Today's Topics

1. Introduction to **netcat**
2. Introduction to **ss**
3. Introduction to **wireshark**
**What Is?**

- Computer networking service
- For reading from and writing to network connections

**netcat vs. telnet**

- Similar, but netcat has lot more features:
  - Creating socket servers,
  - Listen for incoming connections on ports,
  - Transfer files from the terminal,
  - Etc.

**File Transfer**

- Commands:
  - Receiver: `nc -l -p $PORT`
  - Sender: `nc $SERVER $PORT`
- Message transfer
- File transfer using redirection

**Making Any Process a Server**

- Listen on a port and pipe input to the process
- Commands:
  - Server: `nc -l -p $PORT -e $PROCESS`
  - Client: `nc $SERVER $PORT`
  //Provide input for program
- Shell example
- Another program example

**Using UDP**

- Sometimes there is a firewall blocking a specific UDP port on the server.
- Commands:
  - Receiver: `nc -ul -p $port`
  - Sender: `nc -u $SERVER $PORT`

**Probing**

- Port scanning
- Command: `nc -v -z $SERVER $PORT`
  - Port range
  - Known ports
What Is?

+ Is used to dump socket statistics.
+ It can display TCP and state information.

Output

+ List all connections
+ List desired connections:
  - Just TCP connections.
  - Just UDP connections.
  - Etc.
+ Show desired information:
  - Process ID,
  - Timer information,
  - Etc.
What Is?

- Is a packet analyzer.
- It is used for network troubleshooting, analysis, software and communications protocol development, and education.