Network topology.

Figure 1.1 shows the sample network that is being described in this setup. The network can be any network that may be using RIP ver.2 to update routing information.

Router A shares RIP updates on the 192.168.1.0/24 network with the Fortigate. Fortigate requires Router A authenticate when sending RIP v.2 updates.

```conf
> config t
# interface FastEthernet 0/0
# ip address 192.168.1.2 255.255.255.0
# router rip
# network 192.168.0.0
# network 172.16.87.0
# version 2
```

2. Create keychains in Router A.

```conf
> config t
# key-chain rtrA
#  key 1
#   key-string 123
#   exit
#  key 2
#   key-string abc
```

   a. Configure authentication.

```conf
> config t
#   interface FastEthernet 0/0
#   ip rip authentication mode md5
#   ip rip authentication key-chain rtrA
```


1. In Fortigate GUI, Router, Router Objects, KeyChain menu, add a new key chain.
2. Once this new chain is added, add the contents of the chain by selecting the plus sign button by the new key chain name.
3. Add the key contents and determine how long it will remain active.
   Example Figure 3.2

Figure 3.2 Keychain content and expiration
4. Router, RIP menus general tab. Enable RIP and designate a network for distribution.
   a. Enable RIP version 2 and designate a network.

4. Create Interface to be used when sending/receiving updates.

1. Create the Interface, figure 4.1, as the last step, which will specify on which Interface RIP information will be sent.
2. Router, RIP, general and Networks menu.
   a. Networks are 192.168.1.0/24 and 10.10.10.0/24
3. Choose the send and receiver versions and keychains and authentication to be used. Figure 4.1

Figure 4.1 Create interface

Diagnosing RIP configuration:

On the Fortigate, to get a simple output of what information is being shared and on what interface, use the get router RIP command.
**get router rip:**

get router rip info routing_table

Fortigate # get router info routing_table

Codes: K - kernel, C - connected, S - static, R - RIP, B - BGP  
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  
i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS  
inter area  
* - candidate default

S*  0.0.0.0/0 [10/0] via 172.16.87.1, external  
C  10.10.10.0/24 is directly connected, internal  
C  172.16.87.0/24 is directly connected, external

**Also:**

Fortigate # get router info rip database

Codes:  
R - RIP, K - Kernel, C - Connected, S - Static, O - OSPF, I - IS-IS,  
B - BGP

<table>
<thead>
<tr>
<th>Network</th>
<th>Next Hop</th>
<th>Metric</th>
<th>From</th>
<th>If</th>
</tr>
</thead>
<tbody>
<tr>
<td>R 10.10.10.0/24</td>
<td></td>
<td>1</td>
<td>internal</td>
<td></td>
</tr>
<tr>
<td>R 172.16.87.0/24</td>
<td></td>
<td>1</td>
<td>external</td>
<td></td>
</tr>
</tbody>
</table>

For more in depth analysis of RIP events, use the “diag net router rip” set of commands

**diag net router rip:**

Fortigate-60 # diag net router rip  
    all Enable all debugging  
    events RIP events  
    packet-receive RIP receive events  
    packet-send RIP send events