

# packet tracer notes (my own)

packet tracer is like this cisco program where u build networks without buying real routers  
u can drag devices and connect them with cables and check if stuff works  
pretty cool but sometimes buggy and slow lol

## what i learned so far

### adding devices

- left side has routers switches pcs etc
- u just drag them into the workspace
- rename them by clicking the name under the icon (i always forget where to click)

### connecting cables

types of cable i keep mixing up:

- **copper straight-through** = pc to switch
- **copper crossover** = pc to pc or switch to switch (usually)
- **console cable** = for configuring router via terminal

there is also “auto” cable mode if u dont wanna think too hard (i use this alot)

### configuring IP on a PC

click PC → Desktop tab → IP Configuration  
then u type IP, subnet mask, gateway  
dont forget gateway or ping wont work and you think everything is broken

### configuring router (cli)

router cli scares me first time but its ok

basic steps:

```
enable
configure terminal
interface gig0/0
ip address 192.168.1.1 255.255.255.0
no shutdown
exit
```

i always forget **no shutdown**, then i cry wondering why link is red

## saving config

don't forget **write** or **copy run start**  
packet tracer reset everything if u don't save (pain)

## testing connection

- **ping** from a pc: Desktop → Command Prompt → ping 192.168.x.x
- if u get "Request timed out" maybe wrong gateway or cable or no ip

## building simple LAN

stuff i learned:

- all PCs in same subnet can talk via switch
- switch don't need IP unless u doing management
- router needed if two networks want talk (router on stick or many interfaces)

## static routing

on a router:

```
ip route <network> <mask> <next-hop>
```

example:

```
ip route 192.168.2.0 255.255.255.0 10.0.0.2
```

(i keep writing mask wrong lol)

## **common mistakes i made**

- wrong cable type (happens too much)
- forgetting to change router interface from “shutdown”
- typing IP outside subnet
- mixing up /24 and /25
- setting wrong gateway on pcs
- connecting to the wrong port and then staring at it for 10 minutes

## **simulation mode**

packet tracer has that weird simulation mode where u watch packets move kinda slow but good for understanding  
u can see if packet get dropped and why  
i use it when i have no clue why ping not working