SSGMCE	SHRI SANT GAJANAN MAHARAJ COLLEGE OF ENGG.		**LABORATORY MANUAL**
	PRACTICAL EXPERIMENT INSTRUCTION SHEET		
	EXPERIMENT TITLE : To install & study Ping Test Utility tool.		
EXPERIMENT NO.: **SSGMCE/WI/IT/01/4IT06/07**		ISSUE NO. : 00	ISSUE DATE : 22.01.2024
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01 AIM: To install & study Ping Test Utility tool.

02 SOCOPE:

- A tool designed to facilitate batch pinging of IP addresses and URLs, to assess network connectivity and response times.

- Use PingInfoView to analyze network performance, understand the significance of various ping metrics, and troubleshoot basic network issues.

03 FACILITIES

  SOFTWARE PingInfo View

04 THEORY

Theoretical Framework for Ping Test Utility Practical Using PingInfoView

Introduction to ICMP Protocol:

The Internet Control Message Protocol (ICMP) is a vital component of the Internet Protocol Suite, primarily used for sending error messages and operational information indicating success or failure when communicating with another IP address. ICMP operates by sending messages—either an "echo request" or an "echo reply"—which are fundamental to the ping utility, enabling it to measure the reachability and round-trip time of messages to a specified host within a network.

Understanding Ping and its Metrics:

Ping, a ubiquitous network utility, employs ICMP to test the connectivity between two network nodes. It measures the round-trip time (RTT) for packets sent from the origin to a target node and back, presenting vital metrics such as:

Round-Trip Time (RTT): The duration packets take to travel to the target and back, providing insight into network latency.

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Packet Loss: The percentage of packets lost during transmission, indicating network reliability and stability.

Jitter: The variability in RTT of consecutive packets, reflecting network congestion and traffic irregularities.

Practical Applications and Significance:

Ping is instrumental in network troubleshooting, aiding in pinpointing connectivity issues and evaluating network performance. Regular ping tests can offer a continuous overview of network health, assisting network administrators in maintaining optimal performance and swiftly addressing any identified issues.

PingInfoView: A Comprehensive Tool for Network Diagnostics:

PingInfoView stands out as a user-friendly tool that extends the functionality of traditional ping utilities. It automates the process of sending ping requests to multiple hosts, presenting the results in a structured, easily interpretable format. This tool not only simplifies the execution of batch ping operations but also allows for detailed analysis through features like result logging, scheduled pings, and customizable ping parameters.

Interpreting PingInfoView Results:

Analyzing the data from PingInfoView involves understanding the implications of various metrics such as RTT, packet loss, and jitter. A higher RTT or significant packet loss can indicate network congestion, potential routing issues, or physical connectivity problems. By correlating these metrics with network activities, administrators can make informed decisions to optimize network performance and troubleshoot existing problems effectively.
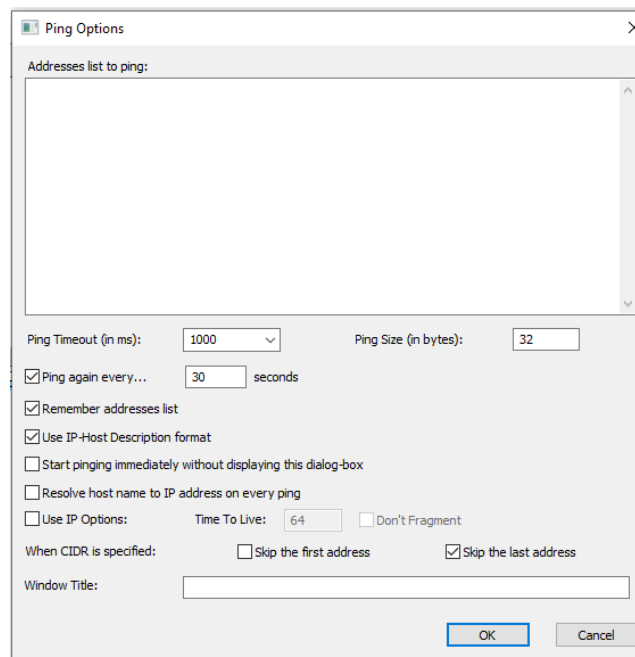
Download PingInfoView from the website

https://en.softonic.com/download/pinginfoview/windows/post-download

After downloading install it

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PingInfoView
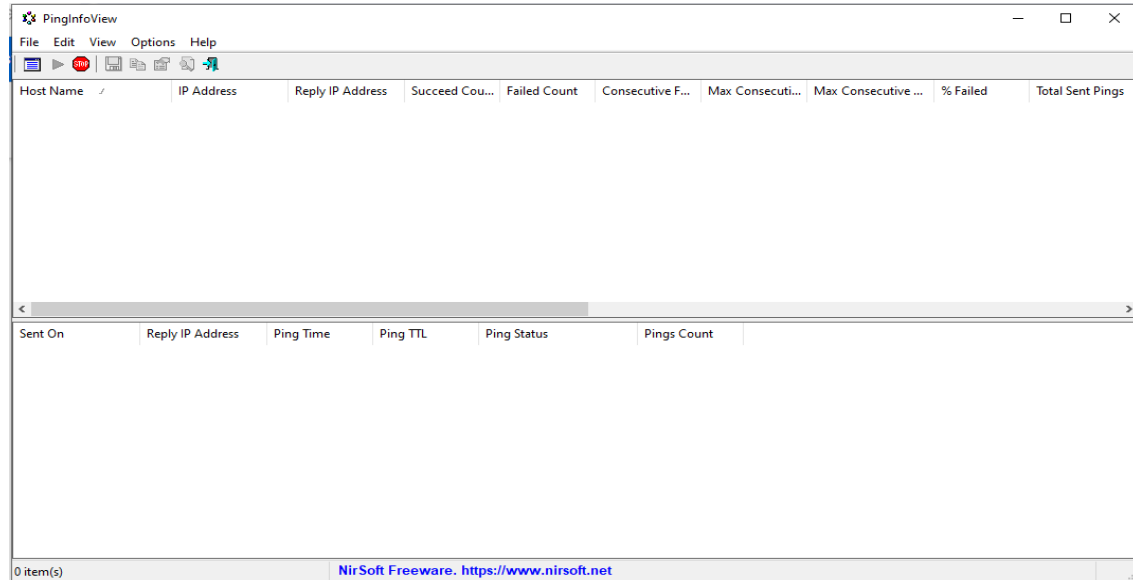
Mention list of IP address in Ping Option

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Get Detail of Ping

Can Load Address from File also

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Text File

PingInfoView is a small utility that allows you to easily ping multiple host names and IP addresses, and watch the result in one table. It automatically ping to all hosts every number of seconds that you specify, and displays the number of succeed and failed pings, as well as the average ping time. You can also save the ping result into text/html/xml file, or copy it to the clipboard.

PingInfoView supports both ICMP pings and TCP pings.
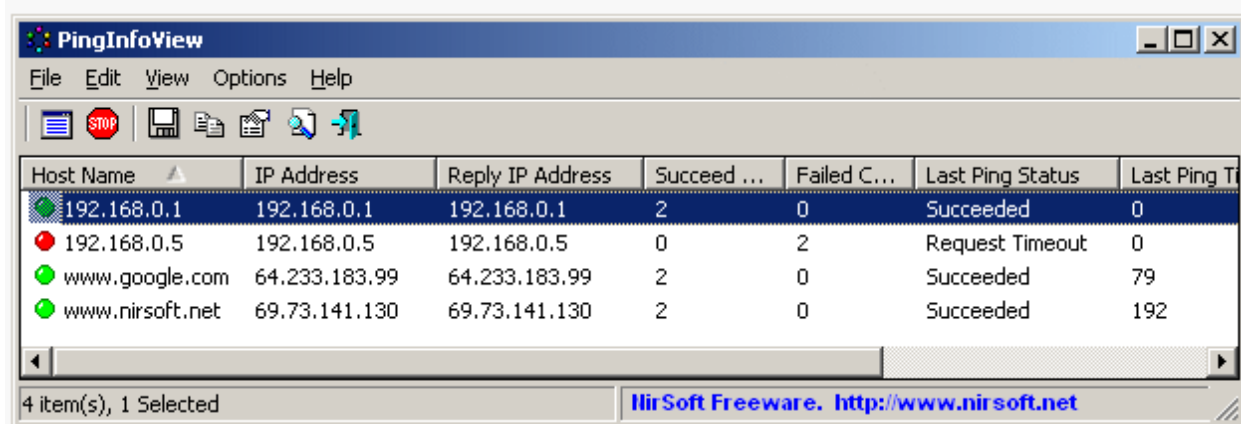
05 CONCULSION

In summary, this practical exercise with PingInfoView has offered a hands-on approach to understanding network diagnostics, emphasizing the importance of ICMP and ping tests in assessing

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network issue.

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