Task #1: Develop a Network Monitoring Tool

Objective

Develop a tool that runs on a Windows system and connects to Huawei LAN switches to collect specific port utilization statistics.

Requirements

　1 Platform: The tool must be developed to run on Windows. The software requires Windows Server 2012 or a higher version, and must run under user rights without requiring administrator installation or DLL registration.

　2 Connectivity: The tool should be able to connect to Huawei LAN switches using appropriate protocols (e.g., SNMP, SSH).

　3 Data Collection: The tool should collect port utilization statistics such as bandwidth usage, error rates, and packet counts.

　4 User Interface: Provide a simple and intuitive user interface to display the collected statistics.

　5 Documentation: Include documentation on how to set up, configure, and use the tool.

Suggested Steps

　1 Research: Understand the protocols and methods for connecting to Huawei LAN switches.

　2 Design: Plan the architecture of the tool, including how it will connect to switches and display data.

　3 Development: Write the code to implement the tool, ensuring it meets all requirements.

　4 Testing: Test the tool with Huawei switches to ensure it collects and displays data correctly.

　5 Documentation: Write clear instructions for users on how to install and use the tool.

Evaluation Criteria

　1 Functionality: Does the tool successfully connect to Huawei switches and collect the required statistics?

　2 Usability: Is the user interface intuitive and easy to use?

　3 Innovation: Does the tool offer any unique features or improvements over existing solutions?

　4 Documentation: Is the documentation clear and helpful?