# Automatic Router Search

## Objective

Automatically detect available routers in the local network to avoid IP address conflicts and ensure Raspberry Pi interacts correctly with other network devices.

## Commands

sudo apt install nmap  
nmap -sn 192.168.1.0/24 # Scan local network IP addresses

## Python Script

import nmap  
  
def scan\_network():  
 nm = nmap.PortScanner()  
 nm.scan(hosts='192.168.1.0/24', arguments='-sn')  
 for host in nm.all\_hosts():  
 if 'mac' in nm[host]['addresses']:  
 print(f"Host: {host} - MAC: {nm[host]['addresses']['mac']}")  
  
if \_\_name\_\_ == "\_\_main\_\_":  
 scan\_network()

## Comments

- This script detects routers and other devices connected to the network.  
- Use it to determine if unauthorized routers are present in the network.

## Importance

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