HCIA 实验 1 直连通信

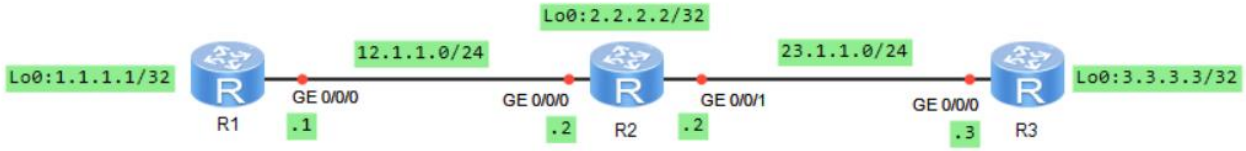
版本 **V1.0**

密级 ☑开放 ☐内部 ☐机密

类型 ☐讨论版 ☐测试版 ☑正式版

修订记录				
修订日期	**修订人**	**版本号**	**审核人**	**修订说明**
2019-11-12	**Ryan**	1.0		

1 实验拓扑



2 实验需求

1. 按照图中的设备名称，配置各设备名称
2. 按照图中的IP地址规划，配置IP地址
3. 测试R1与R2是否能ping通
4. 测试R2与R3是否能ping通
5. 测试R1与R3是否能ping通

3 配置思路及验证结果

3.1 修改设备名称，进入相应设备的接口，并配置 IP 地址

R1

```
[Huawei] sysname R1
[R1] interface Loopback 0
[R1-LoopBack0] ip address 1.1.1.1 32
[R1-LoopBack0] interface g0/0/0
[R1-GigabitEthernet0/0/0] ip address 12.1.1.1 24
```

R2

```
[Huawei] sysname R2
[R2] interface Loopback 0
[R2-LoopBack0] ip address 2.2.2.2 32
[R2-LoopBack0] interface g0/0/0
[R2-GigabitEthernet0/0/0] ip address 12.1.1.2 24
[R2-GigabitEthernet0/0/0] interface g0/0/1
[R2-GigabitEthernet0/0/1] ip address 23.1.1.2 24
```

R3

```
[Huawei] sysname R3
[R3] interface Loopback 0
[R3-LoopBack0] ip address 3.3.3.3 32
[R3-LoopBack0] interface g0/0/0
[R3-GigabitEthernet0/0/0] ip address 23.1.1.3 24
```

3.2 查看接口 IP 地址

R1：

```
<R1>dis ip interface brief
*down: administratively down
^down: standby
(l): loopback
(s): spoofing
The number of interface that is UP in Physical is 3
The number of interface that is DOWN in Physical is 2
The number of interface that is UP in Protocol is 3
The number of interface that is DOWN in Protocol is 2

Interface                         IP Address/Mask      Physical   Protocol
GigabitEthernet0/0/0              12.1.1.1/24          up         up
GigabitEthernet0/0/1              unassigned           down       down
GigabitEthernet0/0/2              unassigned           down       down
LoopBack0                         1.1.1.1/32           up         up(s)
NULL0                             unassigned           up         up(s)
```

R2：

```
[R2]dis ip interface brief
*down: administratively down
^down: standby
(l): loopback
(s): spoofing
The number of interface that is UP in Physical is 4
The number of interface that is DOWN in Physical is 1
The number of interface that is UP in Protocol is 4
The number of interface that is DOWN in Protocol is 1

Interface                         IP Address/Mask      Physical   Protocol
GigabitEthernet0/0/0              12.1.1.2/24          up         up
GigabitEthernet0/0/1              23.1.1.2/24          up         up
GigabitEthernet0/0/2              unassigned           down       down
LoopBack0                         2.2.2.2/32           up         up(s)
NULL0                             unassigned           up         up(s)
```

R3：

```
[R3]dis ip interface brief
*down: administratively down
^down: standby
(l): loopback
(s): spoofing
The number of interface that is UP in Physical is 3
The number of interface that is DOWN in Physical is 2
The number of interface that is UP in Protocol is 3
The number of interface that is DOWN in Protocol is 2

Interface                         IP Address/Mask      Physical   Protocol
GigabitEthernet0/0/0              23.1.1.3/24          up         up
GigabitEthernet0/0/1              unassigned           down       down
GigabitEthernet0/0/2              unassigned           down       down
LoopBack0                         3.3.3.3/32           up         up(s)
NULL0                             unassigned           up         up(s)
```

3.3 验证实验结果

R1 Ping R2

```
[R1]ping 12.1.1.2
  PING 12.1.1.2: 56  data bytes, press CTRL_C to break
    Reply from 12.1.1.2: bytes=56 Sequence=1 ttl=255 time=80 ms
    Reply from 12.1.1.2: bytes=56 Sequence=2 ttl=255 time=30 ms
    Reply from 12.1.1.2: bytes=56 Sequence=3 ttl=255 time=20 ms
    Reply from 12.1.1.2: bytes=56 Sequence=4 ttl=255 time=20 ms
    Reply from 12.1.1.2: bytes=56 Sequence=5 ttl=255 time=20 ms

  --- 12.1.1.2 ping statistics ---
    5 packet(s) transmitted
    5 packet(s) received
    0.00% packet loss
    round-trip min/avg/max = 20/34/80 ms
```

R2 Ping R3

```
[R2]ping 23.1.1.3
  PING 23.1.1.3: 56  data bytes, press CTRL_C to break
    Reply from 23.1.1.3: bytes=56 Sequence=1 ttl=255 time=70 ms
    Reply from 23.1.1.3: bytes=56 Sequence=2 ttl=255 time=20 ms
    Reply from 23.1.1.3: bytes=56 Sequence=3 ttl=255 time=30 ms
    Reply from 23.1.1.3: bytes=56 Sequence=4 ttl=255 time=20 ms
    Reply from 23.1.1.3: bytes=56 Sequence=5 ttl=255 time=20 ms

  --- 23.1.1.3 ping statistics ---
    5 packet(s) transmitted
    5 packet(s) received
    0.00% packet loss
    round-trip min/avg/max = 20/32/70 ms
```

R1 Ping R3

```
[R1]ping 23.1.1.3
  PING 23.1.1.3: 56  data bytes, press CTRL_C to break
    Request time out
    Request time out
    Request time out
    Request time out
    Request time out

  --- 23.1.1.3 ping statistics ---
    5 packet(s) transmitted
    0 packet(s) received
    100.00% packet loss
```

思考为什么不通？