Network Principles

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Definitions

IPv4	The most used internet protocol, created in 1981.
IPv6	The newest internet protocol characterised by 128 bits IP adresse.
IP Address	A 32-bit (IPv4) number used to identify a device on a network. To make it readable the IP is represented:
Domain Name	Human readable string of character that map to a IP address.
	as 4 octet converted to decimals. Example: `8.10.255.1`
DNS	The DNS (Domain Name System) translates domain names to IP addresses.
ISP	Internet Service Provider. Company that provides internet access.
External IP Address	Assigned to a Router by the ISP. This address is unique across internet.
Internal IP Address	Assigned to a device by the Router. Unique within the network.
NAT	Network Address Translation, Allows 2 device to share the same external IP address.
RJ45	Ethernet cable, stand for Registered Jack-45.
Switch	Switchs connect multiple computers by RJ45.
LAN	Local Area Network, .
IP	Internet Protocol, responsible for exchanging data between devices on the network.

Network Address Translation (NAT)

The router takes the requests of the devices whithin the network and send it to the internet. When the answer comes back the Router redistribute the packet to the devices. **Security Benefit:** Devices with internal IPs are hidden from public internet.

Network Diagrams

Linux Networking Commands

`ifconfig`	Displays IP address.
`ping`	Returns packet loss.
`traceroute`	Traces the path packets take to a destination.
`nslookup`	Returns network address information for a domain name.