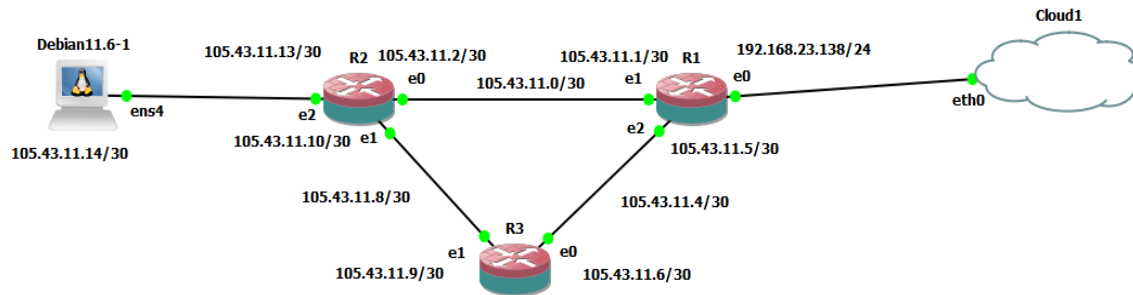


## Part 1: OSPF

### Topology



#### 1. IP Addresses for R1, R2, R3 & ping interfaces.

- R1

```
admin@R1] > ip/address/print
Flags: D - DYNAMIC
Columns: ADDRESS, NETWORK, INTERFACE
# ADDRESS NETWORK INTERFACE
0 10.255.255.1/32 10.255.255.1 loopback0
1 D 192.168.23.138/24 192.168.23.0 ether1
2 105.43.11.5/30 105.43.11.4 ether3
3 105.43.11.1/30 105.43.11.0 ether2
admin@R1] > ip/route/print
Flags: D - DYNAMIC; A - ACTIVE; c, d, y - COPY
Columns: DST-ADDRESS, GATEWAY, DISTANCE
DST-ADDRESS GATEWAY DISTANCE
0Ad 0.0.0.0/0 192.168.23.2 1
0Ac 10.255.255.1/32 loopback0 0
0Ac 105.43.11.0/30 ether2 0
0Ac 105.43.11.4/30 ether3 0
0Ac 192.168.23.0/24 ether1 0
```

```
[admin@R1] > ping 105.43.11.2
SEQ HOST SIZE TTL TIME STATUS
0 105.43.11.2 56 64 2ms235us
1 105.43.11.2 56 64 1ms297us
2 105.43.11.2 56 64 1ms267us
3 105.43.11.2 56 64 1ms232us
4 105.43.11.2 56 64 853us
sent=5 received=5 packet-loss=0% min-rtt=853us avg-rtt=1ms376us max-rtt=2ms235us

[admin@R1] > ping 105.43.11.6
SEQ HOST SIZE TTL TIME STATUS
0 105.43.11.6 56 64 1ms85us
1 105.43.11.6 56 64 1ms64us
2 105.43.11.6 56 64 837us
3 105.43.11.6 56 64 726us
4 105.43.11.6 56 64 1ms856us
sent=5 received=5 packet-loss=0% min-rtt=726us avg-rtt=1ms113us max-rtt=1ms856us
```

- R2

```
[admin@R2] > ip/address/print
Columns: ADDRESS, NETWORK, INTERFACE
# ADDRESS NETWORK INTERFACE
0 10.255.255.2/32 10.255.255.2 loopback0
1 105.43.11.13/30 105.43.11.12 ether3
2 105.43.11.2/30 105.43.11.0 ether1
3 105.43.11.10/30 105.43.11.8 ether2
[admin@R2] > ip/route/print
Flags: D - DYNAMIC; A - ACTIVE; c, y - COPY
Columns: DST-ADDRESS, GATEWAY, DISTANCE
DST-ADDRESS GATEWAY DISTANCE
DAc 10.255.255.2/32 loopback0 0
DAc 105.43.11.0/30 ether1 0
DAc 105.43.11.8/30 ether2 0
DAc 105.43.11.12/30 ether3 0
```

```
[admin@R2] > ping 105.43.11.1
SEQ HOST SIZE TTL TIME STATUS
0 105.43.11.1 56 64 3ms833us
1 105.43.11.1 56 64 660us
2 105.43.11.1 56 64 1ms252us
3 105.43.11.1 56 64 644us
4 105.43.11.1 56 64 728us
sent=5 received=5 packet-loss=0% min-rtt=644us avg-rtt=1ms423us max-rtt=3ms833us

[admin@R2] > ping 105.43.11.9
SEQ HOST SIZE TTL TIME STATUS
0 105.43.11.9 56 64 1ms204us
1 105.43.11.9 56 64 647us
2 105.43.11.9 56 64 832us
3 105.43.11.9 56 64 1ms48us
4 105.43.11.9 56 64 788us
sent=5 received=5 packet-loss=0% min-rtt=647us avg-rtt=903us max-rtt=1ms204us
```

- R3

```
[admin@R3] > ip/address/print
Columns: ADDRESS, NETWORK, INTERFACE
# ADDRESS NETWORK INTERFACE
0 10.255.255.3/32 10.255.255.3 loopback0
1 104.13.55.6/30 104.13.55.4 ether1
2 104.13.55.9/30 104.13.55.8 ether2
3 105.43.11.9/30 105.43.11.8 ether2
4 105.43.11.6/30 105.43.11.4 ether1
[admin@R3] > ip/route/print
Flags: D - DYNAMIC; A - ACTIVE; c, y - COPY
Columns: DST-ADDRESS, GATEWAY, DISTANCE
DST-ADDRESS GATEWAY DISTANCE
DAc 10.255.255.3/32 loopback0 0
DAc 104.13.55.4/30 ether1 0
DAc 104.13.55.8/30 ether2 0
DAc 105.43.11.4/30 ether1 0
DAc 105.43.11.8/30 ether2 0
```

```
[admin@R3] > ping 105.43.11.5
SEQ HOST SIZE TTL TIME STATUS
0 105.43.11.5 56 64 2ms613us
1 105.43.11.5 56 64 851us
2 105.43.11.5 56 64 1ms165us
3 105.43.11.5 56 64 1ms107us
4 105.43.11.5 56 64 594us
sent=5 received=5 packet-loss=0% min-rtt=594us avg-rtt=1ms266us max-rtt=2ms613us

[admin@R3] > ping 105.43.11.10
SEQ HOST SIZE TTL TIME STATUS
0 105.43.11.10 56 64 2ms370us
1 105.43.11.10 56 64 1ms336us
2 105.43.11.10 56 64 1ms128us
3 105.43.11.10 56 64 775us
4 105.43.11.10 56 64 1ms406us
sent=5 received=5 packet-loss=0% min-rtt=775us avg-rtt=1ms403us max-rtt=2ms370us
```

## 2. Ping R1 to 8.8.8.8

```
[admin@R1] > ping 8.8.8.8
```

SEQ	HOST	SIZE	TTL	TIME	STATUS
0	8.8.8.8	56	128	34ms384us	
1	8.8.8.8	56	128	32ms914us	
2	8.8.8.8	56	128	36ms300us	
3	8.8.8.8	56	128	57ms883us	
4	8.8.8.8	56	128	40ms553us	

sent=5 received=5 packet-loss=0% min-rtt=32ms914us avg-rtt=40ms406us max-rtt=57ms883us

## 3. OSPF – ping interfaces

```
[admin@R1] > ping 105.43.11.6
```

SEQ	HOST	SIZE	TTL	TIME	STATUS
0	105.43.11.6	56	64	1ms702us	
1	105.43.11.6	56	64	762us	
2	105.43.11.6	56	64	1ms97us	
3	105.43.11.6	56	64	752us	
4	105.43.11.6	56	64	1ms83us	

sent=5 received=5 packet-loss=0% min-rtt=752us avg-rtt=1ms79us max-rtt=1ms702us

```
[admin@R1] > ping 105.43.11.9
```

SEQ	HOST	SIZE	TTL	TIME	STATUS
0	105.43.11.9	56	64	1ms720us	
1	105.43.11.9	56	64	1ms130us	
2	105.43.11.9	56	64	889us	
3	105.43.11.9	56	64	1ms251us	
4	105.43.11.9	56	64	1ms106us	

sent=5 received=5 packet-loss=0% min-rtt=889us avg-rtt=1ms219us max-rtt=1ms720us

```
[admin@R1] > ping 105.43.11.10
```

SEQ	HOST	SIZE	TTL	TIME	STATUS
0	105.43.11.10	56	64	886us	
1	105.43.11.10	56	64	1ms252us	
2	105.43.11.10	56	64	1ms331us	
3	105.43.11.10	56	64	953us	
4	105.43.11.10	56	64	1ms323us	

sent=5 received=5 packet-loss=0% min-rtt=886us avg-rtt=1ms149us max-rtt=1ms331us

```
[admin@R1] > ping 105.43.11.2
```

SEQ	HOST	SIZE	TTL	TIME	STATUS
0	105.43.11.2	56	64	2ms103us	
1	105.43.11.2	56	64	825us	
2	105.43.11.2	56	64	783us	
3	105.43.11.2	56	64	962us	
4	105.43.11.2	56	64	802us	

sent=5 received=5 packet-loss=0% min-rtt=783us avg-rtt=1ms95us max-rtt=2ms103us

```
[admin@R1] > ping 105.43.11.13
```

SEQ	HOST	SIZE	TTL	TIME	STATUS
0	105.43.11.13	56	64	1ms461us	
1	105.43.11.13	56	64	1ms197us	
2	105.43.11.13	56	64	1ms420us	
3	105.43.11.13	56	64	1ms124us	
4	105.43.11.13	56	64	1ms38us	

sent=5 received=5 packet-loss=0% min-rtt=1ms38us avg-rtt=1ms248us max-rtt=1ms461us

```
[admin@R1] > ping 105.43.11.14
```

SEQ	HOST	SIZE	TTL	TIME	STATUS
0	105.43.11.14	56	63	2ms839us	
1	105.43.11.14	56	63	1ms121us	
2	105.43.11.14	56	63	1ms399us	
3	105.43.11.14	56	63	1ms347us	
4	105.43.11.14	56	63	2ms763us	

sent=5 received=5 packet-loss=0% min-rtt=1ms121us avg-rtt=1ms893us max-rtt=2ms839us

#### 4. ip/route/print

```
[admin@R1] > ip/route/print
Flags: D - DYNAMIC; A - ACTIVE; c, o, d, y - COPY; + - ECMP
Columns: DST-ADDRESS, GATEWAY, DISTANCE
  DST-ADDRESS  GATEWAY          DISTANCE
DAo  0.0.0.0/0   192.168.23.2      1
DAc  10.255.255.1/32 loopback0         0
DAo  10.255.255.2/32 105.43.11.2%ether2 110
DAo  10.255.255.3/32 105.43.11.6%ether3 110
DAo  104.13.55.4/30  105.43.11.6%ether3 110
DAo  104.13.55.8/30  105.43.11.6%ether3 110
DAc  105.43.11.0/30  ether2            0
DAc  105.43.11.4/30  ether3            0
DAo+ 105.43.11.8/30  105.43.11.2%ether2 110
DAo+ 105.43.11.8/30  105.43.11.6%ether3 110
DAo  105.43.11.12/30 105.43.11.2%ether2 110
DAc  192.168.23.0/24 ether1            0
```

```
[admin@R2] > ip/route/print
Flags: D - DYNAMIC; A - ACTIVE; c, o, y - COPY; + - ECMP
Columns: DST-ADDRESS, GATEWAY, DISTANCE
  DST-ADDRESS  GATEWAY          DISTANCE
DAo  10.255.255.1/32 105.43.11.1%ether1 110
DAc  10.255.255.2/32 loopback0         0
DAo  10.255.255.3/32 105.43.11.9%ether2 110
DAo  104.13.55.4/30  105.43.11.9%ether2 110
DAo  104.13.55.8/30  105.43.11.9%ether2 110
DAc  105.43.11.0/30  ether1            0
DAo+ 105.43.11.4/30  105.43.11.1%ether1 110
DAo+ 105.43.11.4/30  105.43.11.9%ether2 110
DAc  105.43.11.8/30  ether2            0
DAc  105.43.11.12/30 ether3            0
DAo  192.168.23.0/24 105.43.11.1%ether1 110
```

```
[admin@R3] > ip/route/print
Flags: D - DYNAMIC; A - ACTIVE; c, o, y - COPY; + - ECMP
Columns: DST-ADDRESS, GATEWAY, DISTANCE
  DST-ADDRESS  GATEWAY          DISTANCE
DAo  10.255.255.1/32 105.43.11.5%ether1 110
DAo  10.255.255.2/32 105.43.11.10%ether2 110
DAc  10.255.255.3/32 loopback0         0
DAc  104.13.55.4/30  ether1            0
DAc  104.13.55.8/30  ether2            0
DAo+ 105.43.11.0/30  105.43.11.10%ether2 110
DAo+ 105.43.11.0/30  105.43.11.5%ether1 110
DAc  105.43.11.4/30  ether1            0
DAc  105.43.11.8/30  ether2            0
DAo  105.43.11.12/30 105.43.11.10%ether2 110
DAo  192.168.23.0/24 105.43.11.5%ether1 110
```

## 5. Debian traceroute to R1

```
debian@debian:~$ traceroute 105.43.11.1
traceroute to 105.43.11.1 (105.43.11.1), 30 hops max, 60 byte packets
 1 105.43.11.13 (105.43.11.13) 1.369 ms 1.198 ms 3.516 ms
 2 105.43.11.1 (105.43.11.1) 3.510 ms 3.500 ms 3.481 ms
debian@debian:~$ traceroute 105.43.11.5
traceroute to 105.43.11.5 (105.43.11.5), 30 hops max, 60 byte packets
 1 105.43.11.13 (105.43.11.13) 1.051 ms 1.082 ms 1.074 ms
 2 105.43.11.5 (105.43.11.5) 3.356 ms 3.379 ms 3.514 ms
```

## 6. ping 8.8.8.8

```
[admin@R1] > ping 8.8.8.8
  SEQ HOST                                SIZE TTL TIME                        STATUS
    0 8.8.8.8                              56 128 33ms947us
    1 8.8.8.8                              56 128 35ms309us
    2 8.8.8.8                              56 128 31ms181us
    3 8.8.8.8                              56 128 36ms435us
    4 8.8.8.8                              56 128 31ms464us
sent=5 received=5 packet-loss=0% min-rtt=31ms181us avg-rtt=33ms667us max-rtt=36ms435us
```

```
[admin@R2] > ping 8.8.8.8
  SEQ HOST                                SIZE TTL TIME                        STATUS
    0                                     no route to host
    1                                     no route to host
    2                                     no route to host
    3                                     no route to host
    4                                     no route to host
sent=5 received=0 packet-loss=100%
```

```
[admin@R3] > ping 8.8.8.8
  SEQ HOST                                SIZE TTL TIME                        STATUS
    0                                     no route to host
    1                                     no route to host
    2                                     no route to host
    3                                     no route to host
    4                                     no route to host
sent=5 received=0 packet-loss=100%
```

## 7. Route paths from static destination in R2

```
[admin@R1] > ip/route/print
Flags: D - DYNAMIC; I, A - ACTIVE; c, o, d, y - COPY; H - HW-OFFLOADED; + - ECMP
Columns: DST-ADDRESS, GATEWAY, DISTANCE
DIOH 0.0.0.0/0      105.43.11.1%ether2      110
DAo  0.0.0.0/0      192.168.23.2           1
DAc  10.255.255.1/32 loopback0               0
DAo  10.255.255.2/32 105.43.11.2%ether2      110
DAo  10.255.255.3/32 105.43.11.6%ether3      110
DAo  104.13.55.4/30  105.43.11.6%ether3      110
DAo  104.13.55.8/30  105.43.11.6%ether3      110
DAc  105.43.11.0/30  ether2                  0
DAc  105.43.11.4/30  ether3                  0
DAo + 105.43.11.8/30 105.43.11.2%ether2      110
DAo + 105.43.11.8/30 105.43.11.6%ether3      110
DAo  105.43.11.12/30 105.43.11.2%ether2      110
DAc  192.168.23.0/24 ether1                   0
```

```
[admin@R2] > ip/route/print
Flags: D - DYNAMIC; A - ACTIVE; c, s, o, y - COPY; + - ECMP
Columns: DST-ADDRESS, GATEWAY, DISTANCE
# DST-ADDRESS GATEWAY DISTANCE
0 As 0.0.0.0/0 105.43.11.1 112
DAo 10.255.255.1/32 105.43.11.1%ether1 110
DAc 10.255.255.2/32 loopback0 0
DAo 10.255.255.3/32 105.43.11.9%ether2 110
DAo 104.13.55.4/30 105.43.11.9%ether2 110
DAo 104.13.55.8/30 105.43.11.9%ether2 110
DAc 105.43.11.0/30 ether1 0
DAo+ 105.43.11.4/30 105.43.11.1%ether1 110
DAo+ 105.43.11.4/30 105.43.11.9%ether2 110
DAc 105.43.11.8/30 ether2 0
DAc 105.43.11.12/30 ether3 0
DAo 192.168.23.0/24 105.43.11.1%ether1 110
```

```
[admin@R3] > ip/route/print
Flags: D - DYNAMIC; A - ACTIVE; c, o, y - COPY; + - ECMP
Columns: DST-ADDRESS, GATEWAY, DISTANCE
# DST-ADDRESS GATEWAY DISTANCE
DAo+ 0.0.0.0/0 105.43.11.10%ether2 110
DAo+ 0.0.0.0/0 105.43.11.5%ether1 110
DAo 10.255.255.1/32 105.43.11.5%ether1 110
DAo 10.255.255.2/32 105.43.11.10%ether2 110
DAc 10.255.255.3/32 loopback0 0
DAc 104.13.55.4/30 ether1 0
DAc 104.13.55.8/30 ether2 0
DAo+ 105.43.11.0/30 105.43.11.10%ether2 110
DAo+ 105.43.11.0/30 105.43.11.5%ether1 110
DAc 105.43.11.4/30 ether1 0
DAc 105.43.11.8/30 ether2 0
DAo 105.43.11.12/30 105.43.11.10%ether2 110
DAo 192.168.23.0/24 105.43.11.5%ether1 110
```

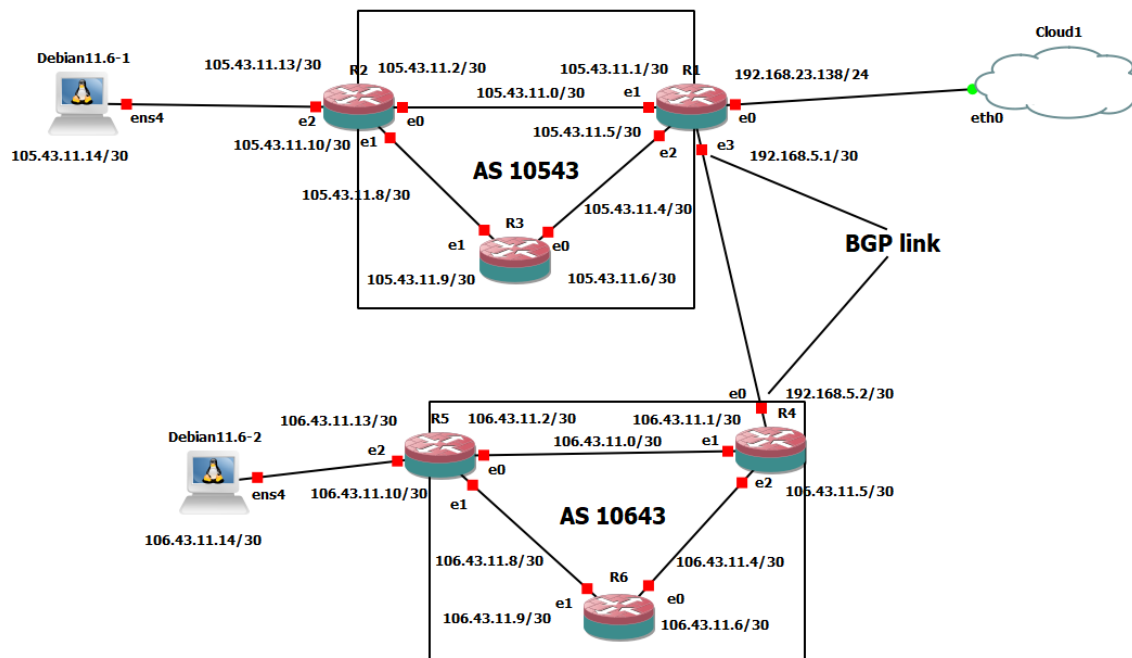
## 8. Ping & traceroute 8.8.8.8 from R3

```
[admin@R3] > ping 8.8.8.8
SEQ HOST SIZE TTL TIME STATUS
0 8.8.8.8 56 126 33ms910us
1 8.8.8.8 56 126 33ms279us
2 8.8.8.8 56 126 46ms366us
3 8.8.8.8 56 126 37ms778us
4 8.8.8.8 56 126 35ms406us
sent=5 received=5 packet-loss=0% min-rtt=33ms279us avg-rtt=37ms347us max-rtt=46ms366us
```

```
[admin@R3] > tool/traceroute 8.8.8.8
Columns: ADDRESS, LOSS, SENT, LAST, AVG, BEST, WORST, STD-DEV
# ADDRESS LOSS SENT LAST AVG BEST WORST STD-DEV
1 105.43.11.10 0% 5 1ms 1 0.7 1.4 0.2
2 105.43.11.1 0% 5 1ms 1.5 1 1.9 0.4
3 192.168.23.2 0% 5 1.9ms 1.9 1.6 2.7 0.4
4 100% 5 timeout
5 100% 5 timeout
6 100% 4 timeout
7 100% 4 timeout
8 100% 4 timeout
```

## Part 2: BGP

### Topology



## 1. Ping from all interfaces

```
[admin@R6] > ping 106.43.11.1
SEQ HOST                                SIZE TTL TIME                        STATUS
0 106.43.11.1                          56  64 2ms195us
1 106.43.11.1                          56  64 831us
2 106.43.11.1                          56  64 925us
3 106.43.11.1                          56  64 821us
4 106.43.11.1                          56  64 1ms251us
sent=5 received=5 packet-loss=0% min-rtt=821us avg-rtt=1ms204us max-rtt=2ms195us

[admin@R6] > ping 192.168.5.2
SEQ HOST                                SIZE TTL TIME                        STATUS
0 192.168.5.2                          56  64 1ms558us
1 192.168.5.2                          56  64 1ms389us
2 192.168.5.2                          56  64 814us
3 192.168.5.2                          56  64 1ms476us
4 192.168.5.2                          56  64 1ms227us
sent=5 received=5 packet-loss=0% min-rtt=814us avg-rtt=1ms292us max-rtt=1ms558us

[admin@R6] > ping 192.168.5.1
SEQ HOST                                SIZE TTL TIME                        STATUS
0 192.168.5.1                          56  63 1ms901us
1 192.168.5.1                          56  63 1ms626us
2 192.168.5.1                          56  63 1ms389us
sent=3 received=3 packet-loss=0% min-rtt=1ms389us avg-rtt=1ms638us max-rtt=1ms901us

[admin@R6] > ping 105.43.11.4
SEQ HOST                                SIZE TTL TIME                        STATUS
0 105.43.11.4                          56  63 timeout
1 105.43.11.4                          56  63 timeout
2 105.43.11.4                          56  63 timeout
3 105.43.11.4                          56  63 timeout
4 105.43.11.4                          56  63 timeout
sent=5 received=0 packet-loss=100%

[admin@R6] > ping 105.43.11.1
SEQ HOST                                SIZE TTL TIME                        STATUS
0 105.43.11.1                          56  63 2ms160us
1 105.43.11.1                          56  63 1ms833us
2 105.43.11.1                          56  63 1ms815us
3 105.43.11.1                          56  63 1ms815us
4 105.43.11.1                          56  63 1ms421us
sent=5 received=5 packet-loss=0% min-rtt=1ms421us avg-rtt=1ms808us max-rtt=2ms160us

[admin@R6] > ping 105.43.11.1
SEQ HOST                                SIZE TTL TIME                        STATUS
0 105.43.11.1                          56  63 1ms67us
1 105.43.11.1                          56  63 1ms632us
2 105.43.11.1                          56  63 1ms725us
3 105.43.11.1                          56  63 1ms565us
4 105.43.11.1                          56  63 1ms923us
sent=5 received=5 packet-loss=0% min-rtt=1ms67us avg-rtt=1ms582us max-rtt=1ms923us

[admin@R6] > ping 105.43.11.6
SEQ HOST                                SIZE TTL TIME                        STATUS
0 105.43.11.6                          56  62 2ms958us
1 105.43.11.6                          56  62 2ms435us
2 105.43.11.6                          56  62 1ms973us
3 105.43.11.6                          56  62 2ms274us
4 105.43.11.6                          56  62 1ms847us
sent=5 received=5 packet-loss=0% min-rtt=1ms847us avg-rtt=2ms297us max-rtt=2ms958us
```



## 2. ip/route/print from R1,R2,R3,R4,R5,R6

```
[admin@R1] > ip/route/print
Flags: D - DYNAMIC; I, A - ACTIVE; c, b, o, d, y - COPY; H - HW-OFFLOADED; + - ECMP
Columns: DST-ADDRESS, GATEWAY, DISTANCE
```

	DST-ADDRESS	GATEWAY	DISTANCE
DIoH	0.0.0.0/0	192.168.5.1%ether4	110
DAd	0.0.0.0/0	192.168.23.2	1
DIbH	10.255.255.1/32	192.168.5.1	20
DAC	10.255.255.1/32	loopback0	0
DAo	10.255.255.2/32	105.43.11.2%ether2	110
DAo	10.255.255.3/32	105.43.11.6%ether3	110
DAo	10.255.255.4/32	192.168.5.2%ether4	110
DAb	10.255.255.5/32	192.168.5.2	20
D o	10.255.255.5/32	192.168.5.2%ether4	110
DAb	10.255.255.6/32	192.168.5.2	20
D o	10.255.255.6/32	192.168.5.2%ether4	110
DAo	104.13.55.4/30	105.43.11.6%ether3	110
DAo	104.13.55.8/30	105.43.11.6%ether3	110
DIbH	105.43.11.0/30	192.168.5.1	20
DAC	105.43.11.0/30	ether2	0
DIbH	105.43.11.4/30	192.168.5.1	20
DAC	105.43.11.4/30	ether3	0
DAo +	105.43.11.8/30	105.43.11.2%ether2	110
DAo +	105.43.11.8/30	105.43.11.6%ether3	110
DAo	105.43.11.12/30	105.43.11.2%ether2	110
DAo	106.43.11.0/30	192.168.5.2%ether4	110
DAo	106.43.11.4/30	192.168.5.2%ether4	110
DAb	106.43.11.8/30	192.168.5.2	20
D o	106.43.11.8/30	192.168.5.2%ether4	110
DAb	106.43.11.12/30	192.168.5.2	20
D o	106.43.11.12/30	192.168.5.2%ether4	110
DAC	192.168.5.0/30	ether4	0
DIbH	192.168.23.0/24	192.168.5.1	20
DAC	192.168.23.0/24	ether1	0

```
[admin@R2] > ip/route/print
Flags: D - DYNAMIC; A - ACTIVE; c, s, o, y - COPY; + - ECMP
Columns: DST-ADDRESS, GATEWAY, DISTANCE
```

#	DST-ADDRESS	GATEWAY	DISTANCE
	DAo 0.0.0.0/0	105.43.11.1%ether1	110
0	s 0.0.0.0/0	105.43.11.1	112
	DAo 10.255.255.1/32	105.43.11.1%ether1	110
	DAC 10.255.255.2/32	loopback0	0
	DAo 10.255.255.3/32	105.43.11.9%ether2	110
	DAo 10.255.255.4/32	105.43.11.1%ether1	110
	DAo 10.255.255.5/32	105.43.11.1%ether1	110
	DAo 10.255.255.6/32	105.43.11.1%ether1	110
	DAo 104.13.55.4/30	105.43.11.9%ether2	110
	DAo 104.13.55.8/30	105.43.11.9%ether2	110
	DAC 105.43.11.0/30	ether1	0
	DAo+ 105.43.11.4/30	105.43.11.9%ether2	110
	DAo+ 105.43.11.4/30	105.43.11.1%ether1	110
	DAC 105.43.11.8/30	ether2	0
	DAC 105.43.11.12/30	ether3	0
	DAo 106.43.11.0/30	105.43.11.1%ether1	110
	DAo 106.43.11.4/30	105.43.11.1%ether1	110
	DAo 106.43.11.8/30	105.43.11.1%ether1	110
	DAo 106.43.11.12/30	105.43.11.1%ether1	110
	DAo 192.168.5.0/30	105.43.11.1%ether1	110
	DAo 192.168.23.0/24	105.43.11.1%ether1	110

```
[admin@R3] > ip/route/print
Flags: D - DYNAMIC; A - ACTIVE; c, o, y - COPY; + - ECMP
Columns: DST-ADDRESS, GATEWAY, DISTANCE
```

	DST-ADDRESS	GATEWAY	DISTANCE
DAo	0.0.0.0/0	105.43.11.5%ether1	110
DAo	10.255.255.1/32	105.43.11.5%ether1	110
DAo	10.255.255.2/32	105.43.11.10%ether2	110
DAc	10.255.255.3/32	loopback0	0
DAo	10.255.255.4/32	105.43.11.5%ether1	110
DAo	10.255.255.5/32	105.43.11.5%ether1	110
DAo	10.255.255.6/32	105.43.11.5%ether1	110
DAc	104.13.55.4/30	ether1	0
DAc	104.13.55.8/30	ether2	0
DAo+	105.43.11.0/30	105.43.11.5%ether1	110
DAo+	105.43.11.0/30	105.43.11.10%ether2	110
DAc	105.43.11.4/30	ether1	0
DAc	105.43.11.8/30	ether2	0
DAo	105.43.11.12/30	105.43.11.10%ether2	110
DAo	106.43.11.0/30	105.43.11.5%ether1	110
DAo	106.43.11.4/30	105.43.11.5%ether1	110
DAo	106.43.11.8/30	105.43.11.5%ether1	110
DAo	106.43.11.12/30	105.43.11.5%ether1	110
DAo	192.168.5.0/30	105.43.11.5%ether1	110
DAo	192.168.23.0/24	105.43.11.5%ether1	110

```
[admin@R4] > ip/route/print
Flags: D - DYNAMIC; I, A - ACTIVE; c, b, o, y - COPY; H - HW-OFFLOADED; + - ECMP
Columns: DST-ADDRESS, GATEWAY, DISTANCE
```

	DST-ADDRESS	GATEWAY	DISTANCE
DAb	0.0.0.0/0	192.168.5.1	20
DAo	10.255.255.1/32	192.168.5.1%ether1	110
DAb	10.255.255.2/32	192.168.5.1	20
D o	10.255.255.2/32	192.168.5.1%ether1	110
DAb	10.255.255.3/32	192.168.5.1	20
D o	10.255.255.3/32	192.168.5.1%ether1	110
DIbH	10.255.255.4/32	192.168.5.2	20
DAc	10.255.255.4/32	loopback0	0
DAo	10.255.255.5/32	106.43.11.2%ether2	110
DAo	10.255.255.6/32	106.43.11.6%ether3	110
DAb	104.13.55.4/30	192.168.5.1	20
D o	104.13.55.4/30	192.168.5.1%ether1	110
DAb	104.13.55.8/30	192.168.5.1	20
D o	104.13.55.8/30	192.168.5.1%ether1	110
DAo	105.43.11.0/30	192.168.5.1%ether1	110
DAo	105.43.11.4/30	192.168.5.1%ether1	110
DAb	105.43.11.8/30	192.168.5.1	20
D o	105.43.11.8/30	192.168.5.1%ether1	110
DAb	105.43.11.12/30	192.168.5.1	20
D o	105.43.11.12/30	192.168.5.1%ether1	110
DIbH	106.43.11.0/30	192.168.5.2	20
DAc	106.43.11.0/30	ether2	0
DIbH	106.43.11.4/30	192.168.5.2	20
DAc	106.43.11.4/30	ether3	0
DAo +	106.43.11.8/30	106.43.11.6%ether3	110
DAo +	106.43.11.8/30	106.43.11.2%ether2	110
DAo	106.43.11.12/30	106.43.11.2%ether2	110
DAc	192.168.5.0/30	ether1	0
DAo	192.168.23.0/24	192.168.5.1%ether1	110

```
[admin@R5] > ip/route/print
Flags: D - DYNAMIC; A - ACTIVE; c, o, y - COPY; + - ECMP
Columns: DST-ADDRESS, GATEWAY, DISTANCE
```

	DST-ADDRESS	GATEWAY	DISTANCE
DAo	0.0.0.0/0	106.43.11.1%ether1	110
DAo	10.255.255.1/32	106.43.11.1%ether1	110
DAo	10.255.255.2/32	106.43.11.1%ether1	110
DAo	10.255.255.3/32	106.43.11.1%ether1	110
DAo	10.255.255.4/32	106.43.11.1%ether1	110
DAc	10.255.255.5/32	loopback0	0
DAo	10.255.255.6/32	106.43.11.9%ether2	110
DAo	104.13.55.4/30	106.43.11.1%ether1	110
DAo	104.13.55.8/30	106.43.11.1%ether1	110
DAo	105.43.11.0/30	106.43.11.1%ether1	110
DAo	105.43.11.4/30	106.43.11.1%ether1	110
DAo	105.43.11.8/30	106.43.11.1%ether1	110
DAo	105.43.11.12/30	106.43.11.1%ether1	110
DAc	106.43.11.0/30	ether1	0
DAo+	106.43.11.4/30	106.43.11.9%ether2	110
DAo+	106.43.11.4/30	106.43.11.1%ether1	110
DAc	106.43.11.8/30	ether2	0
DAc	106.43.11.12/30	ether3	0
DAo	192.168.5.0/30	106.43.11.1%ether1	110
DAo	192.168.23.0/24	106.43.11.1%ether1	110

```
[admin@R6] > ip/route/print
Flags: D - DYNAMIC; A - ACTIVE; c, o, y - COPY; + - ECMP
Columns: DST-ADDRESS, GATEWAY, DISTANCE
```

	DST-ADDRESS	GATEWAY	DISTANCE
DAo	0.0.0.0/0	106.43.11.5%ether1	110
DAo	10.255.255.1/32	106.43.11.5%ether1	110
DAo	10.255.255.2/32	106.43.11.5%ether1	110
DAo	10.255.255.3/32	106.43.11.5%ether1	110
DAo	10.255.255.4/32	106.43.11.5%ether1	110
DAo	10.255.255.5/32	106.43.11.10%ether2	110
DAc	10.255.255.6/32	loopback0	0
DAo	104.13.55.4/30	106.43.11.5%ether1	110
DAo	104.13.55.8/30	106.43.11.5%ether1	110
DAo	105.43.11.0/30	106.43.11.5%ether1	110
DAo	105.43.11.4/30	106.43.11.5%ether1	110
DAo	105.43.11.8/30	106.43.11.5%ether1	110
DAo	105.43.11.12/30	106.43.11.5%ether1	110
DAo+	106.43.11.0/30	106.43.11.10%ether2	110
DAo+	106.43.11.0/30	106.43.11.5%ether1	110
DAc	106.43.11.4/30	ether1	0
DAc	106.43.11.8/30	ether2	0
DAo	106.43.11.12/30	106.43.11.10%ether2	110
DAo	192.168.5.0/30	106.43.11.5%ether1	110
DAo	192.168.23.0/24	106.43.11.5%ether1	110

### 3. traceroute from Debian-2 to 8.8.8.8 & Debian-1

```
debian@debian:~$ traceroute 8.8.8.8
traceroute to 8.8.8.8 (8.8.8.8), 30 hops max, 60 byte packets
 1  106.43.11.13 (106.43.11.13)  1.096 ms  0.806 ms  0.701 ms
 2  106.43.11.1 (106.43.11.1)  1.471 ms  3.939 ms  3.873 ms
 3  192.168.5.1 (192.168.5.1)  8.789 ms  9.289 ms  10.204 ms
 4  192.168.23.2 (192.168.23.2)  10.195 ms  10.339 ms  10.202 ms
 5  * * *
 6  * * *
 7  * * *
 8  * * *
 9  * * *
10  * * *
11  * * *
12  * * *
13  * * *
14  * * *
15  * * *
16  * * *
17  * * *
18  * * *
19  * * *
20  * * *
21  * * *
22  * * *
23  * * *
24  * * *
25  * * *
26  * * *
27  * * *
28  * * *
29  * * *
30  * * *

debian@debian:~$ traceroute 105.43.11.14
traceroute to 105.43.11.14 (105.43.11.14), 30 hops max, 60 byte packets
 1  106.43.11.13 (106.43.11.13)  1.493 ms  1.590 ms  1.581 ms
 2  106.43.11.1 (106.43.11.1)  4.970 ms  4.961 ms  4.956 ms
 3  192.168.5.1 (192.168.5.1)  5.180 ms  7.449 ms  7.466 ms
 4  105.43.11.2 (105.43.11.2)  8.376 ms  8.370 ms  8.360 ms
 5  105.43.11.14 (105.43.11.14)  10.969 ms  11.438 ms  11.493 ms
```