400, Default: 28800)
Dead Peer Detection:	□ Enable	
DPD Delay:	10	(Range: 10 - 999, Default: 10)
DPD Timeout:	30	(Range: 30 - 1000, Default: 30)

Step 15. (Optional) If you enabled Dead Peer Detection, enter a value in the *DPD Delay* field. This value will specify how long the router will wait to check for client connectivity.



Dead Peer Detection:	□ Enable	
DPD Delay:	10	(Range: 10 - 999, Default: 10)
DPD Timeout:	30	(Range: 30 - 1000, Default: 30)

Step 16. (Optional) If you enabled Dead Peer Detection, enter a value in the *DPD Timeout* field. This value will specify how long the client will stay connected until it is timed out.

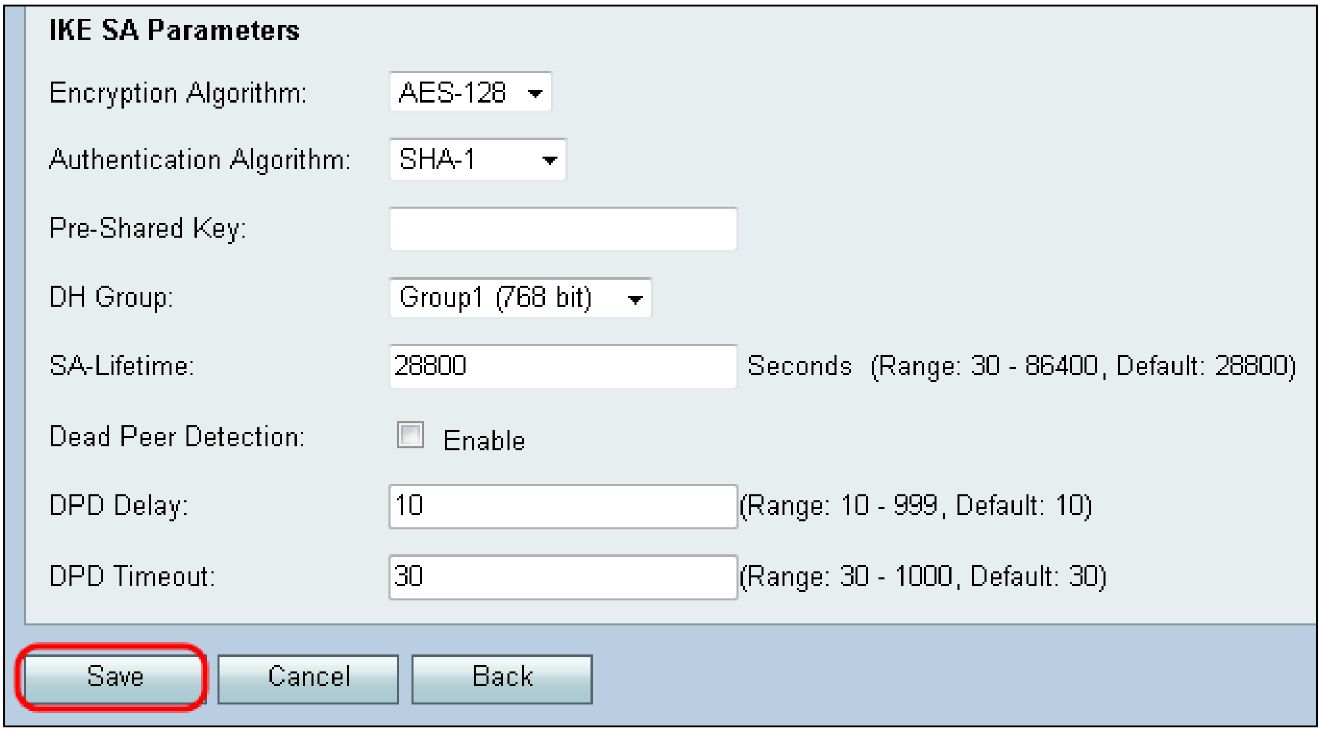


Dead Peer Detection: □ Enable

DPD Delay: 10 (Range: 10 - 999, Default: 10)

DPD Timeout: 30 (Range: 30 - 1000, Default: 30)

Step 17. Click **Save** to save changes.



IKE SA Parameters

Encryption Algorithm: AES-128

Authentication Algorithm: SHA-1

Pre-Shared Key:

DH Group: Group1 (768 bit)

SA-Lifetime: 28800 Seconds (Range: 30 - 86400, Default: 28800)

Dead Peer Detection: □ Enable

DPD Delay: 10 (Range: 10 - 999, Default: 10)

DPD Timeout: 30 (Range: 30 - 1000, Default: 30)