

# Networks

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April 30, 2025

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# Preface

This is a live document, and is full of gaps, mistakes, typos etc.

## Part I

# Network hardware

## Part II

# Internet protocol suite (TCP/IP, and UDP)

# Chapter 1

## TCP/IP and UDP

### 1.1 Introduction

#### 1.1.1 Introduction

tunnel local area network (LAN) wide area network (WAN)

subnet mask gateway mask 66 and 67 used by default to talk to server different  
eitherend? network address translation

masks

+ ports internet

ipv4 + Network interface controller (NIC) can connect computer to network  
+ each one has unique media access control (MAC) addresses + a.b.c.d \* if  
a between 0 and 127 inclusive, class A network \* 127.0.0.1 reserved for local  
oopback. nothing else in 127 space \* localhost alias \* 128 to 191 is class B \*  
192 to 223 is class C. local networks \* private includes 127.0.0.1 (localhost) 1.  
10.x.x.x 2. 172.16-31.x.x 3. 192.168.x.x

internet: + router has IP address on local network, eg 192.168.0.1 + router has  
IP on internet too

ipv6 page network address translation (NAT) page. aimed at resolving running  
out of ipv4

time to live (ttl) expire message from router if packet expires

tcp and udp on networking transmission control protocol (TCP) user diagram  
protocol (UDP) internet protocol (IP)