



Android
Lucknow

COMMUNITY • LEARN • BUILD • GROW

ANDROID LUCKNOW

`</>` Code. Innovate. Elevate. `</>`

Android Lucknow is a thriving tech community empowering developers, tech enthusiasts and innovators through **knowledge sharing**, **collaboration** and **events**.



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Android Lucknow



ACTIVE
COMMUNITY



LEARNING
SESSIONS



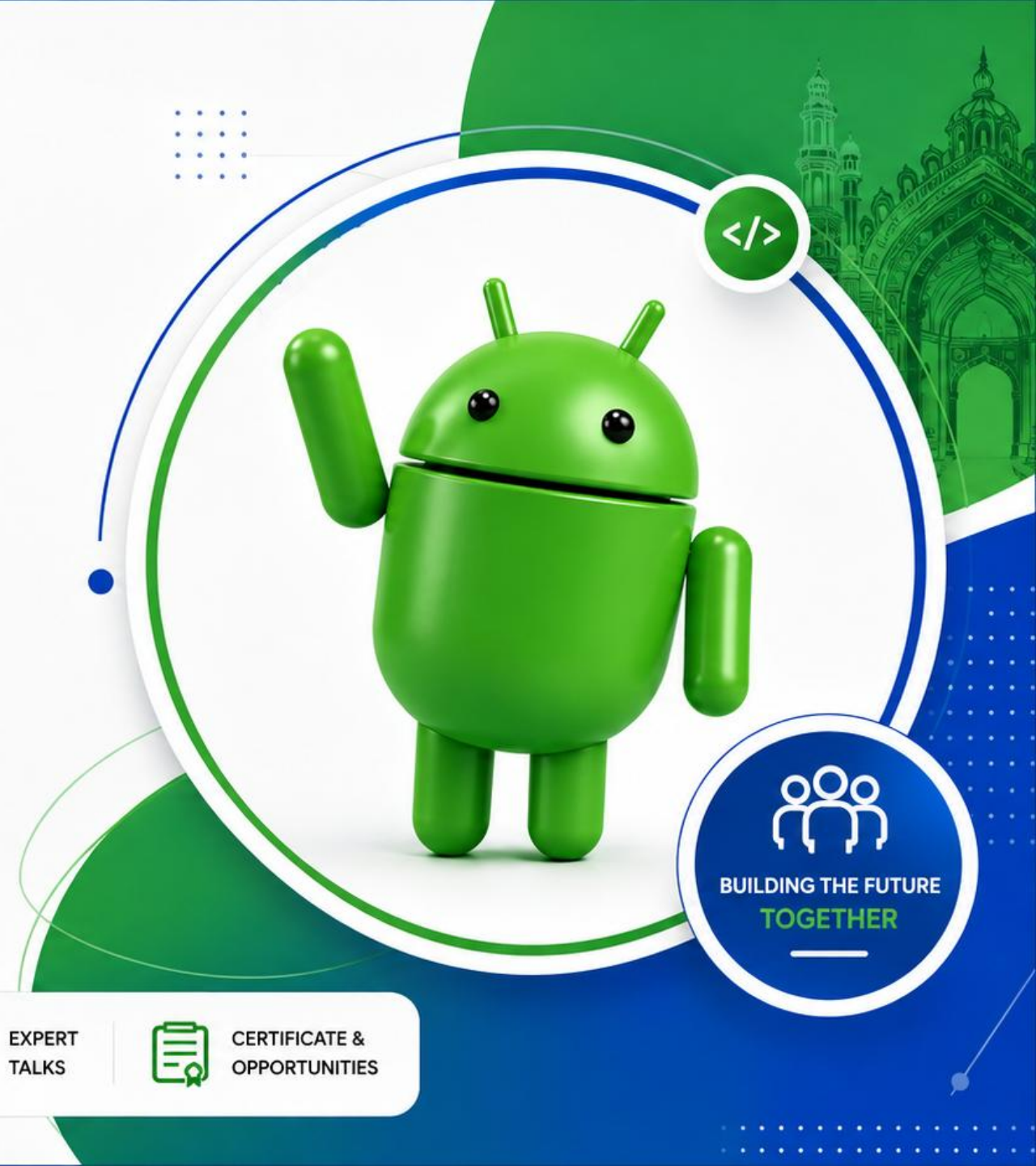
PRACTICAL
WORKSHOPS



EXPERT
TALKS



CERTIFICATE &
OPPORTUNITIES



Hello, 🖐️

Dhruv Singh

Founder - INDIGRAPHIX | Network Engineer

“ Building secure, reliable and future-ready IT infrastructure that connects people to possibilities. ”

EXPERTISE



IT Infrastructure
& Networking



Cybersecurity



IAM &
Authentication



IoT



CCTV & WiFi
Networking



Computer
Hardware



Technical
Support



Graphic
Designer



Digital
Transformation

CERTIFICATIONS



Google Cloud
Security
Fundamentals



CCST
Networking



IoT
Fundamentals



Packet
Tracer

ACHIEVEMENTS

- ✓ 48+ CCTV Camera Deployment Projects
- ✓ Enterprise WiFi & Network Setup
- ✓ Conducted IoT & Networking Workshops for Students
- ✓ Worked with Schools, Institutes & Healthcare Infrastructure



SCAN TO CONNECT
ON LINKEDIN



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FOUNDER

Indigraphix



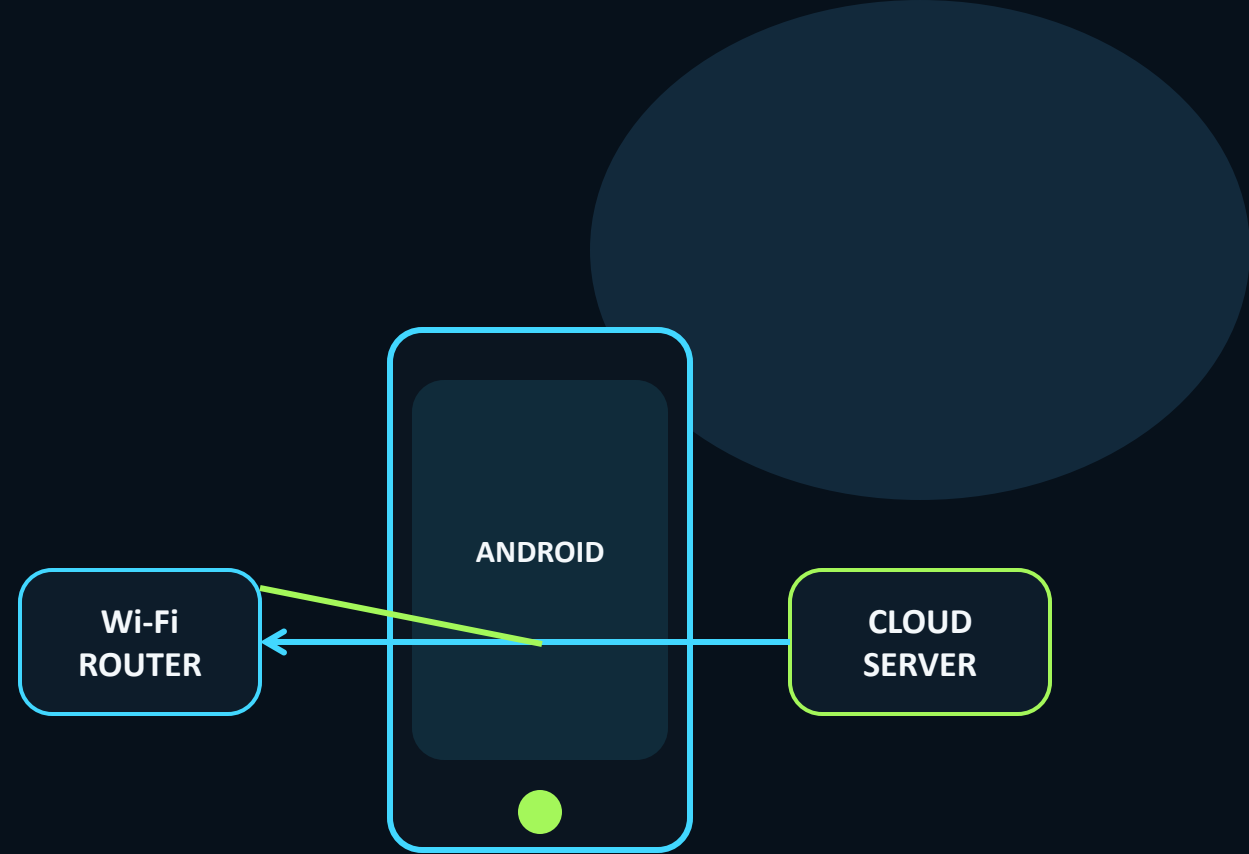
BASED IN

India

How Android Phones Actually Connect to the Internet

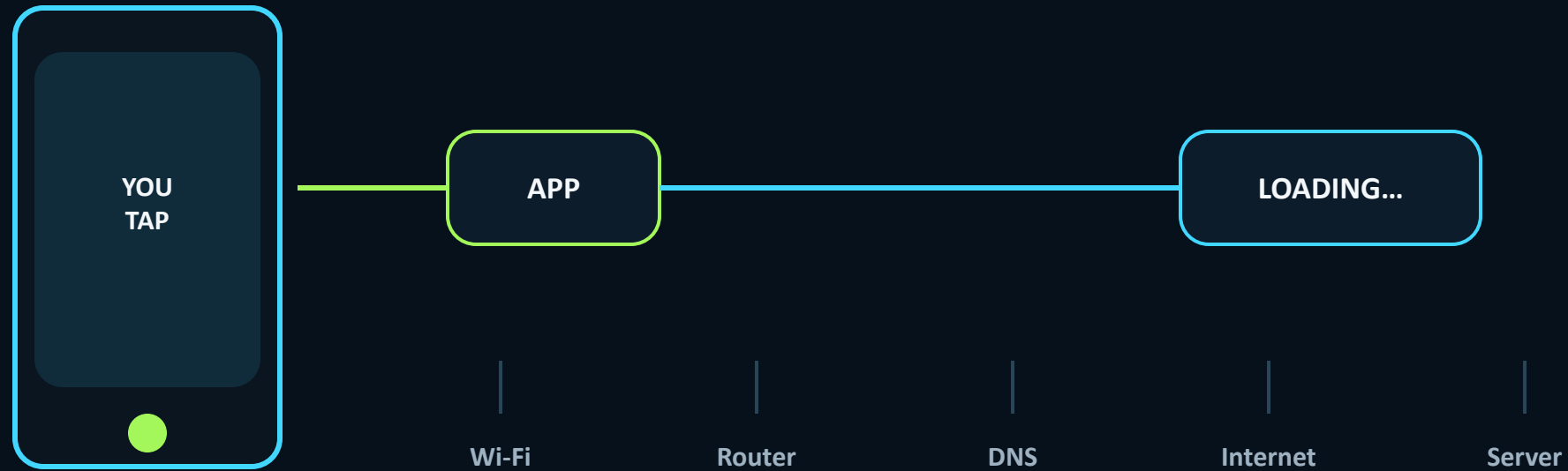
From Wi-Fi Packets to Your First Android IoT Project

Dhruv Singh • Lucknow



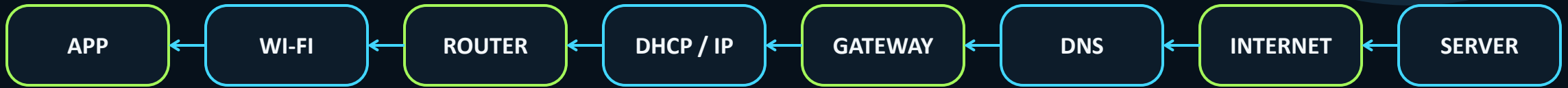
When you tap YouTube... what actually happens?

One tap. A surprisingly busy trip.



A single request crosses a chain of identities and decisions

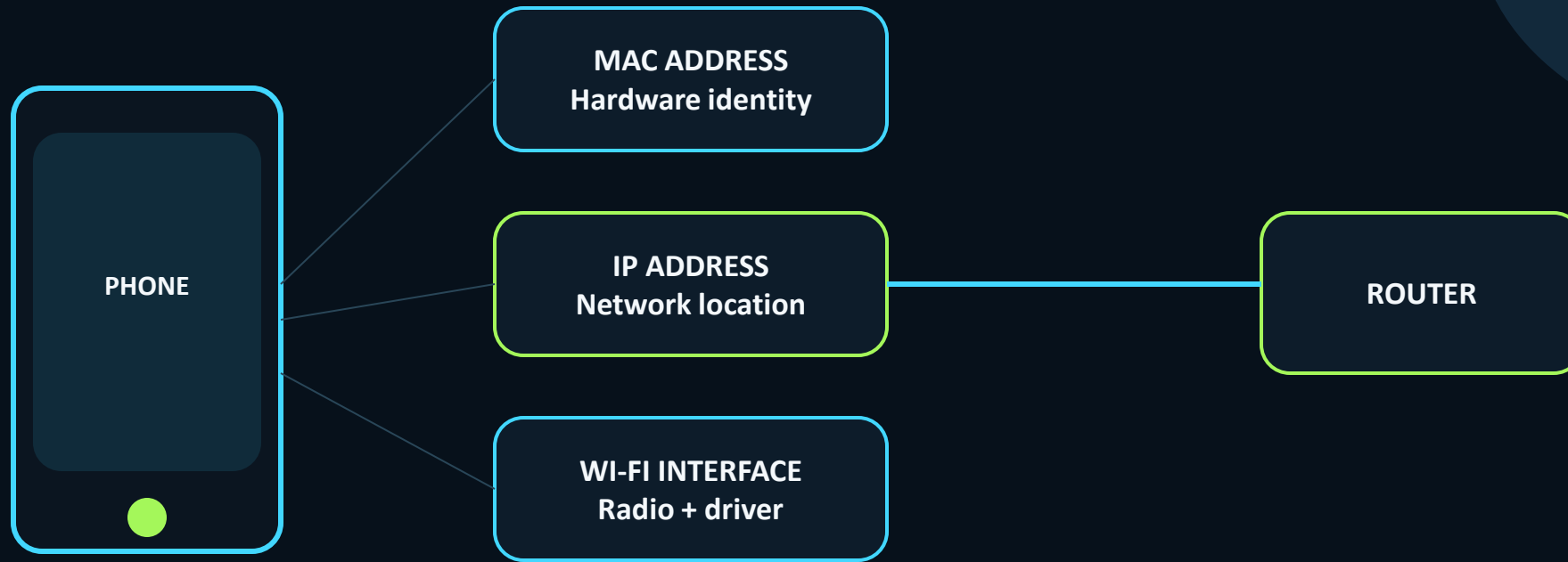
Follow it left to right—then watch the response come home.



RESPONSE

Before the internet, your phone needs an identity

Three things make a network interface usable.



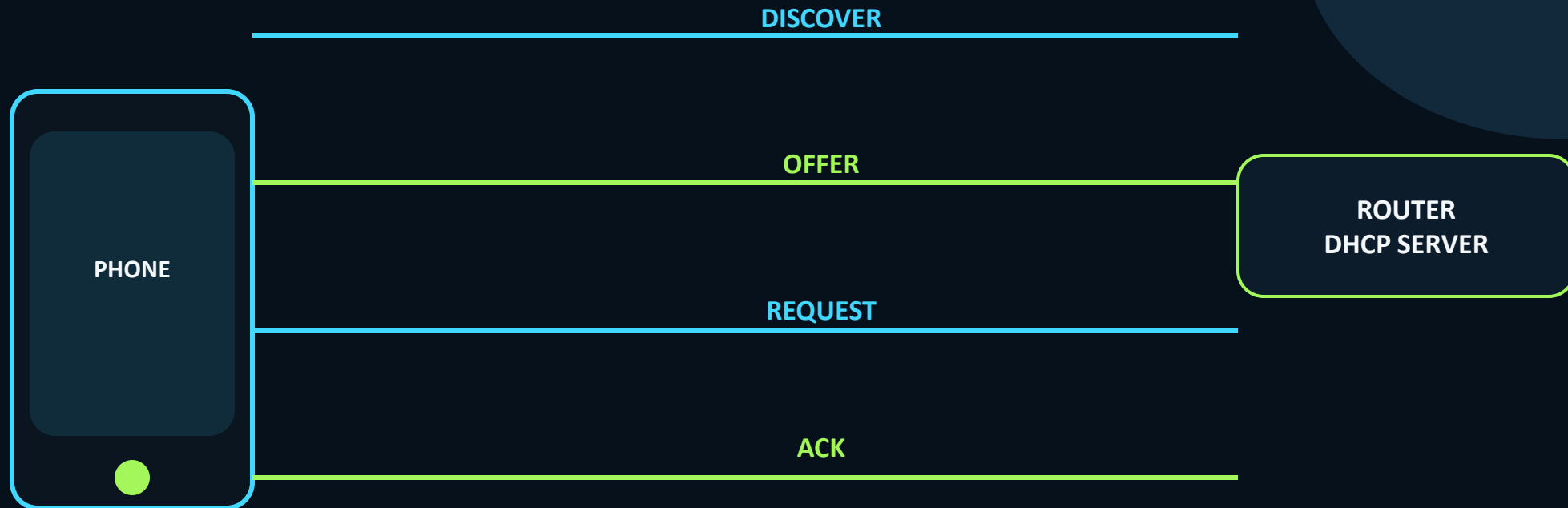
“Connect” is a short conversation, not a switch

Seven messages turn radio visibility into reachability.



Who gives your phone an IP?

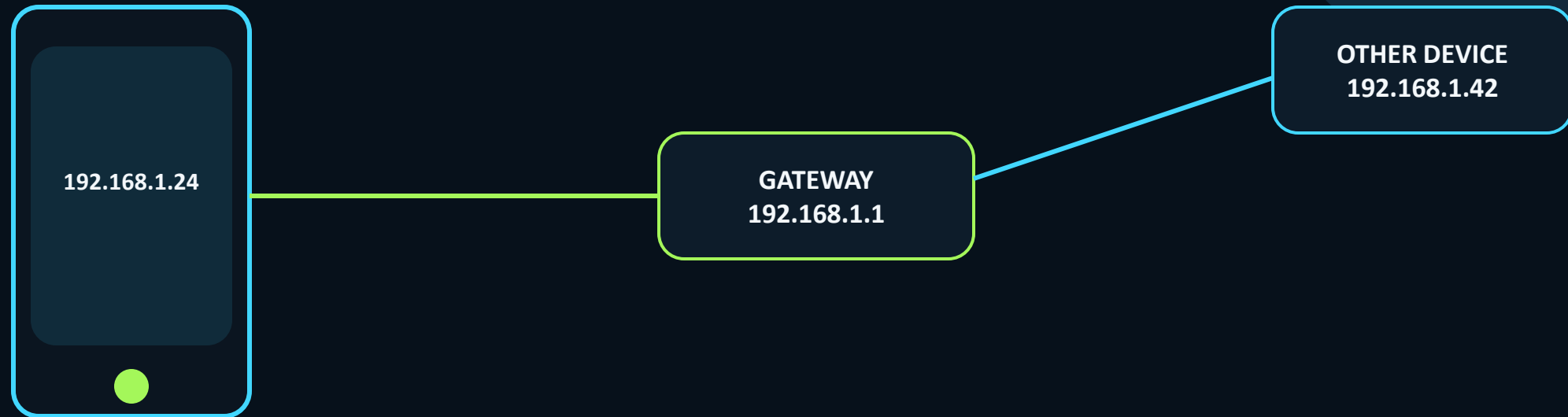
DHCP is the local-network welcome desk.



192.168.1.24

Your phone needs an address

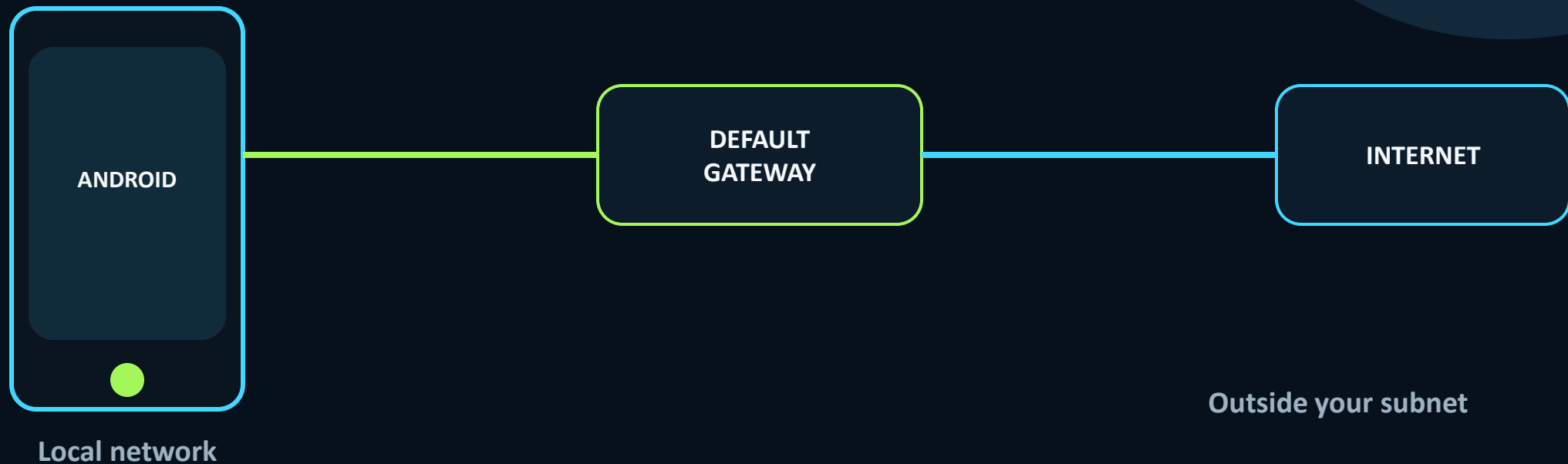
IP is the logical address used to send traffic across a network.



Same subnet: local delivery can stay local.

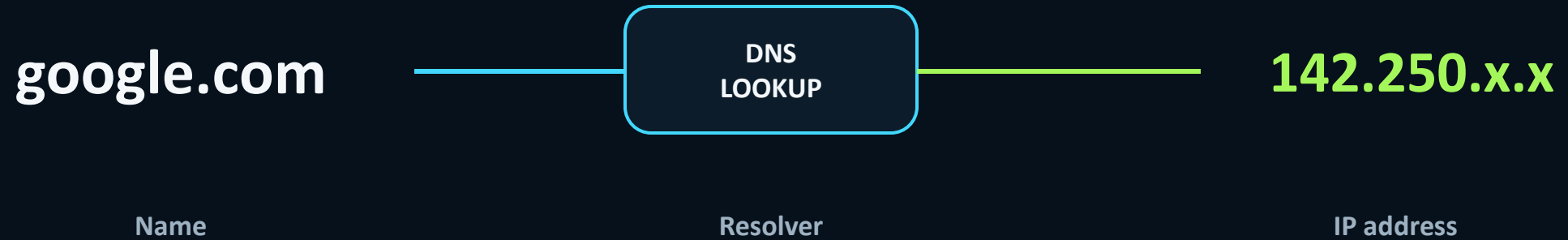
Where does the packet go next?

Your router is the exit door from the local network.



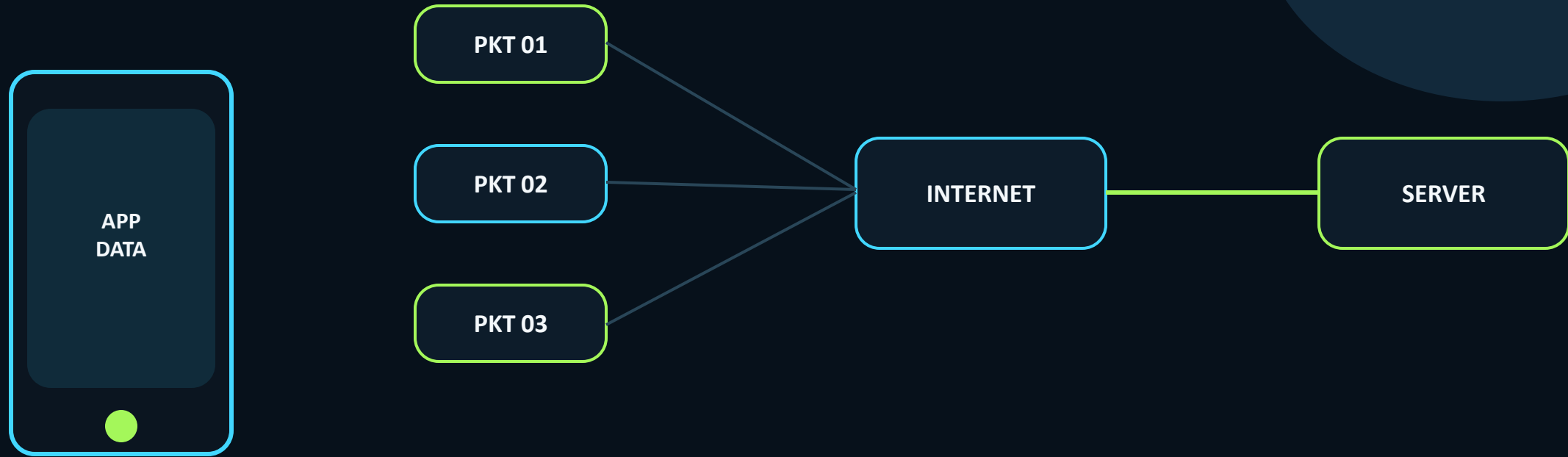
Humans remember names. Networks use IP addresses.

DNS translates intent into a routeable destination.



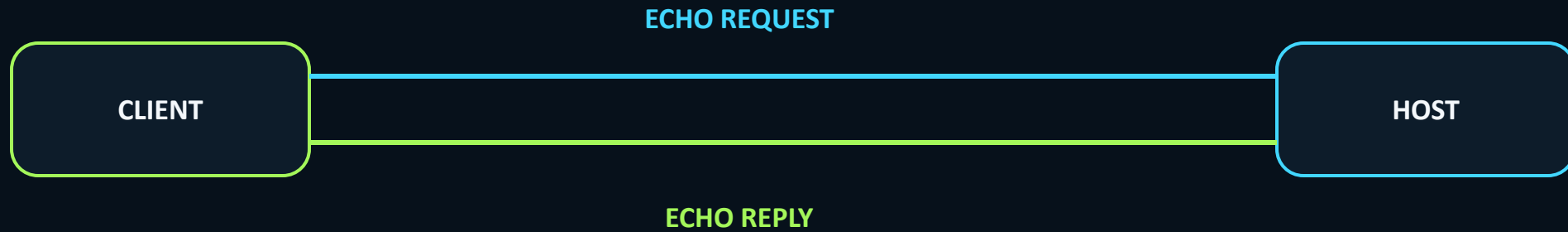
Your message doesn't travel as one giant block

Data is segmented into packets, routed, then reassembled.



How do we know the network is alive?

Ping sends an ICMP echo request and measures the reply.



28 ms

Fast internet $\neq$ low latency

Latency is the time a request waits to make the round trip.

LOW LATENCY



28 ms

HIGH LATENCY



350 ms

Apps • games • video calls • IoT

Let's see it on a real Android phone

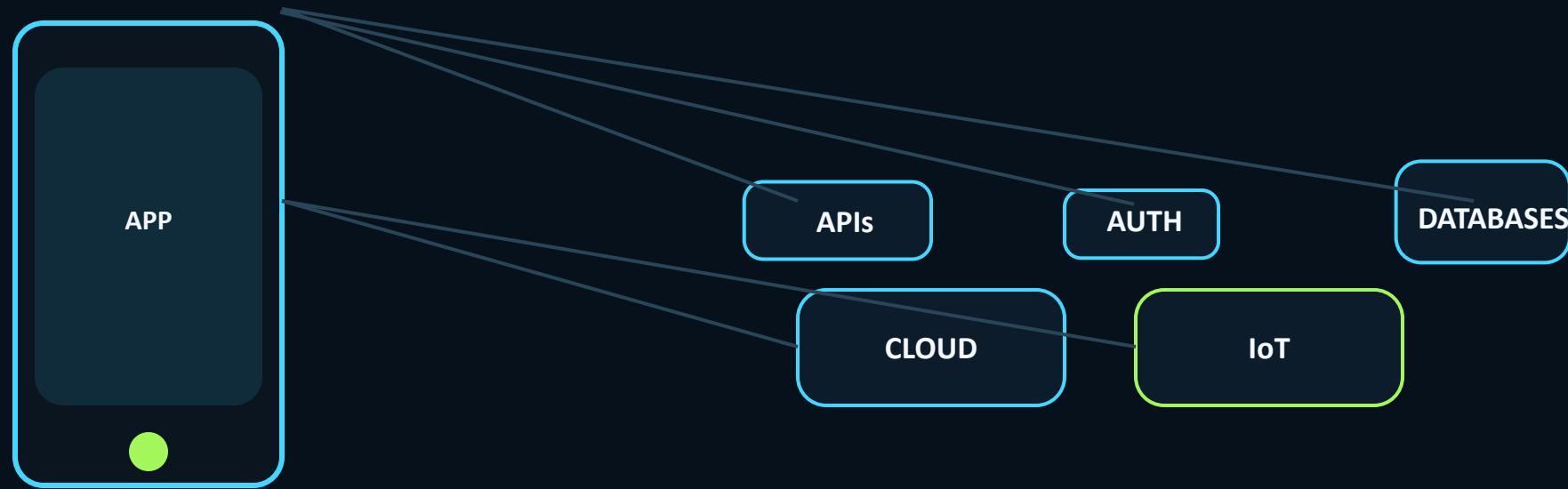
Observe the information your phone is already using.

LIVE
DEMO

- 01 Connect to Wi-Fi
- 02 Inspect IP address
- 03 Check gateway + DNS
- 04 Ping a reachable host
- 05 Run a speed test
- 06 **Observe latency**

Every connected Android app is a networking application

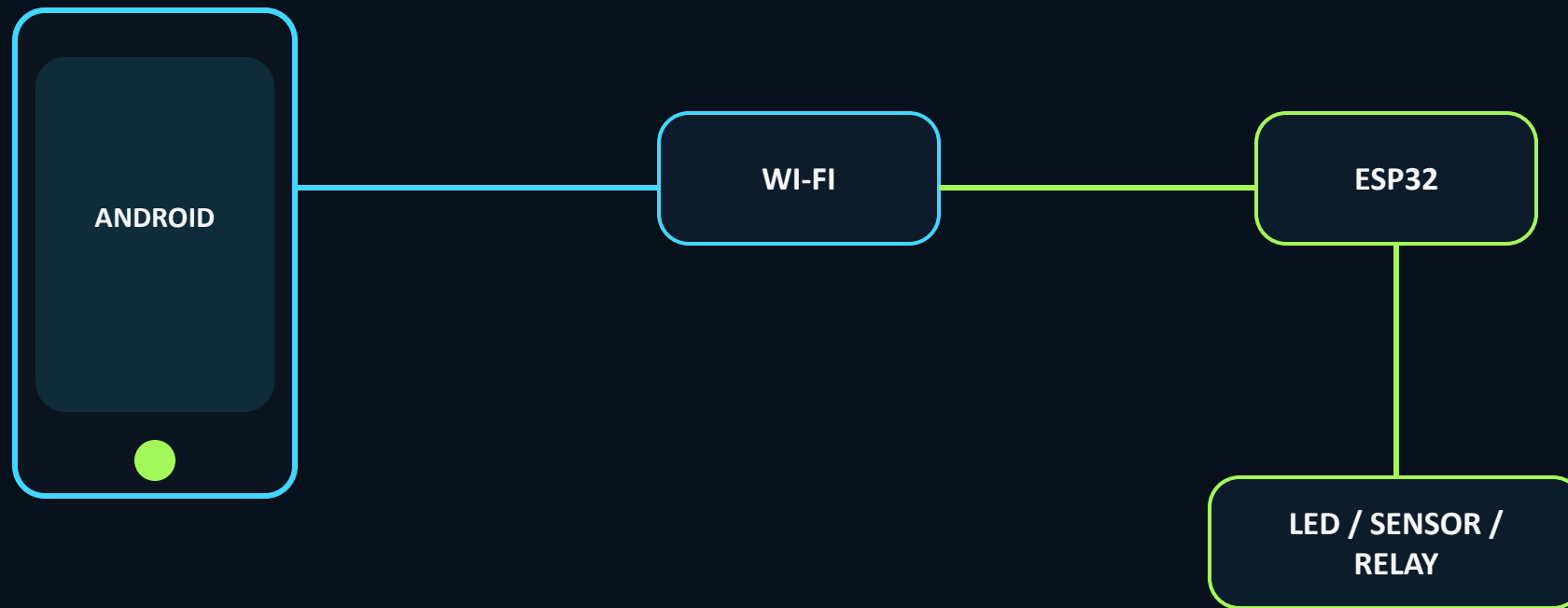
The UI is only one side of the conversation.



Your app depends on requests, responses, retries, timeouts, and trust.

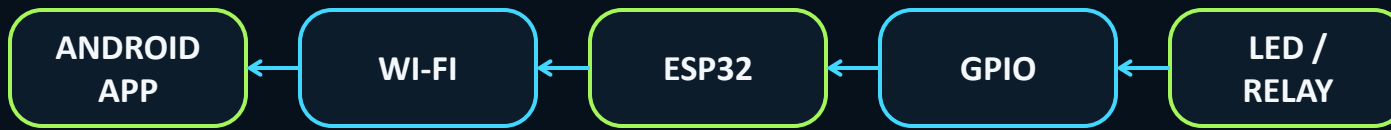
Okay... but what if the server was a device?

The network path can end inside the room.



Your Android phone can control the physical world

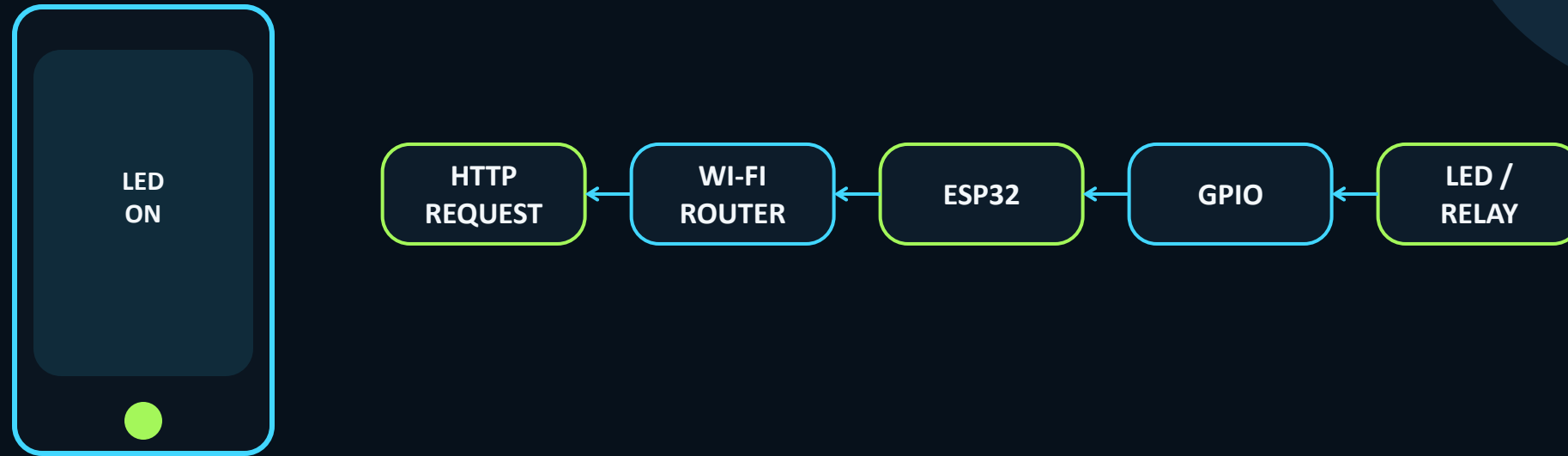
IoT = software, networks, and hardware acting as one system.



The same request / response thinking applies.

Build this.

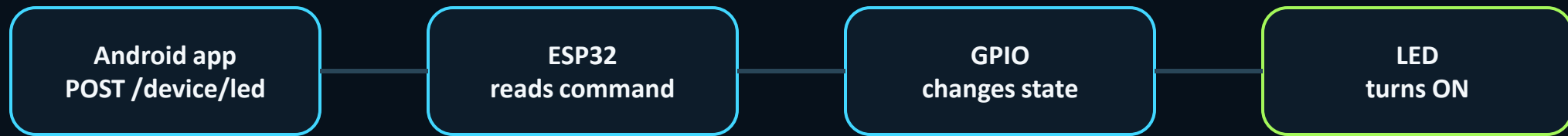
A first local-network project: an Android ON/OFF control.



POST /device/led

How Android talks to ESP32

A small request triggers a physical change.



Keep implementation details small; make the flow memorable.

Instead of speaking hardware language, we speak API

JSON gives both sides a structure they can agree on.

```
{  
  "device": "led",  
  "state": "on"  
}
```

API

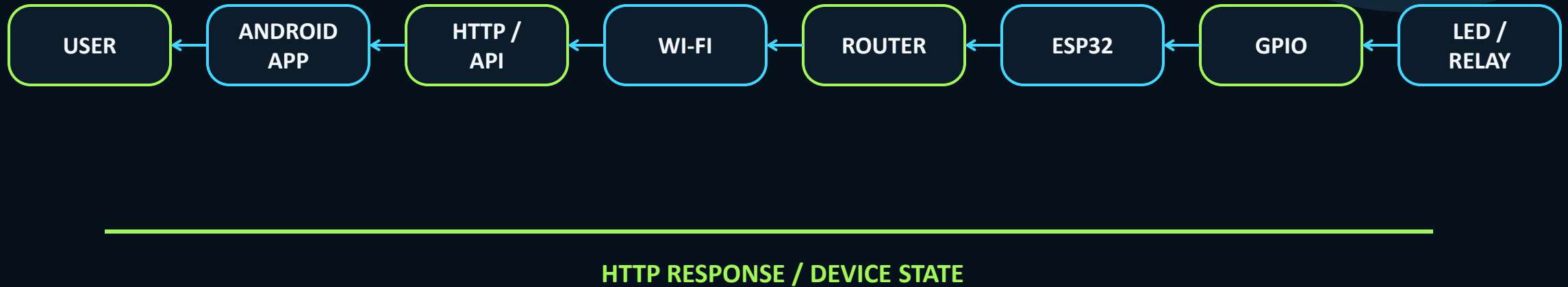
communication interface

JSON

structured data

One architecture. Two directions.

Command goes out; device state comes back.



Let's control hardware from Android

Watch one tap travel from UI to GPIO and back.

1 Open app

2 Press ON

3 HTTP sent

4 ESP32 receives

5 GPIO changes

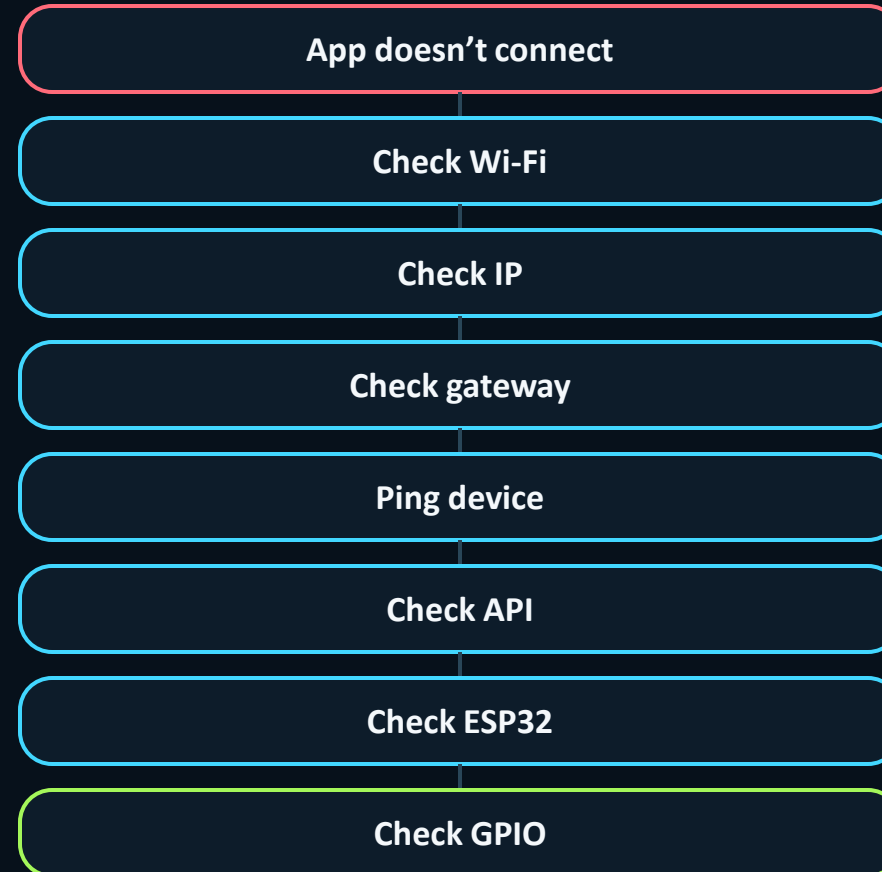
6 LED ON

7 Response



Debugging is networking

Trace the chain. Don't guess at the last link.



From demo to real world

The same building blocks scale into meaningful systems.

Smart home

Industrial IoT

Smart agriculture

Healthcare

Security systems

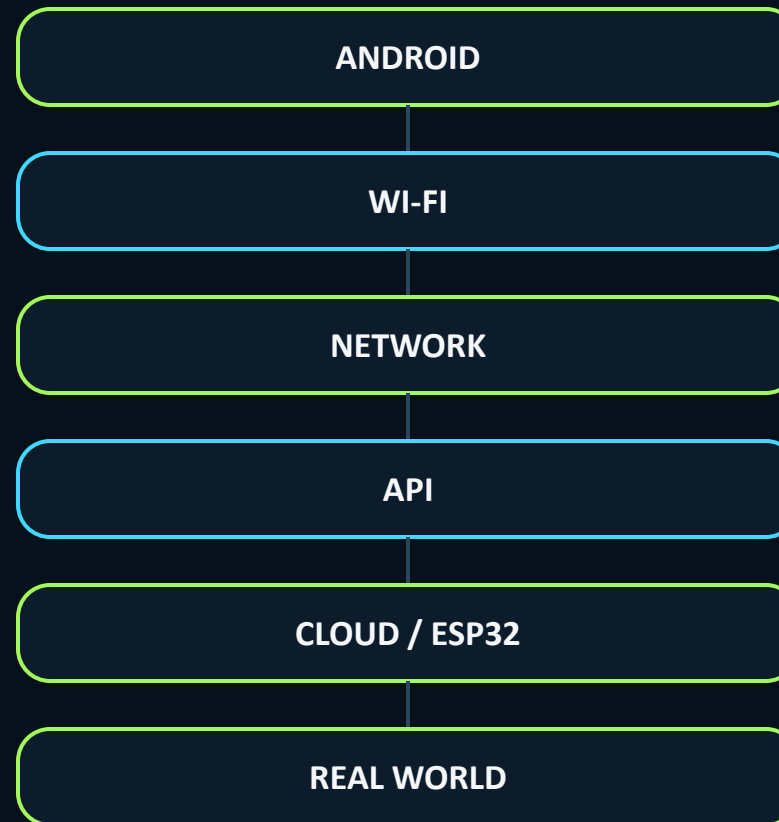
Fleet tracking

Smart buildings

Remote monitoring

Android is the interface between humans and the connected world

Not just an app: a bridge across software, networks, and devices.



Keep the mental model

Three clusters. One connected system.

NETWORKING

IP • DHCP • Gateway
DNS • Packets • Ping •
Latency

ANDROID

Apps • APIs • HTTP
Servers • State • Reliability

IoT

Wi-Fi • ESP32 • JSON
GPIO • Sensors • Hardware



WHY JOIN ANDROID LUCKNOW?

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Android Lucknow is a community for learners, developers and innovators to **learn**, **build**, **collaborate** and **grow** together!



One Community.
Endless Possibilities.



COMMUNITY
Driven



KNOWLEDGE
Sharing



PRACTICAL
Learning



FUTURE
Ready



Android Lucknow



TOGETHER
WE BUILD THE
FUTURE



LEARN

Hands-on sessions,
workshops &
expert talks.



BUILD

Work on real-world
projects and build
your portfolio.



CONNECT

Network with amazing
people who share
your passion.



GROW

Improve your skills,
explore new tech and
accelerate your career.



EARN

Get certificates,
recognition and new
opportunities.



INSPIRE

Be inspired. Inspire
others. Make an
impact!

CODE. INNOVATE. ELEVATE. `</>`



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THANK YOU!

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Thank you for being a part of **Android Build Camp 2026**
Let's continue to learn, build and grow together.

◆ FOLLOW AND STAY CONNECTED! ◆



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Scan to join
our community



TOGETHER
WE BUILD THE
FUTURE

“

Great things
in tech are
never done by
one person.
**They're done
by a community.**

”



ONE COMMUNITY. | **ENDLESS POSSIBILITIES.** | SEE YOU AT THE NEXT EVENT!

