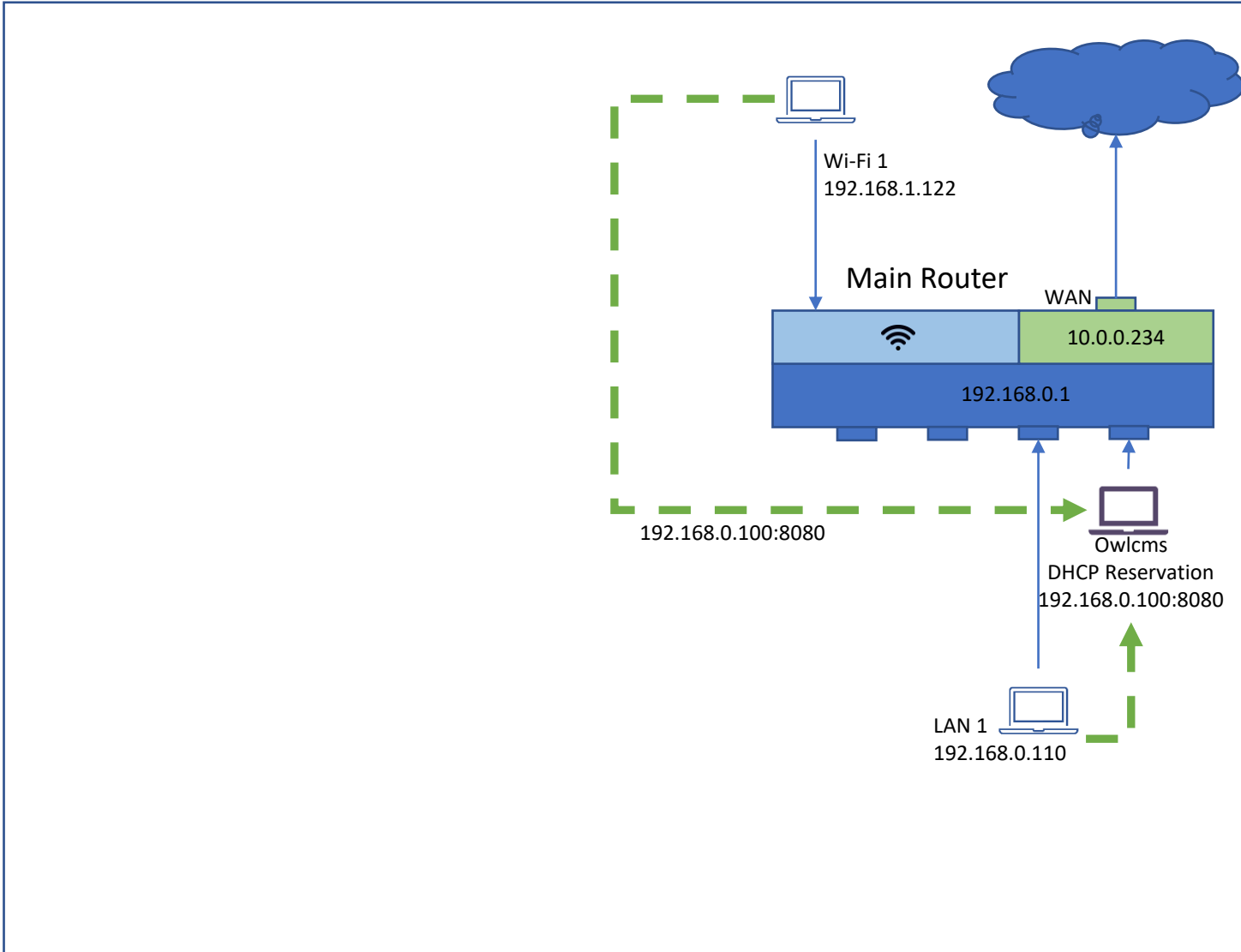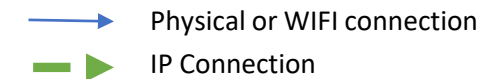# Networking Setup

- The following pages show several networking configurations, in increasing order of capability

- Goals:
  - To use <u>normal home networking equipment</u> (consumer-grade routers, switches and access points) you can get at the normal electronics outlets
  - To <u>limit configuration</u> to what a regular hobbyist normally does (set the Wi-Fi names, open gaming ports)

- Notes:
  - The Internet addresses used don't matter. The ones used are realistic, but yours will most likely be different.

Wi-Fi 1
192.168.1.122

Main Router

WAN

10.0.0.234

192.168.0.1

192.168.0.100:8080

Owlcms
DHCP Reservation
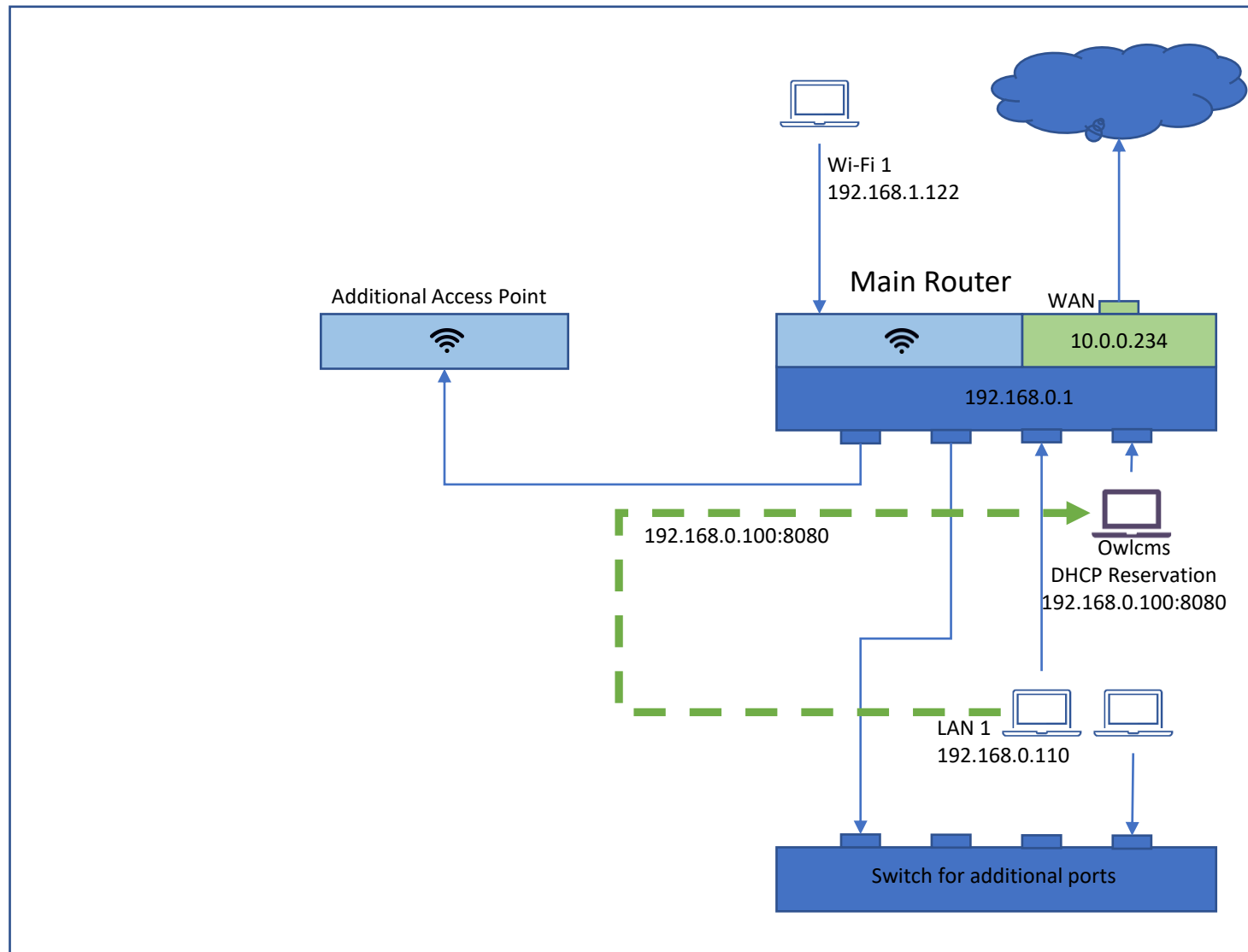192.168.0.100:8080

LAN 1
192.168.0.110

Simplest setup
- One main router
- WAN can connect to internet if needed.
- Connections are Wi-Fi
  - But the main laptop should be wired
- Optionally, you can also wire the announcer, etc.

Competition Network
- All machines see owlcms using its 192.168 address

Physical or WIFI connection
IP Connection

Wi-Fi 1
192.168.1.122

Additional Access Point

Main Router

WAN
10.0.0.234

192.168.0.1

192.168.0.100:8080

Owlcms
DHCP Reservation
192.168.0.100:8080

LAN 1
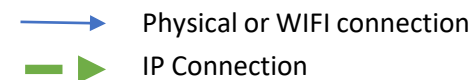192.168.0.110

Switch for additional ports

Competition Network
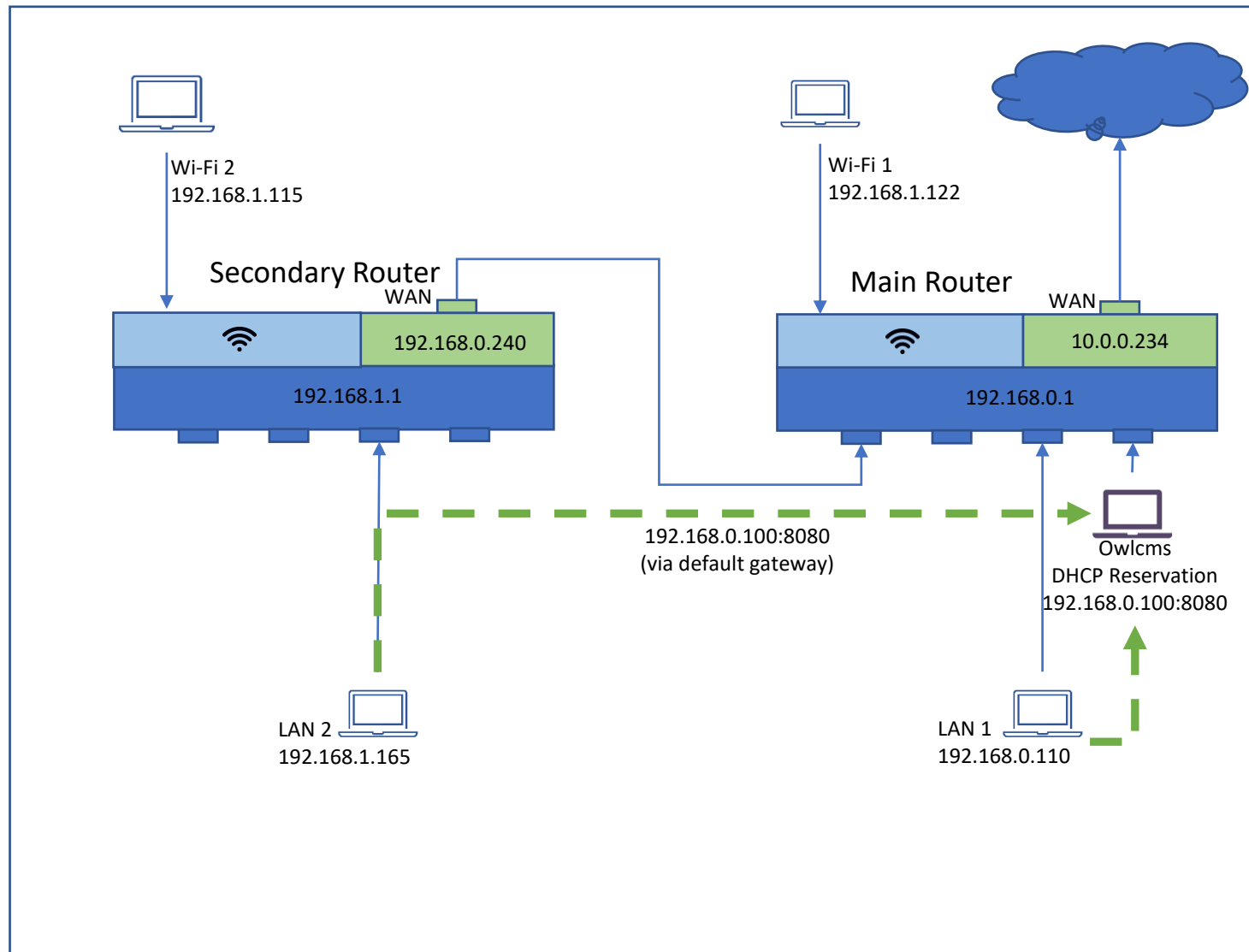• All machines see owlcms using its 192.168 address

Wired setup (bad Wi-Fi or long distances)
• One main router
• WAN can connect to internet if needed.
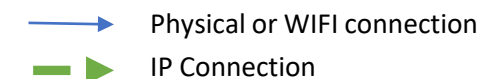
For remote or dead spots
• Connect a switch to the router, or
• Connect an access point to the router, or
• Connect a router to the router (see next page)

→ Physical or WIFI connection
⇢ IP Connection

Wi-Fi 2
192.168.1.115

Wi-Fi 1
192.168.1.122

Secondary Router
WAN
192.168.0.240
192.168.1.1

Main Router
WAN
10.0.0.234
192.168.0.1

192.168.0.100:8080
(via default gateway)

Owlcms
DHCP Reservation
192.168.0.100:8080

LAN 2
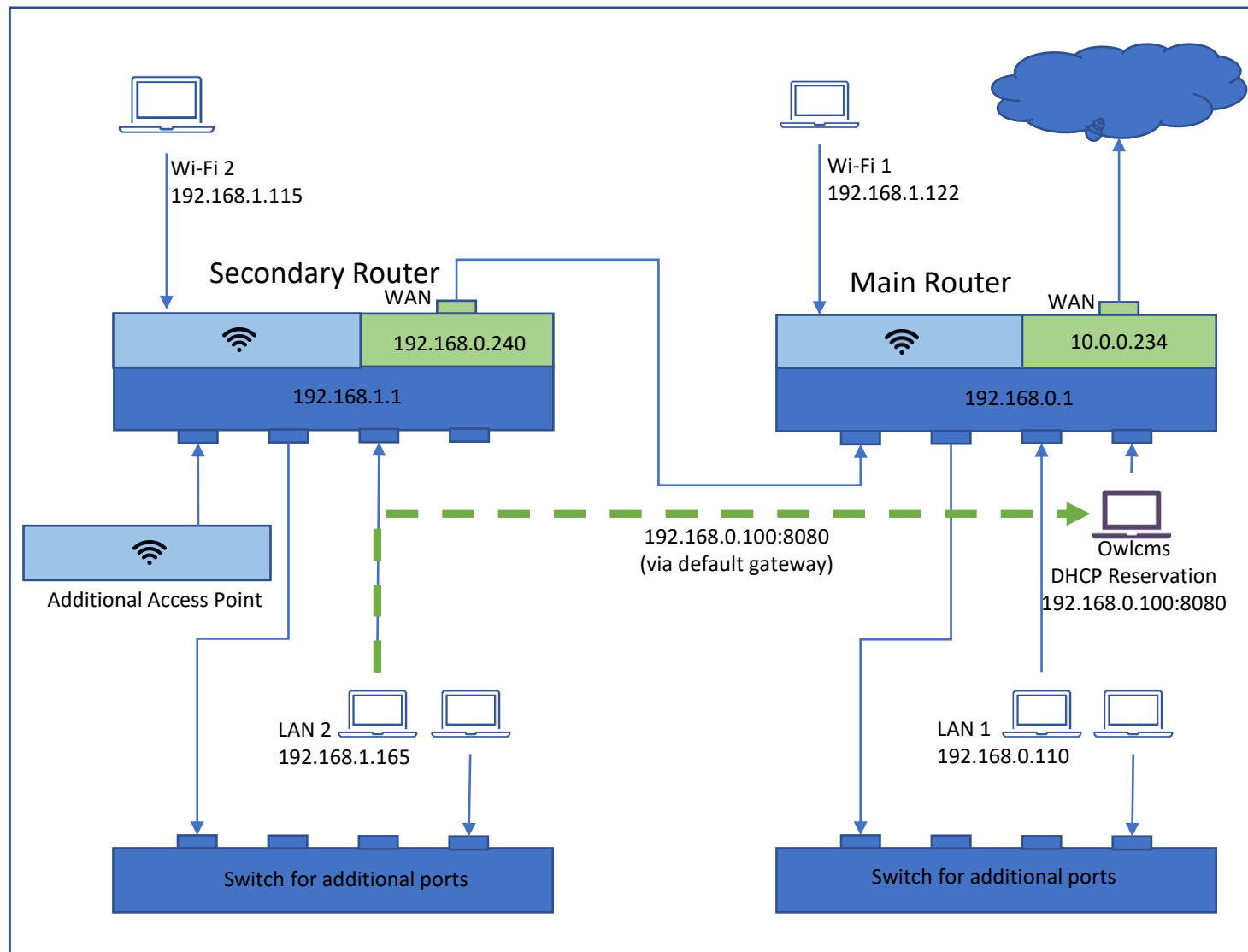192.168.1.165

LAN 1
192.168.0.110

Distant room using routers
- You can connect a router to any of the LAN ports
- On the secondary router(s)
  - For simplicity use different names for each Wi-Fi networks
  - Ideally, change the Wi-Fi channel to be different
- This should work "plug and play"

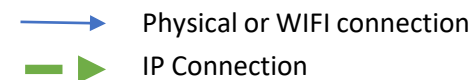Physical or WIFI connection

IP Connection

Competition Network
- All machines see owlcms using its 192.168 address
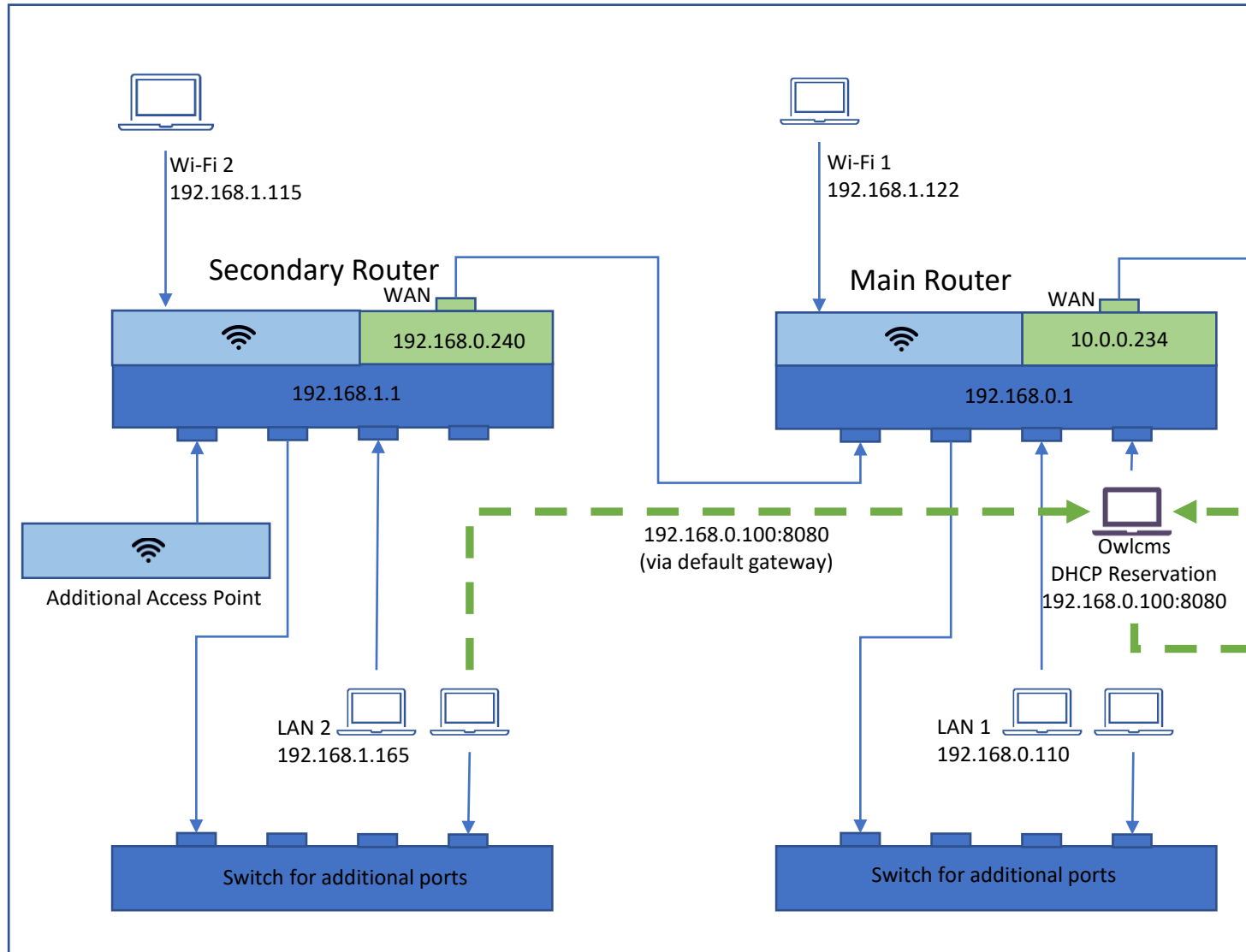- One secondary router per additional platform or room

Multiple platforms
- One secondary router per additional platform, connected to the main router.
- Use different Wi-Fi names and different channels for each platform
- You can still connect one or more switches or access points to each router if you need more ports.

Competition Network

- All machines see owlcms using its 192.168 address
- One secondary router per additional platform

Isolated Video Network

- Needs a redirection to see owlcms
- Avoids video traffic hitting the competition router

Wi-Fi 2
192.168.1.115

Wi-Fi 1
192.168.1.122

Secondary Router

WAN

192.168.0.240

192.168.1.1

Main Router

WAN

10.0.0.234

192.168.0.1

Internet Router

WAN

107.171.217.85

10.0.0.1

Additional Access Point

192.168.0.100:8080
(via default gateway)

Owlcms
DHCP Reservation
192.168.0.100:8080

10.0.0.234:8080
port redirection
configured on router 1 for
192.168.0.100:8080

OBS

YouTube
Facebook
streaming

Heroku
publicresults

LAN 2
192.168.1.165

LAN 1
192.168.0.110

Switch for additional ports

Switch for additional ports

Physical or WIFI connection

IP Connection