EXPERIMENT NO. 01

AIM :- Check System Configuration and Identify requirements for Network Management.

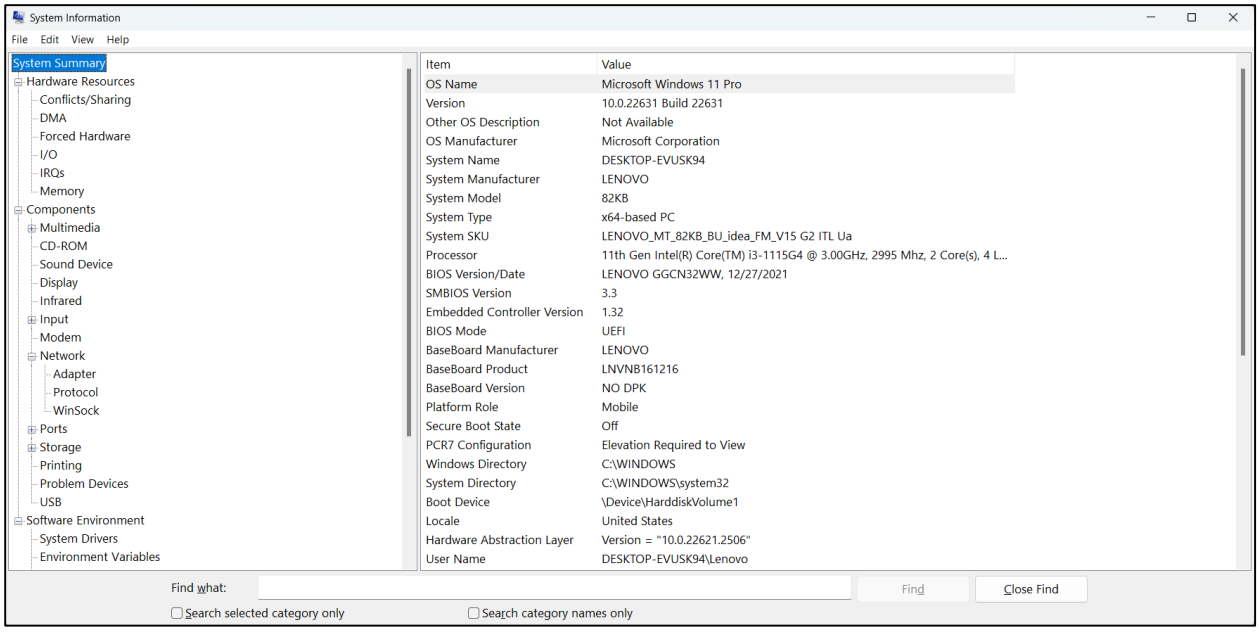
THEORY :-

Network Management

Network management is the process of administering, monitoring, and maintaining a network's hardware, software, and services to ensure optimal performance, reliability, and security. It encompasses tasks like fault detection, configuration, performance optimization, and ensuring network security to support business operations effectively.

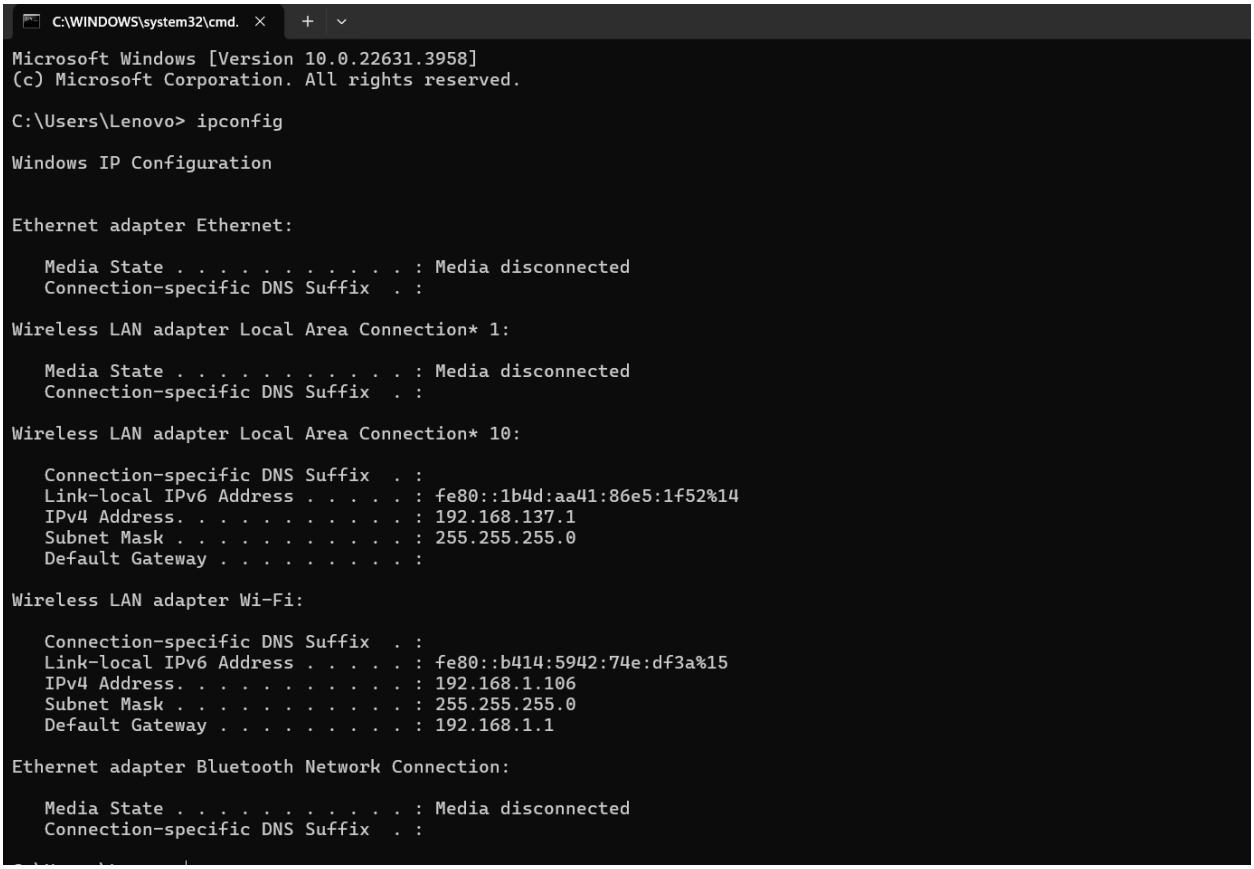
System Hardware Information :-

- Press Win + R to open the Run dialog box.
- Type msinfo32 and press Enter.
- Provides an overview of your system, including the OS version, processor, RAM, and BIOS version.
- Details about IRQs, DMA channels, I/O ports, and memory addresses.
- Information about installed hardware components like storage devices, network adapters, and display.
- Shows details on system drivers, environment variables, running tasks, and services.



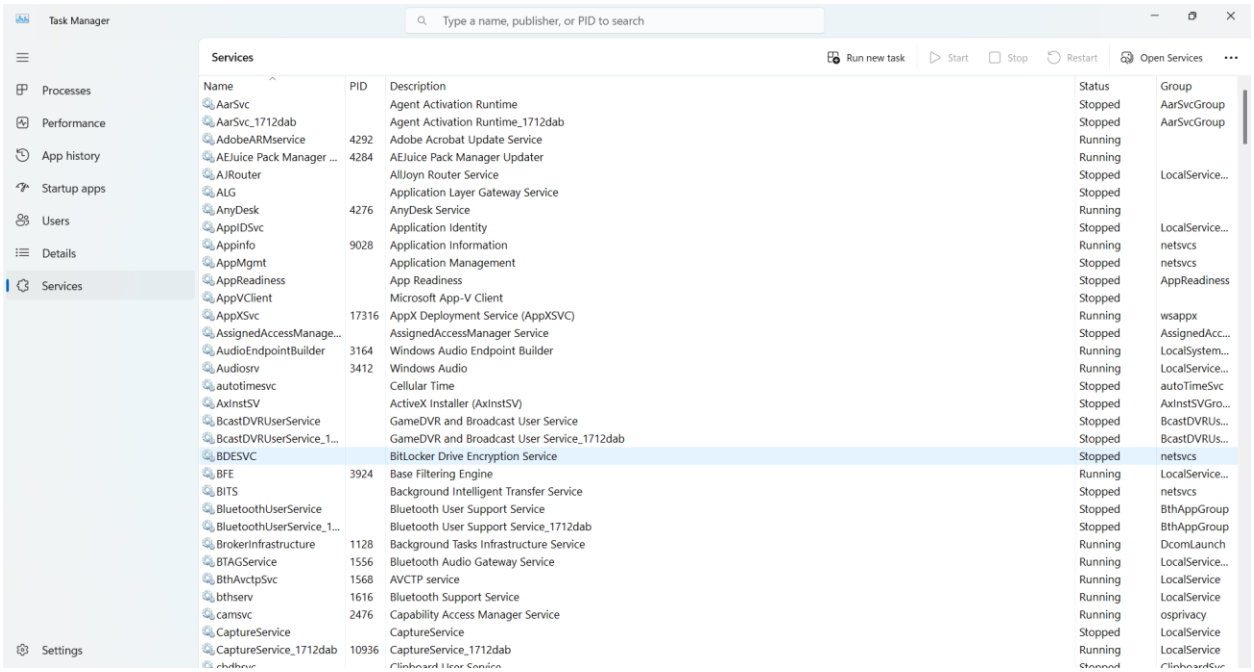
Network Information :-

- Open command prompt and write ipconfig and press Enter.
- ipconfig is a command-line tool in Windows that displays the current network configuration of your system.



Installed Programs and Services :-

- Press win + R and type`taskmgr.exe` command and Enter.
- Click on services.
- In the **Task Manager** of Windows, the **Services** tab provides an overview of all the services running on your computer.



System Configuration

- **Operating System** : Determine the OS version (e.g., Windows 10, Linux) to check compatibility with network management software.

- **Hardware Specifications** : Check CPU, RAM, storage, and network adapters using tools like `msinfo32` (System Information) on Windows or `lshw` on Linux.

- **Network Configuration** : Use commands like `ipconfig` on Windows or `ifconfig`/`ip a` on Linux to review network interface settings (IP address, subnet mask, gateway).

- **Installed Software** : List the installed applications and services using Task Manager, `msinfo32`, or PowerShell to identify any software that might impact network performance or management.

Identifying Requirements for Network Management

- **Monitoring Tools**: Identify tools required to monitor network traffic, bandwidth usage, and device status (e.g., SolarWinds, Nagios).

- **Security Measures**: Determine the need for firewalls, intrusion detection systems (IDS), and VPNs.

- **Performance Management**: Identify the need for load balancers, QoS settings, and bandwidth allocation to ensure smooth network performance.

- **Fault Management**: Ensure tools are in place for detecting, diagnosing, and resolving network issues (e.g., SNMP-based tools, event logs).

- **Configuration Management**: Implement tools to manage network configurations and changes (e.g., Ansible, Puppet).

Conclusion :-

We have successfully check system configuration and identify

Requirements for network management.