

# Network Traffic Analysis Report

- **Task:** 5
- **Capture File:** wifi1.pcapng
- **Capture Interface:** Wi-Fi (owned)
- **Total Protocols Identified:** 4

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## 1. Protocols Identified and Analysis

### 1.1 ARP (Address Resolution Protocol)

**Purpose:** Maps IP addresses to MAC addresses within a local network. **Behavior Observed:** Multiple ARP requests and replies, reflecting normal device discovery and communication.

**Example:**

"Who has 192.168.0.1? Tell 192.168.0.105"

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### 1.2 QUIC (Quick UDP Internet Connections)

**Purpose:** A modern transport protocol developed by Google, operating over UDP and used primarily for HTTP/3. **Behavior Observed:** QUIC traffic indicates usage of web services such as Google or YouTube, suggesting active web browsing behavior.

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### 1.3 ICMPv6 (Internet Control Message Protocol for IPv6)

**Purpose:** Supports error messaging and diagnostics in IPv6 networks. Includes functions like Neighbor Discovery (similar to ARP for IPv6). **Behavior Observed:** Presence of ICMPv6 messages signals IPv6-capable hosts and routers communicating during the capture session.

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### 1.4 DNS (Domain Name System)

**Purpose:** Translates domain names into IP addresses, a foundational element of internet communication. **Behavior Observed:** Numerous DNS queries and responses, consistent with typical network activity involving web and application usage.

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