

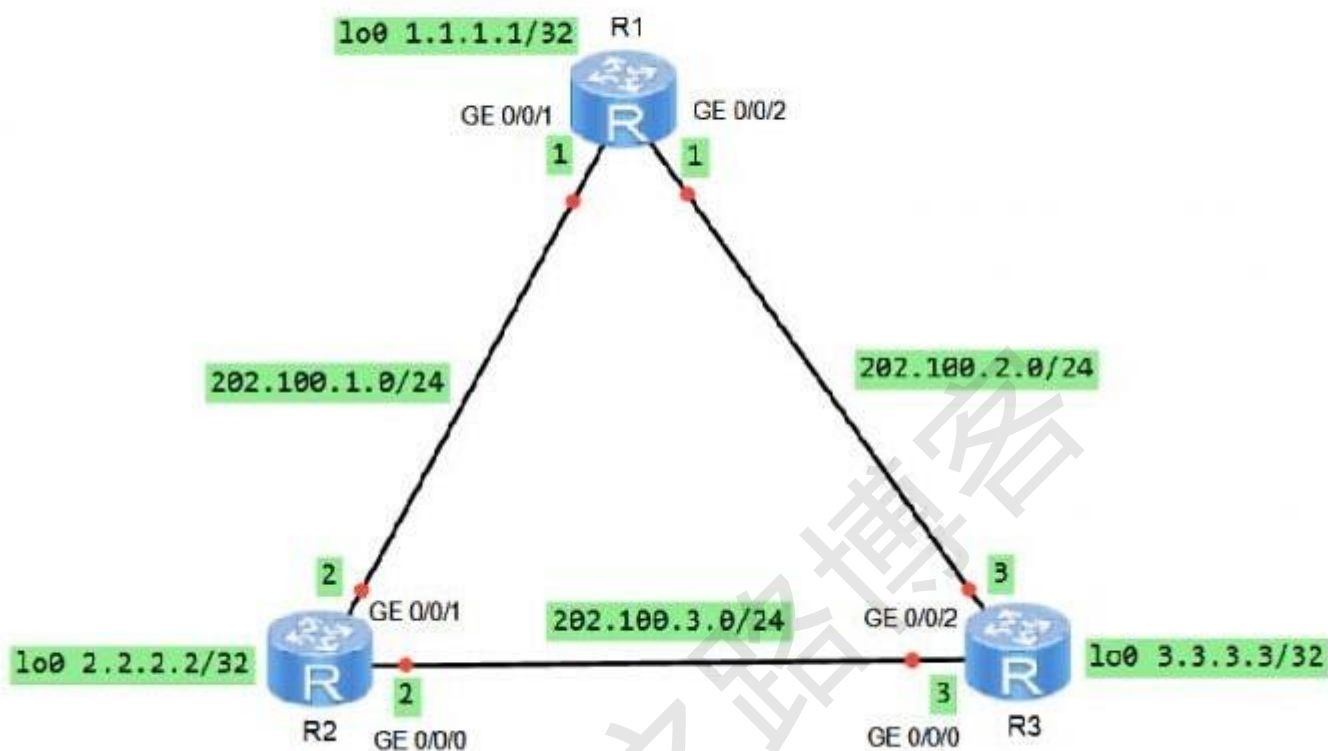
# 华为路由交换由浅入深系列（二）静态路由、浮动路由、默认路由配置以及华为路由协议优先级总结

掌握目标

- 一、配置设备名称与 IP 地址：
- 二、配置静态路由
- 三、配置浮动路由用于备份
- 四、配置默认路由
- 五、了解华为不同路由协议的优先级

网络之路博客

实验拓扑如下：



## 一、配置设备名称与 IP 地址：

R1：

```
<Huawei>system-view
```

Enter system view, return user view with Ctrl+Z.

```
[Huawei]sysname R1
```

```
[R1]interface g0/0/1
```

```
[R1-GigabitEthernet0/0/1]ip address 202.100.1.1 255.255.255.0
```

```
quit
```

```
[R1]interface g0/0/2
```

```
[R1-GigabitEthernet0/0/2]ip add 202.100.2.1 255.255.255.0
```

```
quit
```

```
[R1-GigabitEthernet0/0/1]int lo 0      =====创建环回接口
```

```
[R1-LoopBack0]ip add 1.1.1.1 255.255.255.255
```

```
[R1-LoopBack0]quit
```

```
[R1]display current-configuration interface      =====显示接口信息
```

```
#  
interface GigabitEthernet0/0/0
```

```
#  
interface GigabitEthernet0/0/1
```

```
ip address 202.100.1.1 255.255.255.0
```

```
#  
interface GigabitEthernet0/0/2
```

```
ip address 202.100.2.1 255.255.255.0
```

```
#  
interface NULL0
```

```
#  
interface LoopBack0
```

```
ip address 1.1.1.1 255.255.255.255
```

R2 :

```
[R2]interface g0/0/1
```

```
[R2-GigabitEthernet0/0/1]ip add 202.100.1.2 255.255.255.0
```

```
[R2-GigabitEthernet0/0/1]int g0/0/0
```

```
[R2-GigabitEthernet0/0/0]ip add 202.100.3.2 255.255.255.0
```

```
[R2-GigabitEthernet0/0/0]int lo 0
```

```
[R2-LoopBack0]ip ad 2.2.2.2 255.255.255.255
```

```
[R2-LoopBack0]quit
```

R3 :

```
[R3]int g0/0/2
```

```
[R3-GigabitEthernet0/0/2]ip add 202.100.2.3 255.255.255.0
```

```
[R3-GigabitEthernet0/0/2]int g0/0/0
```

```
[R3-GigabitEthernet0/0/0]ip add 202.100.3.3 255.255.255.0
```

```
[R3-GigabitEthernet0/0/0]int lo 0
```

```
[R3-LoopBack0]ip add 3.3.3.3 255.255.255.255
```

<R1>ping -c 2 202.100.1.2 =====ping 两个数据包

PING 202.100.1.2: 56 data bytes, press CTRL\_C to break

Reply from 202.100.1.2: bytes=56 Sequence=1 ttl=255 time=10 ms

Reply from 202.100.1.2: bytes=56 Sequence=2 ttl=255 time=1 ms

--- 202.100.1.2 ping statistics ---

2 packet(s) transmitted

2 packet(s) received

0.00% packet loss

round-trip min/avg/max = 1/5/10 ms

<R1>ping -c 2 202.100.2.3

PING 202.100.2.3: 56 data bytes, press CTRL\_C to break

Reply from 202.100.2.3: bytes=56 Sequence=1 ttl=255 time=20 ms

Reply from 202.100.2.3: bytes=56 Sequence=2 ttl=255 time=10 ms

--- 202.100.2.3 ping statistics ---

2 packet(s) transmitted

2 packet(s) received

0.00% packet loss

round-trip min/avg/max = 10/15/20 ms

<R1>display ip routing-table ===查看路由表

Route Flags: R - relay, D - download to fib

-----  
Routing Tables: Public

Destinations : 11      Routes : 11

Destination/Mask	Proto	Pre	Cost	Flags	NextHop	Interface
1.1.1.1/32	Direct	0	0	D	127.0.0.1	LoopBack0
127.0.0.0/8	Direct	0	0	D	127.0.0.1	InLoopBack0
127.0.0.1/32	Direct	0	0	D	127.0.0.1	InLoopBack0
127.255.255.255/32	Direct	0	0	D	127.0.0.1	InLoopBack0
202.100.1.0/24	Direct	0	0	D	202.100.1.1	GigabitEthernet0

## 二、配置静态路由

[R1]ip route-static 3.3.3.3 255.255.255.255 202.100.2.3 ===添加静态路由

[R1]ip route-static 202.100.3.0 255.255.255.0 202.100.2.3

[R1]display ip routing-table   ====Static 代表静态路由 , 60 代表静态路由优先级

Route Flags: R - relay, D - download to fib

-----

Routing Tables: Public

Destinations : 13      Routes : 13

Destination/Mask	Proto	Pre	Cost	Flags	NextHop	Interface
1.1.1.1/32	Direct	0	0	D	127.0.0.1	LoopBack0
3.3.3.3/32	Static	60	0	RD	202.100.2.3	GigabitEthernet0

<R1>ping -c 1 3.3.3.3

PING 3.3.3.3: 56 data bytes, press CTRL\_C to break

Reply from 3.3.3.3: bytes=56 Sequence=1 ttl=255 time=10 ms

<R1>ping -c 1 202.100.3.3

PING 202.100.3.3: 56 data bytes, press CTRL\_C to break

Reply from 202.100.3.3: bytes=56 Sequence=1 ttl=255 time=10 ms

### 三、配置浮动路由用于备份

配置备份静态路由，当 R1 与 R3 之间链路出现故障时，可走 R2。

```
[R2]ip route-static 3.3.3.3 255.255.255.255 202.100.3.3
```

```
[R1]ip route-static 202.100.3.0 24 202.100.1.2 preference 80
```

```
[R1]ip route-static 3.3.3.3 32 202.100.1.2 preference 80
```

```
[R3]ip route-static 202.100.1.0 255.255.255.0 202.100.3.2
```

```
[R1]tracert 202.100.3.3
```

```
tracert to 202.100.3.3(202.100.3.3), max hops: 30 ,packet length: 40,press CTRL_C to break
```

```
1 202.100.2.3 10 ms 10 ms 20 ms
```

```
[R1]tracert 3.3.3.3
```

```
tracert to 3.3.3.3(3.3.3.3), max hops: 30 ,packet length: 40,press CTRL_C to break
```

```
1 202.100.2.3 20 ms 10 ms 20 ms
```

```
[R1]int g0/0/2
```

```
[R1-GigabitEthernet0/0/2]shutdown
```



[R1]display ip routing-table

Route Flags: R - relay, D - download to fib

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Routing Tables: Public

Destinations : 10      Routes : 10

3.3.3.3/32	Static	80	0	RD	202.100.1.2	GigabitEthernet0/0/1
202.100.3.0/24	Static	80	0	RD	202.100.1.2	GigabitEthernet0/0/1

[R1]tracert 3.3.3.3

```

1 202.100.1.2 20 ms 1 ms 10 ms
2 202.100.3.3 20 ms 10 ms 20 ms

```

[R1]tracert 202.100.3.3

```

1 202.100.1.2 1 ms 10 ms 10 ms
2 202.100.3.3 20 ms 20 ms 20 ms

```

[R1]interface g0/0/2

[R1-GigabitEthernet0/0/2]undo shutdown (注：华为设备中 no 掉配置命令 undo) 此处敲 restart 也可以

May 12 2014 22:58:05-05:13 R1 %%01IFPDT/4/IF\_STATE(l)[6]:Interface GigabitEthernet0/0/2 has turned into UP state.

[R2]ip route-static 0.0.0.0 0.0.0.0 202.100.3.3 ===添加默认路由

[R2]ping 202.100.2.1

PING 202.100.2.1: 56 data bytes, press CTRL\_C to break

Reply from 202.100.2.1: bytes=56 Sequence=1 ttl=254 time=10 ms

Reply from 202.100.2.1: bytes=56 Sequence=5 ttl=254 time=30 ms

#### 四、配置默认路由

配置备份默认路由，当 R2 与 R3 之间链路出现故障时，可走 R1。

[R2]ip route-static 0.0.0.0 0.0.0.0 202.100.1.1 preference 80

[R3]ip route-static 0.0.0.0 0.0.0.0 202.100.2.1 preference 80

[R2]int g0/0/0

[R2-GigabitEthernet0/0/0]shut

[R2-GigabitEthernet0/0/0]

[R2]tracert 202.100.2.3

tracert to 202.100.2.3(202.100.2.3), max hops: 30 ,packet length: 40,press CTRL\_C to break

1 202.100.1.1 10 ms 10 ms 10 ms

2 202.100.2.3 20 ms 20 ms 10 ms

## 五、了解华为不同路由协议的优先级

路由协议或路由种类	优先级
Direct	0
OSPF	10
IS-IS	15
Static	60
RIP	100
OSPF ASE	150
BGP	255

博主也只是业余时间写写技术文档，请大家见谅，大家觉得不错的话，可以推荐给朋友哦，博主会努力推出更好的系列

文档的。如果大家有任何疑问或者文中有错误跟疏忽的地方，欢迎大家留言指出，博主看到后会第一时间修改，谢谢大家的支持，更多技术文章尽在网络之路博客，<http://ccieh3c.com>。