لایه‌های شبکه: Application، Presentation، Session، Transport، Network، Data Link و Physical (لینک) و این

فرق بین IPv4 (۳۲ بیت آدرس) و IPv6 (۱۲۸ بیت)

۱۹۲.۱۶۸.

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تنظیمات شبکه در ویندوز (Network and Sharing Center) (gateway, DNS, DHCP)

Dynamic Host Configuration Protocol (**DHCP**) is a network **protocol** that enables a server to automatically assign an IP address to a computer from a defined range of numbers (i.e., a scope) configured for a given network.

A **default gateway** in computer networking is the node that is assumed to know how to forward packets on to other networks .The gateway is by definition a router .

In a home or small office environment, the device, such as a DSL routeror cable router that connects the local network to the Internet will act as the default gateway for all network devices.

The Domain Name System (**DNS**) is a hierarchical decentralized naming system for computers, services, or any resource connected to the Internet or a private network. It associates various information with domain names assigned to each of the participating entities.

دستورات ipconfig، ping، netstat و tracert (ابزار Wireshark)

Ipconfig. Displays all current TCP/IP network configuration values and refreshes Dynamic Host Configuration Protocol (DHCP) and Domain Name System (DNS) settings. Used without parameters, **ipconfig** displays the IP address, subnet mask, and default gateway for all adapters.

ipconfig /all

ipconfig /flushdns

Ping is a computer **network** administration software utility used to test the reachability of a host on an Internet Protocol (IP) **network**, and to measure the

round-trip time for messages sent from the originating host to a destination computer and echoed back to the source.

In computing, **netstat** (*network statistics*) is a command-line network utility tool that displays network connections for the Transmission Control Protocol (both incoming and outgoing), routing tables, and a number of network interface (network interface controller or software-defined network interface) and network protocol statistics

netstat –a

In computing, **traceroute** is a computer network diagnostic tool for displaying the route (path) and measuring transit delays of packets across an Internet Protocol (IP) network.