

EXPERIMENT4:

Create a visual representation in Figma highlighting the key elements of mobile network protocol stacks.

Aim: -

Design a visual representation in Figma highlighting the key elements of mobile network protocol stacks.

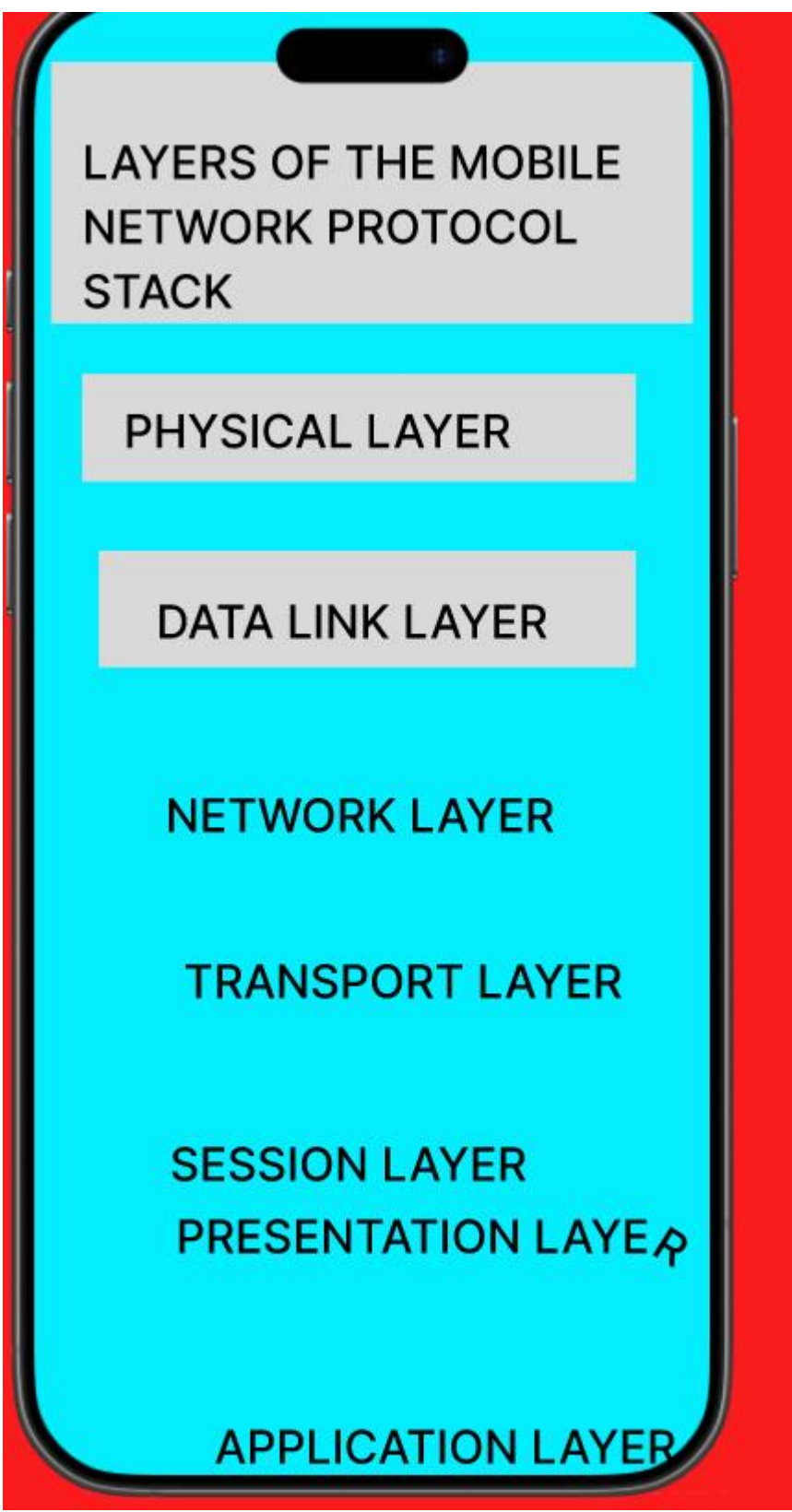
Procedure: -

1. open Figma
2. Create a new file
3. Select the Frames
4. Fill in the content that is required for presentation
5. Design Visual Elements
6. Make it Interactive
7. Add Annotations and Explanations
8. Incorporate Multimedia
9. Storyboard Animation
11. Review and edit the Prototype
12. Save and Share

Design: -



THE MOBILE NETWORK PROTOCOL STACK



The diagram shows a smartphone screen with a red background. The screen displays the title 'LAYERS OF THE MOBILE NETWORK PROTOCOL STACK' at the top. Below the title, the layers of the protocol stack are listed from top to bottom: PHYSICAL LAYER, DATA LINK LAYER, NETWORK LAYER, TRANSPORT LAYER, SESSION LAYER, PRESENTATION LAYER, and APPLICATION LAYER. The first three layers are each enclosed in a grey rectangular box, while the remaining four layers are text labels without boxes.

LAYERS OF THE MOBILE NETWORK PROTOCOL STACK

PHYSICAL LAYER

DATA LINK LAYER

NETWORK LAYER

TRANSPORT LAYER

SESSION LAYER

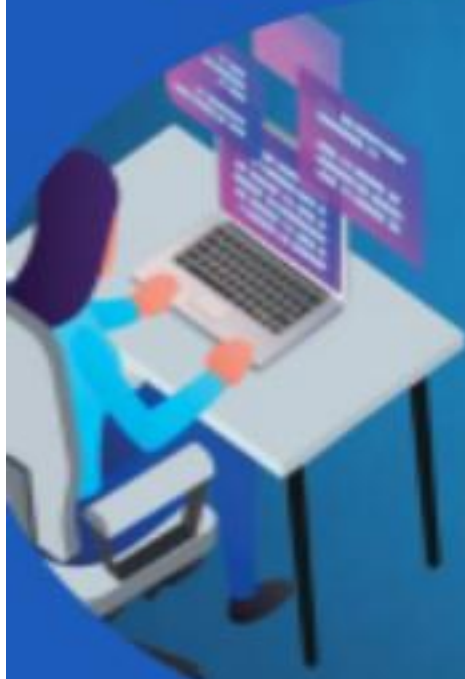
PRESENTATION LAYER

APPLICATION LAYER



Data Link Layer

- Responsible for framing, addressing, and error detection in the transmitted data.
- Commonly includes the Medium Access Control (MAC) sublayer for channel access control and the Logical Link Control (LLC) sublayer for addressing and flow control.

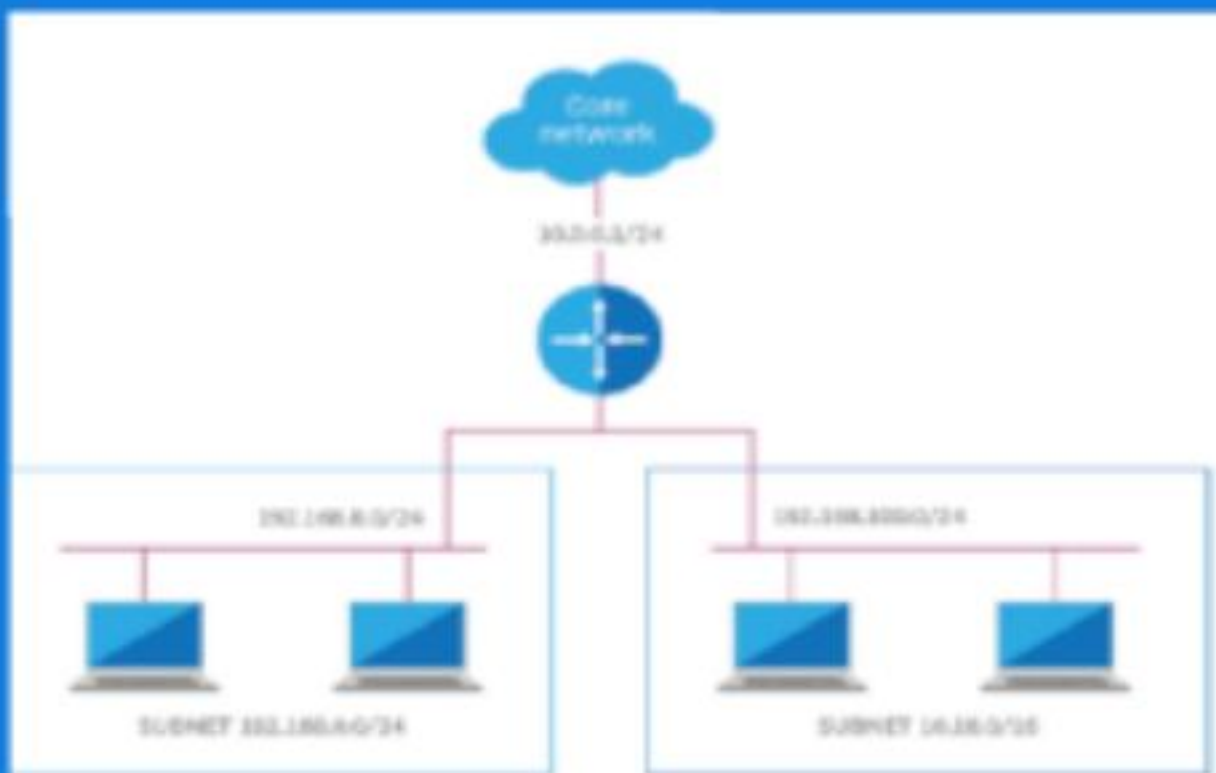


- #1. Framing & Link Access
- #2. Flow Control
- #3. Reliable Delivery
- #4. Half-Duplex & Full-Duplex
- #5. Error Detection
- #6. Multi-Access



Network Layer

- Manages the logical addressing and routing of data packets between devices on different networks.
- Key protocols include the Internet Protocol (IP), which provides unique addresses for devices and facilitates routing.





Transport Layer

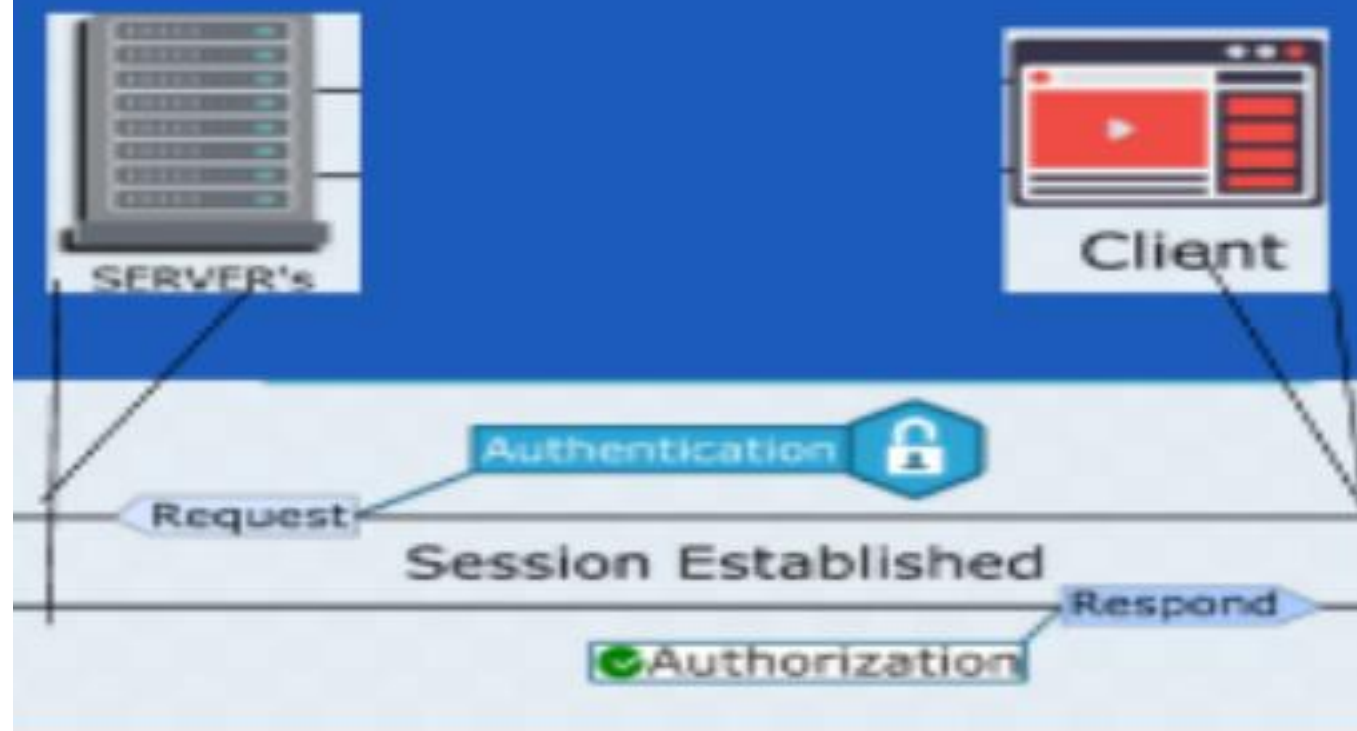
- Ensures end-to-end communication and data integrity.
- Transmission Control Protocol (TCP) is commonly used for reliable, connection-oriented communication, while User Datagram Protocol (UDP) is used for connectionless communication.





session Layer

- Manages sessions or connections between devices.
- Handles the establishment, maintenance, and termination of sessions.



PRESENTATION LAYER



Responsible for data translation between application and network formats.

Performs data encryption and decryption for secure communication.

Handles data compression and decompression to reduce size for transmission.

Ensures data formatting (e.g., JPEG, MP3, MPEG, GIF).

Manages character encoding (e.g., ASCII, Unicode).

Provides serialization – converts data



Application Layer

- Interacts directly with end-user applications.
- Supports application-specific protocols and provides a platform for network-aware applications.

