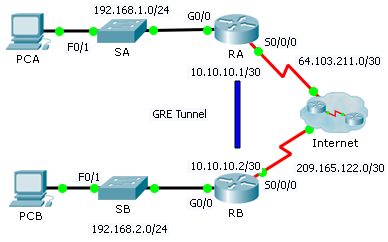
Packet Tracer – Configuring GRE(Instructor Version)

**Instructor Note**: Red font color or Gray highlights indicate text that appears in the instructor copy only.

1. Topology



1. Addressing Table

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Device | Interface | IP Address | Subnet Mask | Default Gateway |
| RA | G0/0 | 192.168.1.1 | 255.255.255.0 | N/A |
| S0/0/0 | 64.103.211.2 | 255.255.255.252 | N/A |
| Tunnel 0 | 10.10.10.1 | 255.255.255.252 | N/A |
| RB | G0/0 | 192.168.2.1 | 255.255.255.0 | N/A |
| S0/0/0 | 209.165.122.2 | 255.255.255.252 | N/A |
| Tunnel 0 | 10.10.10.2 | 255.255.255.252 | N/A |
| PC-A | NIC | 192.168.1.2 | 255.255.255.0 | 192.168.1.1 |
| PC-C | NIC | 192.168.2.2 | 255.255.255.0 | 192.168.2.1 |

1. Objectives

Part 1: Verify Router Connectivity

Part 2: Configure GRE Tunnels

Part 3: Verify PC Connectivity

1. Scenario

You are the network administrator for a company which wants to set up a GRE tunnel to a remote office. Both networks are locally configured, and need only the tunnel configured.

1. Verify Router Connectivity
   1. Ping RA from RB.
      1. Use the **show ip interface brief** command on **RA** to determine the IP address of the S0/0/0 port.
      2. From **RB** ping the IP S0/0/0 address of **RA.**
   2. Ping PCA from PCB.

Attempt to ping the IP address of **PCA** from **PCB**. We will repeat this test after configuring the GRE tunnel. What were the ping results? Why? The pings failed because there is no route to the destination.

1. Configure GRE Tunnels
   1. Configure the Tunnel 0 interface of RA.
      1. Enter into the configuration mode for **RA** Tunnel 0.

RA(config)# **interface tunnel 0**

* + 1. Set the IP address as indicated in the Addressing Table.

RA(config-if)# **ip address 10.10.10.1 255.255.255.252**

* + 1. Set the source and destination for the endpoints of Tunnel 0.

RA(config-if)# **tunnel source s0/0/0**

RA(config-if)# **tunnel destination 209.165.122.2**

* + 1. Configure Tunnel 0 to convey IP traffic over GRE.

RA(config-if)# **tunnel mode gre ip**

* + 1. The Tunnel 0 interface should already be active. In the event that it is not, treat it like any other interface.

RA(config-if)# **no shutdown**

* 1. Configure the Tunnel 0 interface of RB.

Repeat Steps 1a – e with **RB**. Be sure to change the IP addressing as appropriate.

RB(config)# **interface tunnel 0**

RB(config-if)# **ip address 10.10.10.2 255.255.255.252**

RB(config-if)# **tunnel source s0/0/0**

RB(config-if)# **tunnel destination 64.103.211.2**

RB(config-if)# **tunnel mode gre ip**

RB(config-if)# **no shutdown**

* 1. Configure a route for private IP traffic.

Establish a route between the 192.168.X.X networks using the 10.10.10.0/30 network as the destination.

RA(config)# **ip route 192.168.2.0 255.255.255.0 10.10.10.2**

RB(config)# **ip route 192.168.1.0 255.255.255.0 10.10.10.1**

1. Verify Router Connectivity
   1. Ping PCA from PCB.

Attempt to ping the IP address of **PCA** from **PCB**. The ping should be successful.

* 1. Trace the path from PCA to PCB.

Attempt to trace the path from **PCA** to **PCB**. Note the lack of public IP addresses in the output.

1. Device Configs
2. Router RA

no service timestamps log datetime msec

no service timestamps debug datetime msec

no service password-encryption

hostname RA

license udi pid CISCO2911/K9 sn FTX15242579

spanning-tree mode pvst

interface Tunnel0

ip address 10.10.10.1 255.255.255.252

tunnel source Serial0/0/0

tunnel destination 209.165.122.2

tunnel mode gre ip

interface GigabitEthernet0/0

ip address 192.168.1.1 255.255.255.0

duplex auto

speed auto

interface GigabitEthernet0/1

no ip address

duplex auto

speed auto

shutdown

interface GigabitEthernet0/2

no ip address

duplex auto

speed auto

shutdown

interface Serial0/0/0

ip address 64.103.211.2 255.255.255.252

interface Serial0/0/1

no ip address

shutdown

interface Vlan1

no ip address

shutdown

ip classless

ip route 192.168.2.0 255.255.255.0 10.10.10.2

ip route 0.0.0.0 0.0.0.0 Serial0/0/0

line con 0

line aux 0

line vty 0 4

login

end

1. Router RB

no service timestamps log datetime msec

no service timestamps debug datetime msec

no service password-encryption

license udi pid CISCO2911/K9 sn FTX152497Z4

spanning-tree mode pvst

interface Tunnel0

ip address 10.10.10.2 255.255.255.252

tunnel source Serial0/0/0

tunnel destination 64.103.211.2

tunnel mode gre ip

interface GigabitEthernet0/0

ip address 192.168.2.1 255.255.255.0

duplex auto

speed auto

interface GigabitEthernet0/1

no ip address

duplex auto

speed auto

shutdown

interface GigabitEthernet0/2

no ip address

duplex auto

speed auto

shutdown

!

interface Serial0/0/0

ip address 209.165.122.2 255.255.255.252

!

interface Serial0/0/1

no ip address

shutdown

interface Vlan1

no ip address

shutdown

ip classless

ip route 192.168.1.0 255.255.255.0 10.10.10.1

ip route 0.0.0.0 0.0.0.0 Serial0/0/0

line con 0

line aux 0

line vty 0 4

login

end