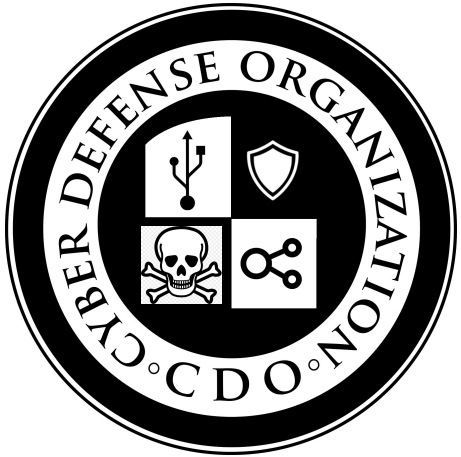
Cyber Defense Organization

Fall 2018 - Routers & Security

Spooky edition



DNS is down
Why is my password not working?
Where are my backups??
Hard drives going *tick tick*

Quick Update!

Exploitation Training!

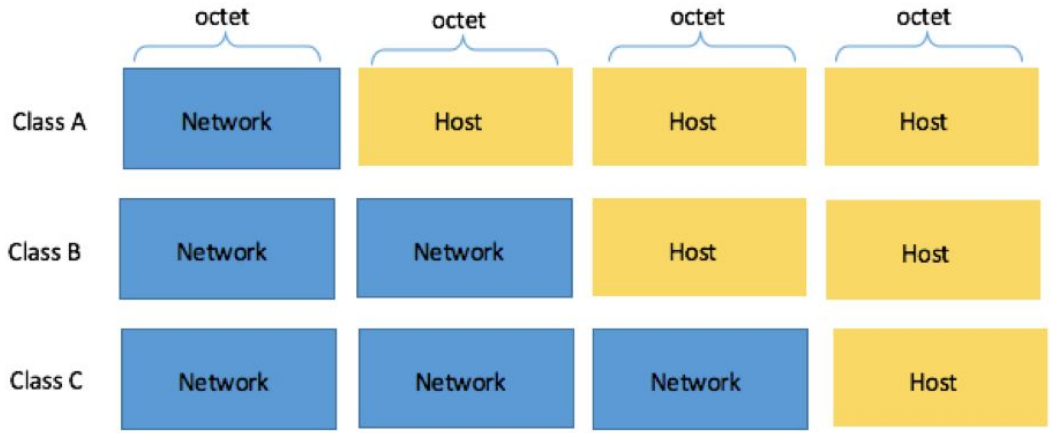
"Exploitation and reverse engineering are arts. They are puzzles. The ultimate video game. Thrilling. Agonizing. They are arts. Come revel in the art with us."

https://www.exploitation.training/

Word of the Week!
Subnetting

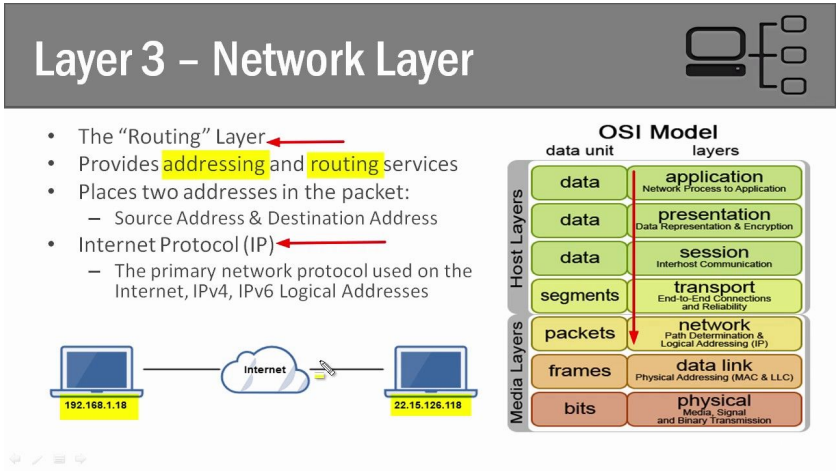
Subnetting

- Process of dividing networks into multiple parts
- Utilize binary versions of IP address and subnet masks
- Basic process:



What are Routers?

- Layer 3 - Network
- Edge of your network
- Provide the ever important internet connection to the LAN

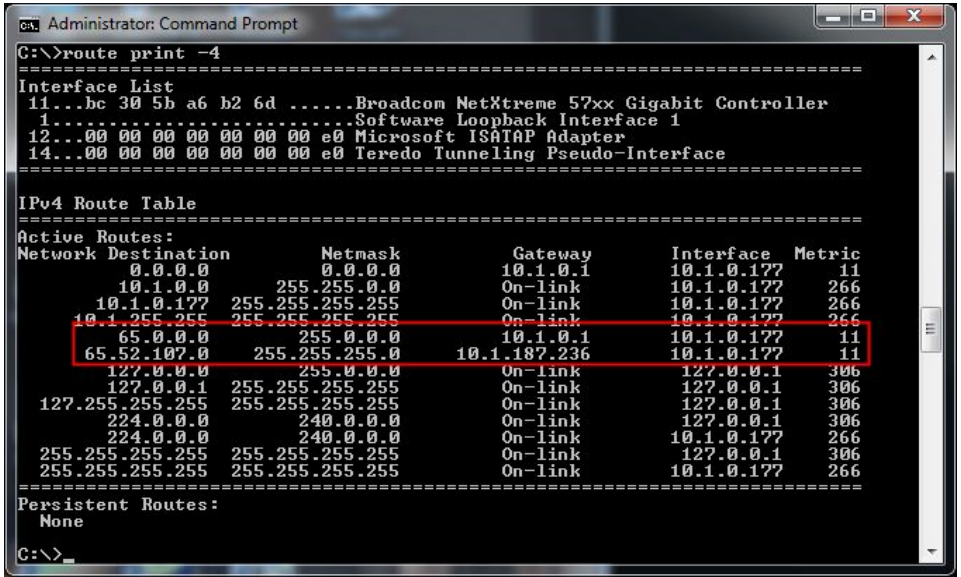


The Function of a Router

- Allow access to the WAN for LAN devices
- How?
    - Layer 3
        - IP Address
        - Subnet mask

Routing Tables

- Logic tables that contain all the known routes in a router
- Filled via two methods:
  - Static routing
  - Dynamic routing



Static vs. Dynamic

Static:

- Manually tell the router where other networks are
- Complex with large networks, Easy with small

Dynamic:

- Routers automatically fill the table based on what it knows
- RIP, BGP, OSPF
- Complex for small, Easy for large

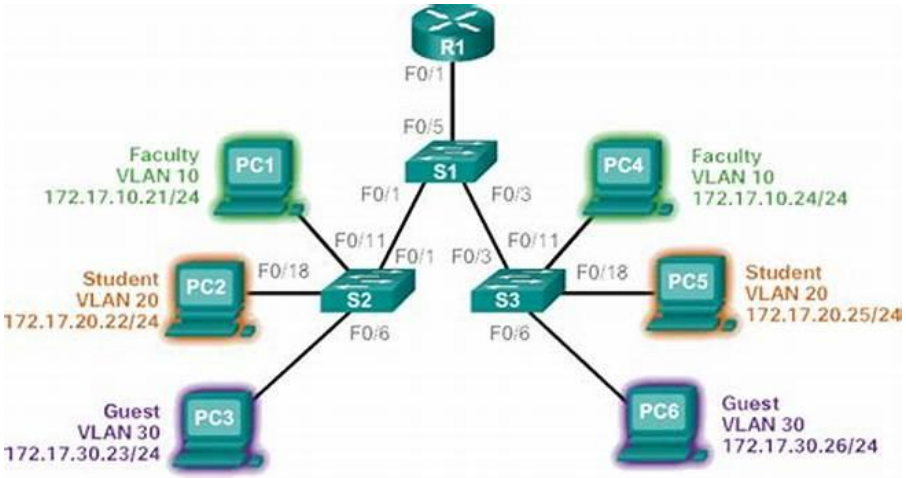
To Packet Tracer my Friends!

Security on a Router

- Edge of your network
- Utilize layers
- Configure securely
  - Minimum resources required
  - Passwords
  - Encryption

VLANS Application

- Further scope down the security of your network
- Allows separation in the business in case different departments are present
- Myriad of other uses



Access Control lists Application

- Leverage the created VLANS to implement a business/security policy
- Block traffic from certain networks
- Principal's about how to implement them

Cya Next week!

Send your cute pet picture to Liam!

wcsmith@albany.edu

Follow us on Twitter? Add on myInvolvement?

CCDC Team! - Monday 7:15pm BB121

Workshop? Yeah probably

- **Friday 3pm BB123**