

Home network in 9 steps.

Gateway · VLANs · Wi-Fi · firewall · NAS · smart home · VPN

9

steps

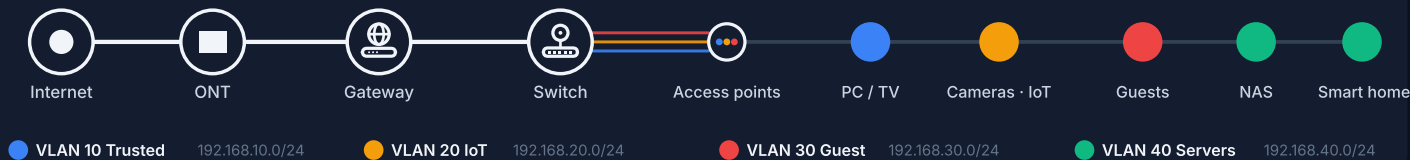
3

phases

4

VLANs

TARGET NETWORK



PHASE 1

BUILD

01

Plan



ch. 3–4

- Floor plan: APs, outlets, cabinet
- Count ports, add 20–30 % spare
- IP + VLAN plan before buying

+30 % ports

1 cabinet

✓ Done when every outlet has a number + VLAN

02

Cable & rack



ch. 6–7

- Cat6 home runs to a patch panel
- T568B both ends, untwist ≤ 13 mm
- Test and label every run
- UPS ≥ 300 W on the core

≤ 90 m

T568B

✓ Done when all runs pass the tester

03

Gateway



ch. 8

- ONT → gateway WAN port
- Stable firmware update
- Strong password + MFA
- Export the first backup

MFA

backup

✓ Done when internet works on a LAN laptop

PHASE 2

CONFIGURE

04

Switch & APs



ch. 5, 8

- Adopt switch first, then APs
- Rename devices by location
- PoE budget + 30 % reserve
- Same firmware everywhere

PoE +30 %

✓ Done when all devices online

05

VLANs & DHCP



ch. 9–12

- Networks 10 / 20 / 30 / 40
- Pool .100–.249, gateway .1
- NAS .10, smart home hub .30
- Uplinks trunk, devices access

4 VLANs

.1 / .100+

✓ Done when test client gets the right subnet

06

Wi-Fi



ch. 13

- SSIDs: Home 10 · IoT 20 · Guest 30
- 2.4 GHz: 20 MHz, ch 1 / 6 / 11
- 5 GHz: 40–80 MHz, unique per AP
- Medium power, not maximum

–67 dBm

1 / 6 / 11

✓ Done when walk test passes in every room

PHASE 3

SECURE & RUN

07

Firewall



ch. 14

- Default: block between zones
- Trusted → Servers: 443, 445, 8123
- Smart hub → IoT: needed ports
- IoT / Guest: no admin; check IPv6

default block

✓ Done when isolation tests pass per VLAN

08

NAS, hub & VPN



ch. 15–18

- NAS: HTTPS, MFA, least rights
- Smart home hub on a mini-PC
- WireGuard VPN, no port forwards
- Check CGNAT before relying on VPN

UDP 51820

✓ Done when VPN works from mobile data

09

Backup & docs



ch. 17, 20

- 3-2-1: NAS + USB + off-site
- Restore one file + one hub backup
- Export configs, save the diagram
- Sign the acceptance sheet

3-2-1

restore test

✓ Done when sheet signed, copies offline

TROUBLESHOOT BOTTOM-UP

the first “no” tells you where to look



Link



IP address



Gateway



Internet



DNS



App

✓ Backup first
before every change✓ Wired admin path
that you don't touch✓ One change
at a time, then test✓ No port forwards
to admin pages – VPN