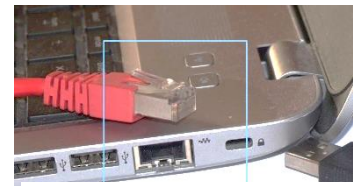


## What is a network?

A network is created when different devices such as computers, printers and servers are connected with each other. The devices (computers etc.) can be connected to each other via Wi-Fi or with LAN cables (network interfaces)

An important advantage is the **sharing of resources**: printers, storage space and access to the Internet can be used by all the computers in the network.

A computer network is also used for internal communication in companies and schools.



LAN cable with a network interface on a laptop

## networks and security

A network allows many computers to access data. Logging in with a user name and password ensures that only authorised users can access the data.

- **Internet:** Is the largest computer network. It consists of many networks and connects millions of computers. The main services of the internet are:
  - e-mail:** electronic mail
  - WWW (World Wide Web):**  
Web pages are connected to each other by links.
  - IM Instant Messaging:**  
Conversation (chatting) via text messages in **real time**, e.g. via Facebook or WhatsApp.
  - VoIP:** Internet telephony (**Voice over Internet Protocol**)  
e.g. with **Skype** or conversations via **WhatsApp**.  
Conversations are transmitted via the Internet.
  - FTP:** File **T**ransfer **P**rotocol. Used to **transfer large amounts of data** between **computers**.
- **WLAN (=Wi-Fi → wireless fidelity): (Wireless Local Area Network – wireless local network):** Several computers are connected to each other via a wireless network (almost all notebooks have Wi-Fi).
- **Hot spots** are public wireless Internet access points. They are installed, for example, in libraries, airports, railway stations, restaurants and hotels.
- **secured WLAN:**  
The data is transmitted in encoded form.  
The encoding methods WPA, WPA2 or WPA3 are considered secure.  
To be able to use a secured WLAN, a password must be entered.
- **public/open WLAN**  
Public networks are mostly open - data transmission is unencrypted. Open WLANs can be used without entering a password.
- **LAN (Local Area Network – local network):**  
A LAN is a network within a school or a company.



secured WLAN with encoding

- An **intranet** is a network that is only available within a company or organisation, and, in contrast to the Internet, it is not public (e.g. network in a school).
- An **extranet** allows users to access the company's own intranet from outside (usually via VPN over the internet).
- **network drive:** Is a folder on a server that has been shared on a network. Documents can be stored or accessed on network drives from other PCs. Network drives are ideal storage media for collaboration between several users.

answer the following questions:

What does the abbreviation *WLAN* stand for?

A: \_\_\_\_\_

Where are LANs used?

A: \_\_\_\_\_

Is an intranet public?

A:  yes       no

What are public wireless Internet access points called?

A: \_\_\_\_\_

Which secured encoding methods are used in a WLAN/Wi-Fi?

A: \_\_\_\_\_

Which service of the Internet is used to transfer large amounts of data between computers?

A: \_\_\_\_\_

scan this QR-code, open the link and solve the quiz:



points achieved: \_\_\_\_\_