Find out on a /30 Network: Host / Subnet / Broadcast

Create a Subnet! Given: Network with mask and minimum of Hosts or Subnets wanted.

Find out: which Class / Public or Private / are there any special functions?

On the Way from source to destination with NAT- and normal Routers: Source-/Destination- IP- and MAC-Addresses

Optical Fibres: Features of 9/125 and 50/125 and 62.5/125

Connect with Ethernet: PC-PC / PC-SW / SW-SW / with and without Uplink-port by 10/100/1000Mbit/s What Cable do you need?

Simplex / half-Duplex / full-Duplex: what kind of is: Telephone, 10base-T with SW, …

What are typical LAN-/WAN-Technologies?

What do you need to configure when you want PCs to communicate in a LAN?

Characteristics of TCP- and UDP-Protocol?

Types of Routing: how do we call it when…?

On an LAN: Which devices needs MAC- and/or IP-Addresses?

Switching-Modes: Advantages and disadvantages?

How a router is doing routing?

Special IPv6-Adresses: (local host, internet, private IP, APIPA, multicasts)

Optical fibres: how to use it in-house

Find out Size of subnet (first and last host)

Idea of RIP-Routing

Metric / Administrative distance

Function of TTL

Function of loopback

Pinout Ethernet 10/100Mbit/s

ISO/OSI-Model: Layers and Encapsulation

Typical „Problem-maker"-Protocols

AWG-Sizes for Ethernet

Spanning-Tree-Protocol: Advantages and Disadvantages?

PoE: Typical usage

Normal function of a Switch: destination unknown / too long time no transmissions / …

VLAN: what must be configured on a Switch?

How many bits per BAUD if binary, QPSK, D-QAM-16, D-QAM-64, D-QAM-256, or … is used?

Which type of Ethernet-Cable (Cat 5, 5e, 6, 6e, 7, …) do you choose for cabeling a new big office?

IPv6: create Subnets for private network (15 / 255 / 65k / … Hosts)