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bootcon:: auto_nmapscan_rev9

1 message

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```
import subprocess
import json
import time
from ipaddress import ip_network

# Function to run the simple Nmap scan
def run_simple_nmap_scan(target_ip):
    try:
        print(f"Running simple Nmap scan on {target_ip}...")

        # Nmap command for scanning the most common ports
        nmap_command = ["nmap", "-T4", target_ip]

        result = subprocess.run(nmap_command, capture_output=True, text=True)

        if result.returncode == 0:
            print("Nmap scan completed successfully:")
            print(result.stdout)
            return result.stdout
        else:
            print("Error in scanning:", result.stderr)
            return None

    except Exception as e:
        print(f"An error occurred: {e}")
        return None

# Function to run the enhanced Nmap scan
def run_enhanced_nmap_scan(target_ip):
    try:
        print(f"Running enhanced Nmap scan on {target_ip}...")

        # Nmap command for:
```

```
# 1. Scanning all ports (-p-)
```

```
# 2. Service version detection (-sV)
```

```
# 3. OS detection (-O)
```

```
nmap_command = ["nmap", "-p-", "-sV", "-O", target_ip]
```

```
result = subprocess.run(nmap_command, capture_output=True, text=True)
```

```
if result.returncode == 0:
```

```
    print("Nmap scan completed successfully:")
```

```
    print(result.stdout)
```

```
    return result.stdout
```

```
else:
```

```
    print("Error in scanning:", result.stderr)
```

```
    return None
```

```
except Exception as e:
```

```
    print(f"An error occurred: {e}")
```

```
    return None
```

```
# Function to run the aggressive Nmap scan
```

```
def run_aggressive_nmap_scan(target_ip):
```

```
    try:
```

```
        print(f"Running aggressive Nmap scan on {target_ip}...")
```

```
    # Nmap command for:
```

```
    # 1. Aggressive scan (-A), which includes OS, version, script scanning, and traceroute
```

```
    nmap_command = ["nmap", "-A", target_ip]
```

```
    result = subprocess.run(nmap_command, capture_output=True, text=True)
```

```
    if result.returncode == 0:
```

```
        print("Nmap scan completed successfully:")
```

```
        print(result.stdout)
```

```
        return result.stdout
```

```
    else:
```

```
        print("Error in scanning:", result.stderr)
```

```
        return None
```

```
except Exception as e:
```

```
    print(f"An error occurred: {e}")
```

```
return None
```

```
# Function to determine the local network
```

```
def get_local_network():
    try:
        print("Determining local network...")
        # Run ip a to get the local IP and network range
        result = subprocess.run(["ip", "a"], capture_output=True, text=True)
        if result.returncode == 0:
            ip_info = result.stdout
            print("Local IP Information:\n", ip_info)
            return ip_info
        else:
            print("Error retrieving IP information:", result.stderr)
            return None
    except Exception as e:
        print(f"An error occurred while getting local network: {e}")
        return None
```

```
# Function to parse Nmap results and extract services/ports
```

```
def parse_nmap_for_services(nmap_output):
    services = []
    lines = nmap_output.splitlines()
    for line in lines:
        if "open" in line: # A line with open ports typically contains the word "open"
            parts = line.split()
            port = parts[0].split("/")[0] # Extract port number
            service_name = parts[2] # Extract service name
            version = None
            # Check if version information is available
            if len(parts) > 3 and '(' in parts[3]:
                version = parts[3].strip('(')
            services.append((port, service_name, version))
    return services
```

```
# Function to load the CVE data from the JSON file
```

```
def load_cve_data():
    try:
        with open("cve_vuln_data.json", "r") as file:
            return json.load(file)
```

```
except Exception as e:  
    print(f"Error loading CVE data: {e}")  
    return []
```

Function to check and display CVEs based on service name

```
def display_cve_data_for_service(service_name, cve_data, report_file):  
    report_file.write(f"Checking CVEs for service: {service_name}\n")  
    for entry in cve_data:  
        if service_name.lower() in entry["service"].lower():  
            report_file.write(f"CVE ID: {entry['cve_id']}\n")  
            report_file.write(f>Description: {entry['description']}\n")  
            report_file.write("-" * 50 + "\n")
```

Main driver function

```
def main():  
    # Determine local network information  
    local_network = get_local_network()  
  
    # Open the report file for writing  
    with open("scan_report.txt", "w") as report_file:  
        if local_network:  
            # Ask if user wants to scan the entire network or a specific host  
            scan_choice = input("Do you want to scan the entire network (y/n)? ")  
  
            if scan_choice.lower() == 'y':  
                # Get the network range (you may extract this automatically based on ip a)  
                #target_ip = "192.168.1.0/24" # You can automate this based on local network  
                detection  
                target_ip = "192.168.47.132/24"  
            else:  
                target_ip = input("Enter the specific IP address to scan: ")  
  
            # Provide options for scan types  
            print("\nSelect the type of Nmap scan:")  
            print("1. Simple Nmap scan")  
            print("2. Enhanced Nmap scan (with version and OS detection)")  
            print("3. Aggressive Nmap scan (includes script scanning and traceroute)")  
  
            scan_type = input("Enter your choice (1, 2, or 3): ")
```

```
if scan_type == '1':
    scan_results = run_simple_nmap_scan(target_ip)
elif scan_type == '2':
    scan_results = run_enhanced_nmap_scan(target_ip)
elif scan_type == '3':
    scan_results = run_aggressive_nmap_scan(target_ip)
else:
    print("Invalid choice. Exiting...")
    return

if scan_results:
    # Write the Nmap scan results to the report file
    report_file.write(f"Nmap scan results for {target_ip}:\n")
    report_file.write(scan_results)
    report_file.write("\n" + "="*50 + "\n")

# Load CVE data
cve_data = load_cve_data()

# Parse Nmap results to detect services
services = parse_nmap_for_services(scan_results)

# Display CVEs related to the detected services and write them to the report file
for port, service, version in services:
    display_cve_data_for_service(service, cve_data, report_file)

# Sleep to respect API rate limits
time.sleep(2)

if __name__ == "__main__":
    main()
```