OFFLINE RESILIENCE GUIDE // UK EDITION

Local Network Without Internet

Your broadband can fail while your home network still works. Learn what remains possible, how to find local devices and how to avoid confusing Wi-Fi with internet access.

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LAYER 1 // ACT

FIELD CARD

Immediate actions first. Then read the conditions and limits below.

FIRST ACTIONS

- Keep the router/access point powered if you want local Wi-Fi or Ethernet to continue.
- Check whether devices can reach each other locally before troubleshooting the internet path.
- Find the router/gateway address and the local address of the service you want to reach.
- Prefer DHCP reservations on the router for local servers rather than hard-coding addresses on every device.

DO NOT

- Do not assume “connected to Wi-Fi” means “connected to the internet”.
- Do not reset the router during an outage unless you have its configuration details and a clear reason.
- Do not expose local services to the public internet just to make them easier to reach at home.

IF THIS HAPPENS

- If devices have 169.254.x.x addresses, they may have fallen back to link-local addressing because DHCP is unavailable.
- If the router has power and devices have normal local addresses but websites fail, the WAN/ISP path may be the only failed component.

WHAT YOU NEED

- A powered router or access point
- At least one Ethernet cable for troubleshooting
- Written router/admin address and credentials stored securely
- Local server/printer addresses or hostnames

> **BOUNDARY**
> This is a practical reference aid. Current official instructions, emergency services, competent professionals and product documentation take priority where they conflict.

Local network ≠ internet

A local area network (LAN) connects devices within your home or building. The internet connection is a separate wide-area (WAN) path from the router to your provider. A home router commonly combines several jobs: Wi-Fi access point, Ethernet switch, DHCP server, firewall and internet gateway. If the WAN fails but the router still has power, the LAN functions can continue.

What may still work

Devices on the same LAN can often still reach local webpages, network storage, shared folders, printers, media libraries and other local services. A laptop can open a web page hosted on a Raspberry Pi even if the broadband line is dead. What will not work are services that depend on remote cloud servers, internet DNS, remote authentication or external APIs.

DHCP in plain language

DHCP is the service that automatically gives a device an IP address and other settings when it joins a network. In a typical home, the router performs that job. Addresses often look like 192.168.x.x or 10.x.x.x. The exact range is not important; consistency is. Raspberry Pi documentation recommends a DHCP reservation on the router when a local server should receive the same address repeatedly.

Find the router and a local service

On Windows, macOS, Linux, Android or iOS, network details normally show a “router”, “gateway” or similar address. That is usually the local router interface. A server’s address can be found in the router’s connected-device list or on the server itself. For Raspberry Pi OS, `hostname -I` is a simple way to display the local address. Write down the local URL you actually use, such as `http://192.168.1.20/`.

Troubleshoot in layers

First: does the device have Wi-Fi/Ethernet link? Second: did it get a plausible local IP address? Third: can it reach the router? Fourth: can it reach a local server by IP address? Fifth: can it

resolve a local hostname? Only after those checks should you focus on the WAN/internet path. This avoids rebooting every device because one external service is unavailable.

Static addresses: use the least fragile method

For a household server, a router-side DHCP reservation is usually easier to manage than manually setting a static address on the device. If you do assign addresses manually, they must be in the correct subnet and must not conflict with the DHCP pool or another device. Misconfiguration can make the service disappear from the network at exactly the wrong time.

Design for an outage before it happens

Keep a one-page local network note: router address, Wi-Fi SSID, where the router is powered from, server name/address, and which services are intended to work offline. Test by disconnecting the router's WAN cable while leaving the LAN powered. Confirm that the local page, file share or printer you care about still works.

Verify / learn

These references are resolved from GPN's central source registry so authority, coverage and source changes can be managed in one place. If a current official source conflicts with this guide, follow the current official source.

> **TECHNICAL / REFERENCE SOURCE**
>
> **Raspberry Pi networking documentation**
>
> Device/project documentation; router interfaces and other operating systems differ.
>
> https://www.raspberrypi.com/documentation/computers/configuration.html

Editorial review date: 30 September 2026. Next scheduled review: 28 January 2027.

INFORMATION CHECK✓ CURRENT REVIEW

REVIEWED	NEXT REVIEW DUE	REGISTERED REFERENCES
30 Sep 2026	28 Jan 2027	1 sources

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