Course name: Computer Networks[202301-ISE2232-001]
Professor: Mehdi Pirahandeh

Final Exam Presentation Material

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Python3 Based P2P Socket Programming with TCP Protocol

WIRESHARK

CISCO

Architecture

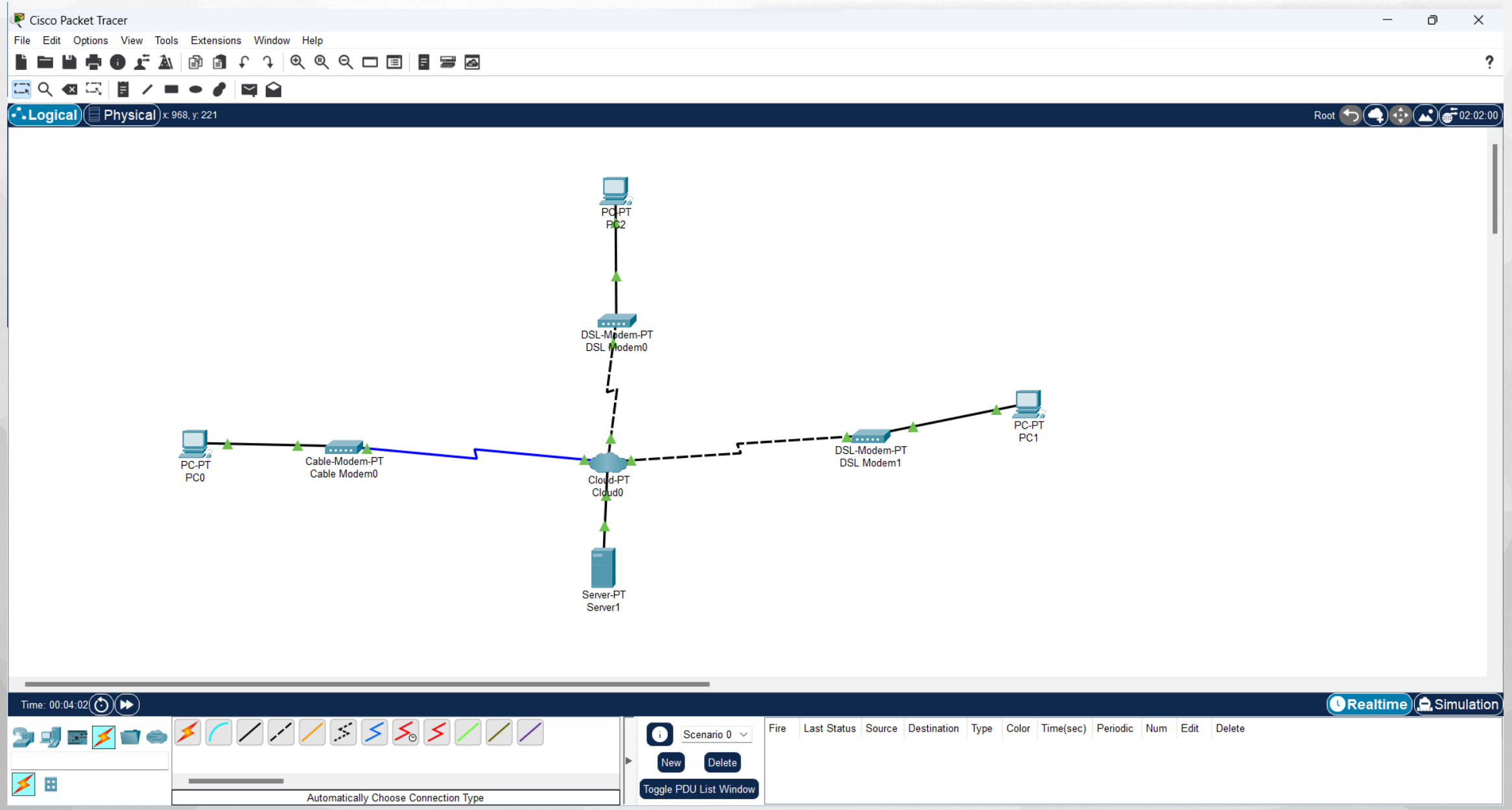
Server		Client
Initialize. Start listening.		Display menu. User inputs. Accesses file.
Accept connection	⟷	Connects to server
Receives <-> Responses	⟷	Sends <-> Waits Response
Collects data and Saves it.		
Closes connection.	⟷	Closes connection.
Keep listening.		Return to menu.

File Transfer Process

1.Client:
   1.Connects to the server using TCP socket.
   2.Selects the file to send from a menu.
   3.Provides the file name or file path.
   4.Establishes a connection with the server.
   5.Sends the file to the server in multiple steps.

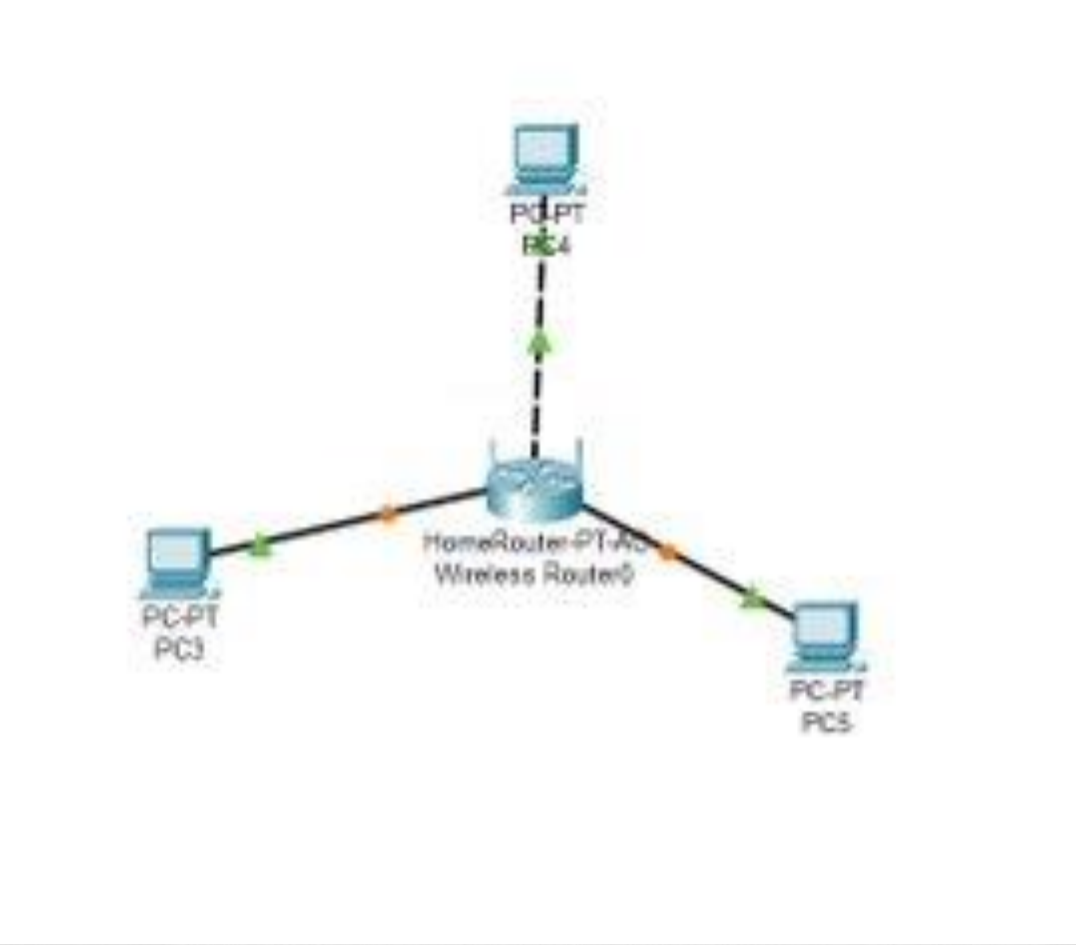
1. Server:
   1. Listens for incoming connections from clients.
   2. Accepts the client connection.
   3. Receives file-related information from the client (extension, name, size).
   4. Creates a new file for storage.
   5. Receives the file data in chunks.
   6. Writes the received data to the file.
   7. Closes the client connection.

Cisco Packet Tracer



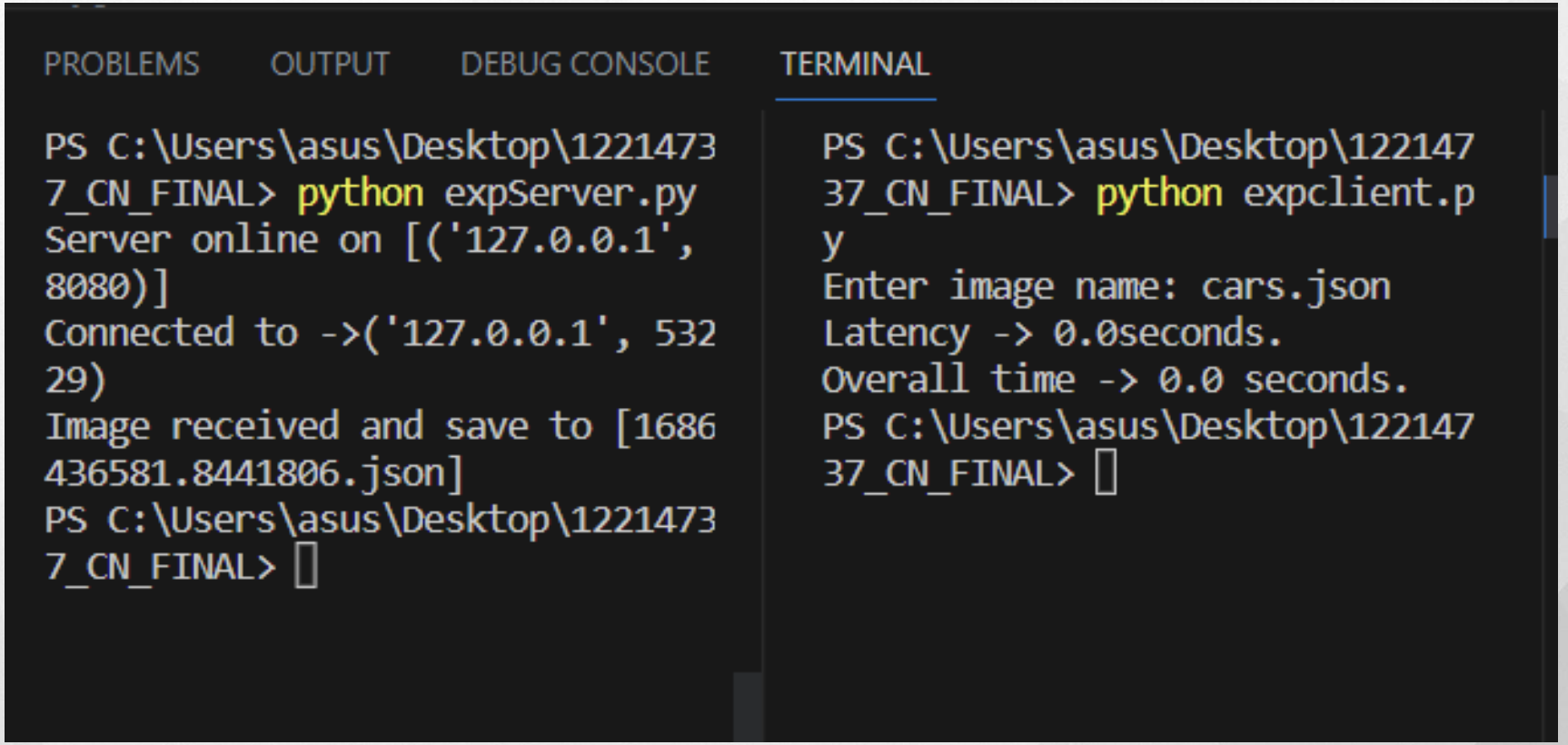
Cisco Packet Tracer

Simpler Example



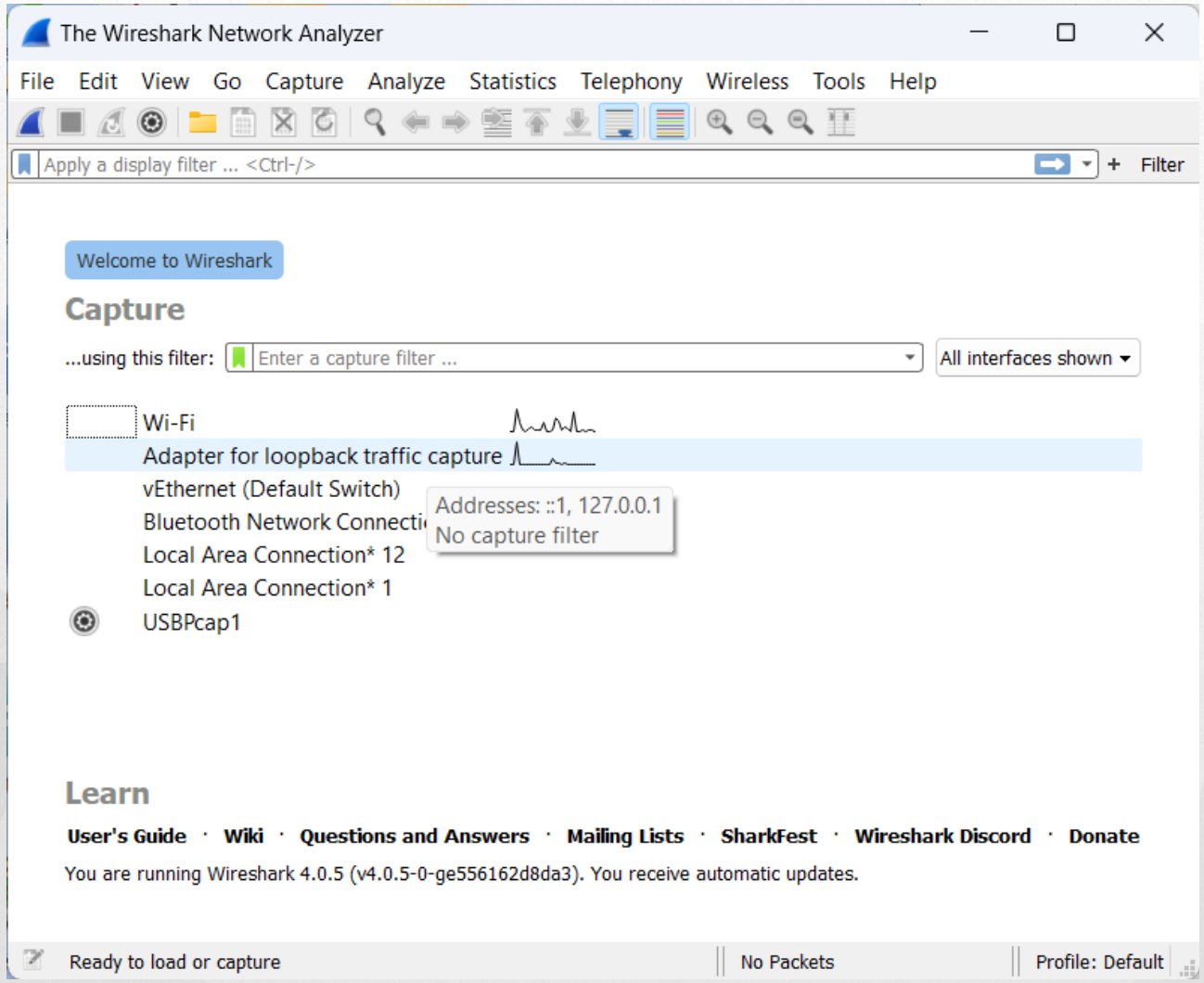
Experiment
Connection

```
#c-s connect
#c send ext
#s ok
#c send name
#s ok
#c send size
#s ok
#c send data
#s ok
#c-s close
```



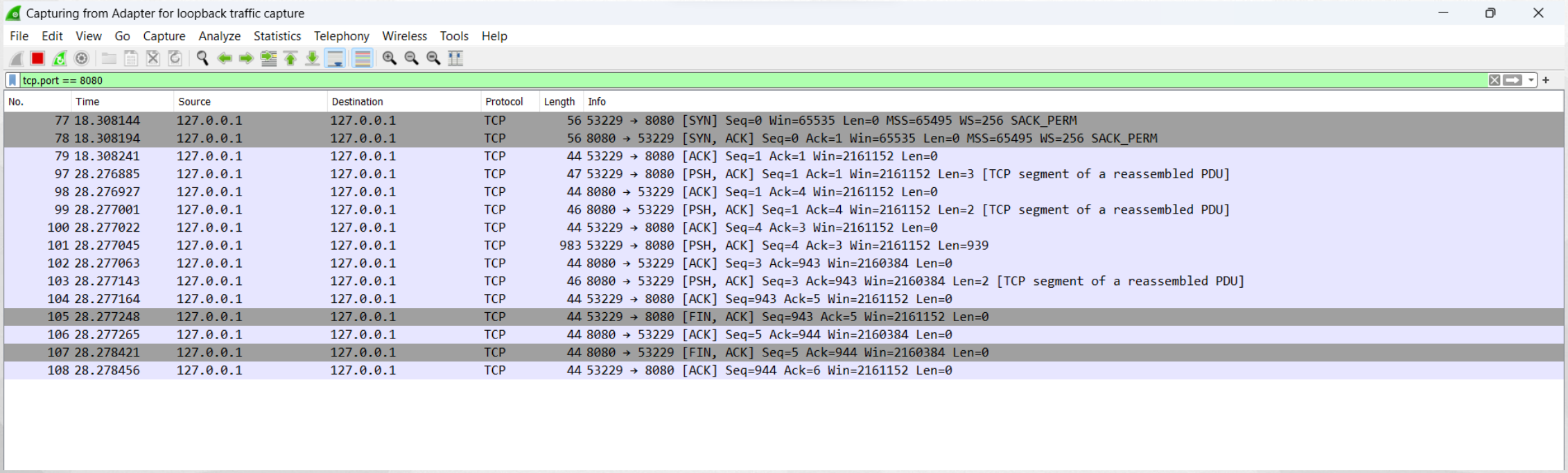
Can send any type of data

WireShark



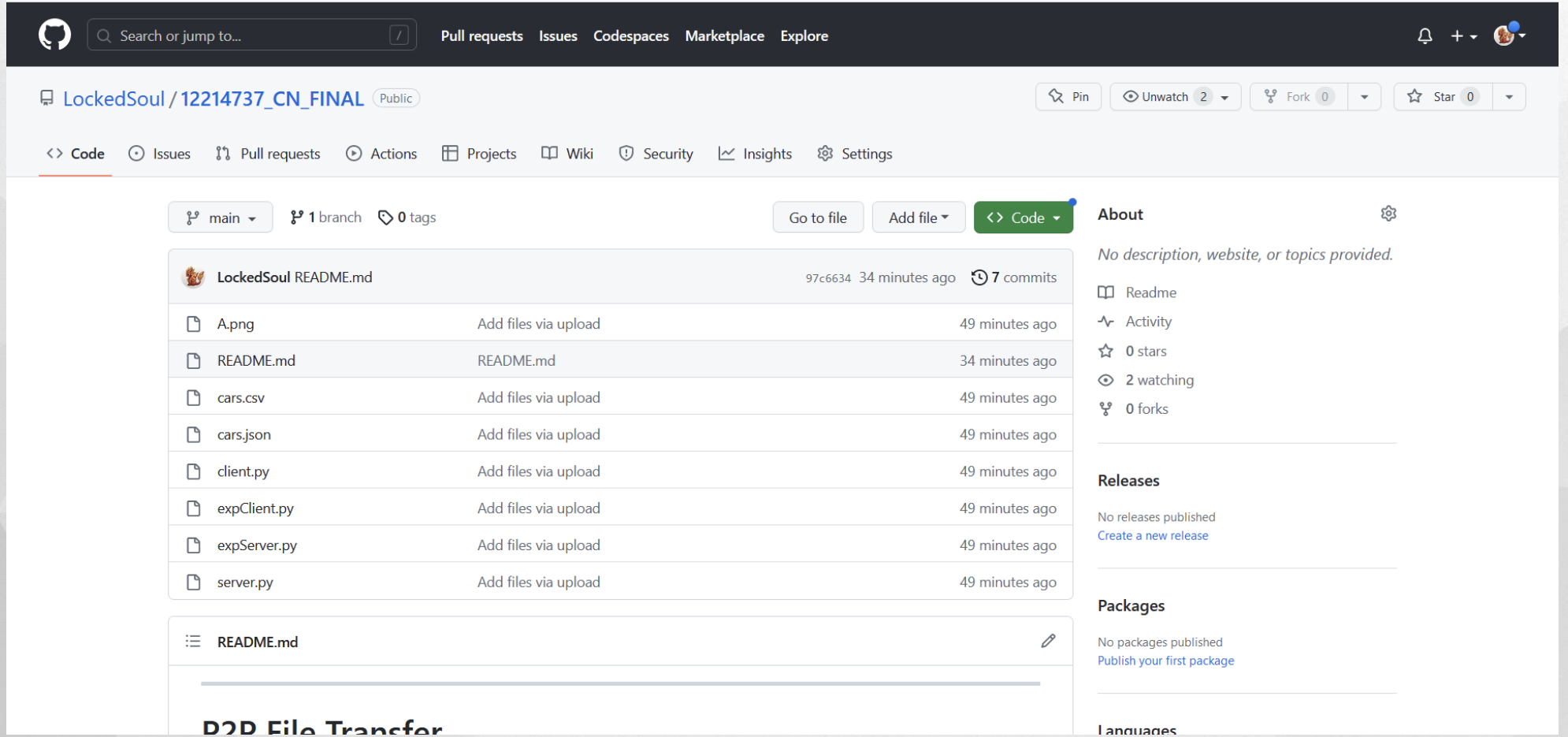
Open loopback traffic capture

WireShark



Set filter to "tcp.port == 8080.
And wait for packets to be captured.

Create README file and upload everything to GitHub



https://github.com/LockedSoul/12214737_CN_FINAL

Thank you!