
S1E13 - Back Into the Tangled Web

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Connecting

Connect to the lab server:

```
local$ ssh-keygen -R netlab.nanocat.net
```

```
local$ ssh lab@netlab.nanocat.net
```

Password: (see discord)

Connect to your router:

```
lab@netlab$ list-routers
```

<- list all lab routers

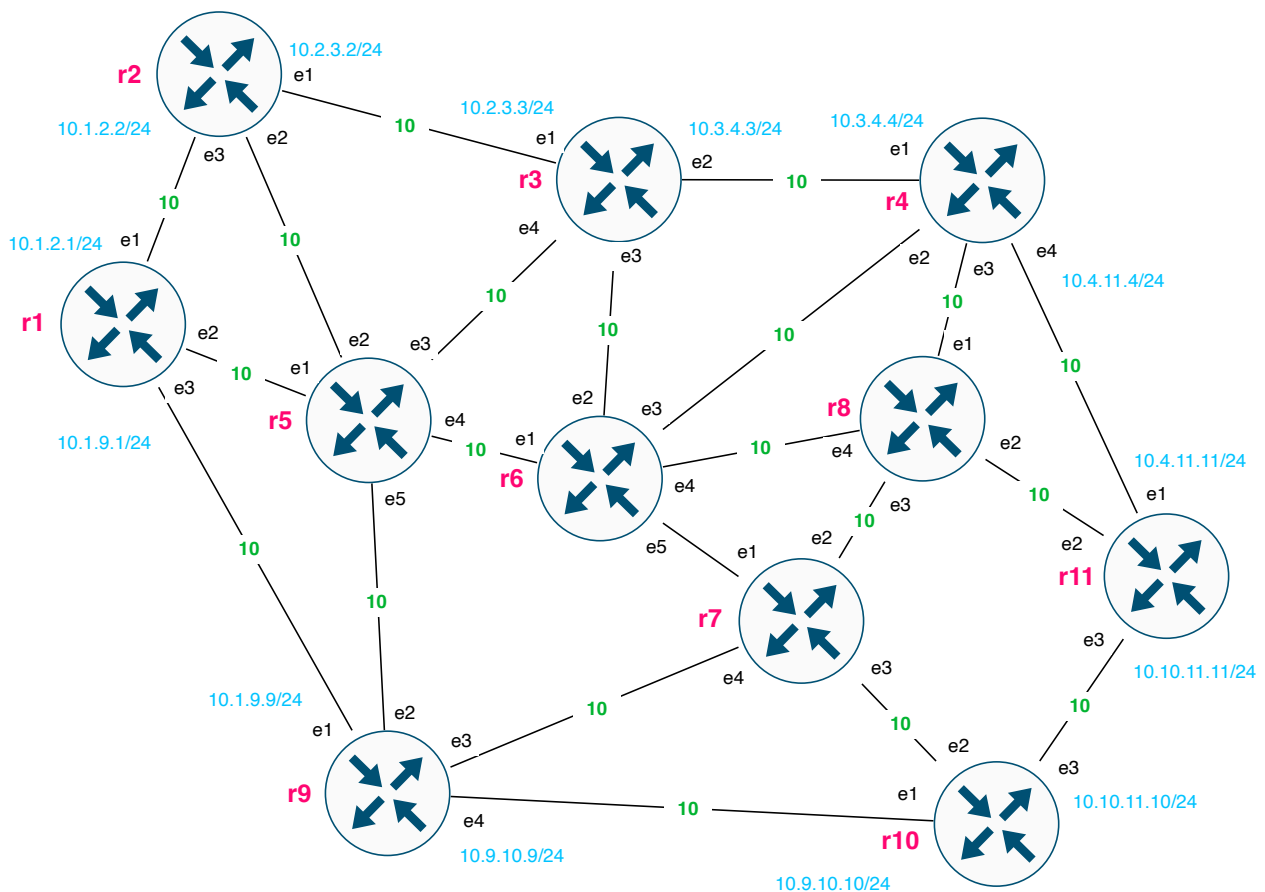
```
lab@netlab$ list-pcs
```

<- list all lab PCs

```
lab@netlab$ docker exec -it clab-clintro-r7 Cli
```

<- connect to your router

Topology



Goal

- remember how this stuff works
- remember how RIP works
- remember how OSPF works

Steps (Bird's-Eye View)

- Configure the IPs
- Create your loopback interface
- Enable RIP
- Run a traceroute from r1 to r11
- Figure out ways to change that route
- Swap out RIP for OSPF
- Run a traceroute from r1 to r11
- Figure out ways to change that route

Configure the IPs

Refer to the diagram.

10.(lower router number).(higher router number).(this router number)/24

example: r1 to r3. r1:eth1 (10.1.3.1/24) -> r3:eth3 (10.1.3.3/24)

example: r10 to r5. r10:eth4 (10.5.10.10/24) -> r5:eth1 (10.5.10.5/24)

also create a loopback interface (r1 = 1.1.1.1/32, r6 = 6.6.6.6/32, etc):

Create your loopback interface

Example for r10:

```
!  
interface loopback1  
    ip address 10.10.10.10/32  
!
```

Enable RIP

```
!  
router rip  
    no shutdown  
    network 10.0.0.0/8  
!
```

This `network` line will include any interface with an IP address in the 10.0.0.0/8 range (ie, any address starting with a 10)

Run a traceroute from r1 to r11

```
r1#show ip route  
r1#show ip route 11.11.11.11  
r1#traceroute 11.11.11.11  
...
```

Shutdown an interface to force the route to change

On r1,

```
!  
interface eth2  
    shutdown  
!
```

Then show ip route, and traceroute again.

```
r1#show ip route  
r1#traceroute 11.11.11.11
```

Shutdown an interface on another router

On r1,

```
!  
interface eth2  
    no shutdown  
!
```

On r5,

```
!  
interface eth4  
    shutdown  
!
```

Traceroute!

Enable OSPF

On all routers:

```
router ospf 100  
    ! run ospf on *every* interface  
    network 0.0.0.0/0 area 0  
!
```

Traceroute!

Shutdown an interface

```
!  
interface ethX  
    shutdown  
!
```

Traceroute!

Adjust interface costs

See costs:

```
rX#show ip ospf interface brief
(observed the COST field)
```

Change costs:

```
!
interface ethX
  ip ospf cost 432
!
```

Check the change:

```
rX#show ip ospf interface brief
```

Check your routing table, traceroute!

michel - R3 roumen - R5 chris - R6 nick - R7 kim - R8 sammy - R9 hans - R10 ryan - R11