

## John Wick

Your very close friend, John, also known as the Baba Yaga, is often on various missions to complete different tasks. For this, he must maintain **networking among assassins** in **continental hotel** and needs to **travel to different countries**. To travel from **one country to another**, he needs to **spend a few markers** for different favors like **mission equipment, food, travel cost**, etc as professional courtesy. A marker is a small round metal object indicating a **debt between two individuals**. Markers are **witnessed and recognized**. That means, if one person **offers a marker to another and asks for a favor**, **the offered person must comply**. It is evident from previous statements that these **markers are very precious**. For this reason, John wants to minimize the number of markers used.

Markers = Requests/Packets?

John knows that you're a great Network engineer. So he has asked you to design a network infrastructure for maintaining successful communication between fellow members. The **numbers in brackets specify the population size of the area**; the **distance (in kms) between each area is the value in the cells**.

[End Devices]

	Little Russia	Russian Alley	Safe house	Vigo's place	Marcus Lounge	Ms. Perkins Warehouse
Little Russia (1236) [DHCP]	0					
Russian Alley (3000) [DHCP]	31	0				
[Email And Static server] Safe house (200)	46	15	0			
[Static] Vigo's place (4565)	32	1	21	0		
Marcus Lounge (756) [DHCP]	65	32	329	5	0	
[Email and DHCP] Ms. Perkins warehouse (6546)	98	956	89	23	894	0

Routers

- Choose **an appropriate network address** and **create subnets to assign to each of the places**.
- ~~Assign IP addresses to all the devices and interfaces.~~
- **Marcus lounge (756)** has a **web server** to find more hitman. The **DNS server** will be in **Marcus lounge**. If anyone types the URL "**www.marcuslounge.org**" the web server will handle the query and the user will see a webpage that says "**Welcome to Marcus Lounge!**"

- ✓ • Safe house and Vigo's place will use static IP addressing while the other zones' IP addresses will be assigned using DHCP and handled by their network's DHCP server.
- ✓ • Ms. Perkins warehouse and Safe house will be communicating a lot, which is why they will require Email servers to be set up so that they can exchange mail among themselves. Make sure the email configurations are all set up for sending mail, receiving mail, and replying to mail.
- Establish connections among all the networks with the shortest route so that fewer markers are used as possible.
  - ✗ • Must have at least one floating route between Russain Alley and Marcus Lounge.
  - Configure half of the network to be routed dynamically.
  - At least two secure routing must be established among the locations.
- ✓ • Showing 2 end devices per network is good enough to represent the whole population.
- ✗ • The Safe House has laptops and printers
- ✓ • You must remember that the default route cannot be used while exchanging any packets. Data will be delivered using static or dynamic routes only.
- ✗ • You need to be able to ping each other after all the setups are complete.

### Deliverables

- The network mentioned above should be implemented in packet tracer, with necessary devices and full configuration.
- After completion you should be able to test the conditions imposed.
- you will have to submit the followings:
  - Network topology diagram with proper labels
- The configuration commands of all the routers that you have implemented.
  - ✓ VLSM/Network address table.
  - ✓ IP address table