**Network Drive by Frigon Tech**

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**Objective:**

1. Let Android (10+), Windows over a WLAN network to discover each other with information like IP, MAC addresses and device name.
2. Let devices establish a remote connection in order to access files/folders shared to local network.

**What We Need to Establish Remote Connection:**

1. Initial Device and Target Device on the same network (Wi-Fi/LAN)
2. Local IPv4 Address (for file sharing, RDP, SSH)

**Procedure:**

**Discovering Devices:**

1. As its very hard and not possible in *Android OS 10+* to expose *Local IPv4 Address* to the Local Network, so we’re going to retrieve the *Local IPv4 Address* from the ***Network Interface*** directly which is the most accessible and legit way. This way instead of finding out a loophole which might get patched in future updates of Android OS, we have somewhat of a Long-Term Support on our (obviously not sketchy) methods.
2. As we still cannot expose this on the Local Network so we got to open a localhost html page (with *local IPv4 Address*) on a port and store it in there, then enter this port on the other client device “***Network Drive***” app to connect to the html page and store this device’s *IPv4* on there and then click “*Refresh*” on the initial device to let it discover changes in the html page’s stored data to process the new device added.

**Establishing Remote Connection (file-sharing):**

1. Files are shared by the **SMBJ** (Server Message Block) Protocol. We need a way to share data on android devices through this SMBJ protocol.