

Printers & Scanners — Complete End-User Guide (Windows, macOS, Office/Home)

A practical, zero-assumption manual for adding and using printers/scanners at work and home. Includes step-by-step setup, duplex/color/stapling, scanning, secure print, and a deep troubleshooting cookbook (queues stuck, “offline”, jams, “filter failed” on Mac, spooler resets, driver mismatches, quality issues). Admin-only notes are marked (*Admin*).

0) Scope & Audience

- Employees/students using Windows 10/11 or macOS on managed or personal devices.
 - Covers **USB/local**, **network IP**, **Wi-Fi** printers, **AirPrint**, and **print-server queues**.
 - Includes **MFPs** (multifunction printers) for **scan/copy/fax** basics.
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1) Printer/Scanner Types You’ll Encounter

- **Local USB**: Simple; plug in and add. Good for home/desk units.
- **Network TCP/IP** (wired or Wi-Fi): Printer has an IP address; you add it by name or IP.
- **AirPrint/IPP Everywhere** (macOS/iOS/modern Windows): Driver-light; works over IPP.
- **Print-server shared queues** (office): You connect to a queue published by IT; the server handles drivers/policy.
- **Secure/Follow-Me Print**: Jobs are held until you tap badge or enter PIN at any fleet device.
- **Scanners**:

- **WIA/TWAIN** on Windows (used by “Windows Scan” or vendor apps),
 - **Image Capture** on macOS (built-in), or vendor utilities.
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2) Quick Wins (Common Tasks)

- **Set default printer:** Choose your most used device so apps print there automatically.
 - **Print 2-sided (duplex):** Turn on duplex to cut paper use in half.
 - **Print to PDF:** Useful when a real printer isn’t available.
 - **Scan to PDF:** Use Windows Scan or macOS Image Capture; adjust DPI to 300 for docs, 600 for photos.
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3) Windows — Add & Use Printers

3.1 Add a local USB printer

1. Connect the printer to USB and power it on.
2. **Settings** → **Bluetooth & devices** → **Printers & scanners** → **Add device** → let Windows discover and install.
3. If Windows doesn’t find a driver, install the vendor driver package and repeat **Add device**.

3.2 Add a network printer by name or IP

1. **Settings** → **Bluetooth & devices** → **Printers & scanners** → **Add device** → **Add manually**.
2. Choose **Add a printer using a TCP/IP address or hostname**.
3. Enter the printer’s **hostname** (e.g., `prn-3f1-east`) or **IP** (e.g., `10.20.30.45`).

4. Pick the **correct driver** (prefer the vendor's model-specific or universal PCL/PS driver).
5. Finish and **Print a test page**.

Driver tip (Windows):

- For HP: Universal Print Driver (PCL6 or PostScript),
- For Canon: UFR II or PS,
- For Kyocera: KX,
- For Ricoh: PCL/PS.
If you see odd fonts/graphics, try the **PostScript** variant; for speed/office docs, **PCL6** is often fine.

3.3 Add a print-server queue (office)

1. Press **Win+R**, type `\\printservername` and hit **Enter**.
2. Double-click the shared queue (e.g., `FollowMe-Secure` or `HR-Color-MFP`). Windows installs the driver automatically.
3. Right-click the new printer → **Set as default** if desired.

3.4 Configure defaults (duplex, color, stapling, tray)

- **Settings** → **Printers & scanners** → (Printer) → **Printing preferences**.
- Turn **2-Sided/duplex** = **On**, set **Color/Grayscale**, and enable **Finisher** options (staple/hole-punch) if present.
- Save as default so apps inherit the settings.

3.5 Print a test page / alignment

- **Settings** → **Printers & scanners** → (Printer) → **Printer properties** → **Print Test Page**.

- If output is skewed or streaked, run **Maintenance / Printhead cleaning** from the driver or the printer panel.

3.6 Scanning on Windows

- **Windows Scan** app (simple): choose **Scanner**, set **File type = PDF**, **Color mode**, and **Resolution (DPI)**.
 - **Windows Fax and Scan** (classic): good for multi-page via ADF; save as PDF with a PDF printer if needed.
 - **Vendor utilities** (HP Smart, Canon IJ Scan Utility, Epson Scan 2): best for duplex scanning, OCR, and presets.
 - If the scanner isn't listed, install **WIA/TWAIN** drivers and reconnect.
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4) macOS — Add & Use Printers

4.1 Add a printer (AirPrint or driver)

1. **Apple menu** → **System Settings** → **Printers & Scanners** → **Add Printer, Scanner, or Fax**.
2. Pick the device from the list.
 - If **Use: AirPrint** is offered, prefer it for simplicity.
 - If features (finisher/staple/accounting) are missing, switch **Use:** to the **vendor driver** you installed.

4.2 Add by IP (when not auto-discovered)

1. In the Add dialog, open the **IP** tab.
2. Protocol: **IPP** or **HP JetDirect – Socket (9100)**; enter IP or hostname, then **Add**.
3. Set **Options** (duplex unit, finisher) after it's added.

4.3 Set defaults (duplex, trays, accounting)

- **System Settings** → **Printers & Scanners** → **(Printer)** → **Options & Supplies** to enable accessories.
- In the print dialog (⌘+P), choose **Layout/Finishing** to set **Two-Sided**, staples, hole-punch, etc., and **Presets** → **Save Current Settings as Preset**.

4.4 Scanning on macOS

- **Image Capture** (built-in): select the scanner, pick **PDF**, set **Resolution** and **Duplex** (if ADF supports).
- **Preview** can also scan via **File** → **Import from Scanner**.
- Vendor apps may expose OCR, deskew, and multi-destination workflows.

4.5 Reset the printing system (last resort)

- **System Settings** → **Printers & Scanners**: Control-click in the printers list → **Reset printing system...** (removes all printers/queues and jobs). Re-add printers afterwards.
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5) Secure/Follow-Me Printing (office fleets)

- **How it works**: You print to a single “hold” queue (e.g., **FollowMe-Secure**). Jobs are stored on the server or device until you **badge in** or enter a **PIN** at any compatible MFP.
- **Why it helps**: Confidentiality (no documents abandoned on trays), reduced waste, “print anywhere” convenience.
- **User steps**:
 1. Print to the **Follow-Me** queue.
 2. Walk to any MFP → tap your **badge** or enter **PIN** → select and **Release** your job(s).

3. Use the panel to switch **Color/Mono**, **Duplex**, number of copies, or **Secure Delete** if you change your mind.

(Admin): If your device shows no badge reader or account code screen, the driver/accounting plug-in may be missing; reinstall the fleet package for that model.

6) Everyday How-Tos

6.1 Duplex, color/B&W, scaling, n-up

- In the print dialog, toggle **Two-Sided** (macOS) or **Print on both sides** (Windows).
- Switch **Color** → **Black & White/Grayscale** to save toner.
- Use **Fit/Scale to page** for odd page sizes; use **n-up** (2-up/4-up) for handouts.

6.2 Stapling, hole-punch, finishing

- Ensure the driver knows the printer has a **Finisher** (Options). Then select **Staple** or **Punch** in the **Finishing** tab of the driver (Windows) or in the **Layout/Finishing** panel (macOS).

6.3 Print to PDF

- **Windows**: choose **Microsoft Print to PDF** as the printer.
- **macOS**: in the print dialog, click **PDF** → **Save as PDF**.

6.4 Scanning best practices

- **DPI**: 300 for text, 600 for photos.
- **Color**: Grayscale for text to shrink size; Color only if needed.
- **Deskew/Despeckle**: enable in the vendor app for cleaner output.
- **OCR**: turn on if you need searchable PDFs.

7) Troubleshooting Cookbook (symptom → fix)

7.1 “Printer is Offline” / “Not responding”

- Power-cycle the printer (off 30 seconds, back on).
- If networked, check Ethernet/Wi-Fi connectivity and the **IP address** hasn't changed.
- **Windows: Settings → Printers & scanners → (Printer) → Open print queue → Printer → Use Printer Offline** must be **unchecked**.
- **macOS:** Open the printer in **Printers & Scanners** → click **Resume**.

7.2 Jobs stuck in the queue / nothing prints

Windows

1. **Open print queue** → select all jobs → **Cancel**.
2. **Restart the Print Spooler:**

Open **Services** → **Print Spooler** → **Restart**, or run as admin:

```
net stop spooler
del /Q /F %systemroot%\System32\spool\PRINTERS\*
net start spooler
```

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- Reopen the app and **Print test page**.

macOS

- **Delete** stuck jobs in the printer queue window.
- If persistent, **Reset printing system** (see §4.5) and re-add the printer.

7.3 “Filter failed” (macOS) / weird symbols or PostScript/PCL errors

- Switch driver language: if using **PCL**, try **PostScript** (PS) or vice versa.
- Reinstall the proper **vendor driver** for that model.
- Remove conflicting older drivers.

7.4 Can't add the printer (permission/driver)

- **Windows**: add **manually via TCP/IP** with the correct driver; if a print-server queue, you must be on the corporate network or VPN.
- **macOS**: install the vendor driver, then **Add** → **IP** with **IPP/HP JetDirect (9100)** and pick the exact model.

7.5 “Access denied”, PIN/accounting prompt won't accept

- Your account may not have rights for that queue or department code.
- Verify **department code/accounting ID** in **Printing preferences**.
- Contact the print admin to grant access or reset your code.

7.6 Paper jam / wrong tray / paper mismatch

- Follow the panel prompts to clear all jam locations (look for tiny scraps).
- Set the correct **paper size/type** in both the **printer tray** and **driver** (e.g., A4 vs Letter; Plain vs Heavy).
- If heavy cardstock, set **Media Type** accordingly and feed from the **bypass tray**.

7.7 Poor quality: streaks, faded, background haze

- Run **Cleaning / Calibration** from the printer's Maintenance menu.
- Replace **toner/drum** if near end-of-life.
- Use the correct **paper weight** and keep paper sealed and dry.

- On inkjets, run **Printhead alignment/cleaning**.

7.8 Slow printing / giant PDFs

- In the driver, enable **Print as image** (for complex PDFs) or switch to **PS** driver.
- Disable **Advanced printing features** (Windows → Printer properties → Advanced).
- Avoid printing very high DPI images unless needed.

7.9 Scanner not found / scan fails

- Ensure the device is **MFP** (print/scan) and you installed the **scan** component driver.
- Try the vendor scan app; if that works, the issue is with the generic tool.
- Windows: confirm **Windows Image Acquisition (WIA)** service is running.
- macOS: try **Image Capture**; if fail, remove/re-add the scanner or reset the printing system.

7.10 Wi-Fi printer appears/disappears on home network

- Put the printer and computer on the **same band** (both 2.4 GHz or both 5 GHz if the printer supports 5 GHz).
- Assign a **DHCP reservation** to keep the printer at a stable IP.
- Avoid vendor “easy wireless” wizards that join the wrong SSID; re-run and pick your main SSID.

7.11 Secure/Follow-Me job not showing at device

- You printed to the wrong queue or used a **local USB** printer by mistake.
 - Print again to the **Follow-Me** queue; verify **User ID/accounting** fields in the driver match your directory identity.
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8) Preventive Care & Best Practices

- Keep **firmware** and **drivers** current (IT usually handles fleet updates).
 - Use **duplex** and **grayscale** by default to reduce costs.
 - Store paper in a **dry** place; use the correct **media type**.
 - Don't stack heavy objects on top output trays (can bend rollers).
 - For confidentiality, prefer **Secure/Follow-Me** queues and **release** at the device.
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9) Security & Privacy

- For sensitive documents, use **Secure Print** (PIN) or **Follow-Me**.
 - Don't abandon prints; **release only when present**.
 - *(Admin)* Wipe or remove device storage before decommissioning MFPs.
 - Disable **Wi-Fi Direct** on shared office printers to prevent ad-hoc connections, unless specifically required.
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10) Escalation Checklist (what IT needs)

- **Your device:** Windows/macOS version, wired or Wi-Fi, on VPN or office LAN.
- **Printer details:** Model, location, serial (if visible), **IP/hostname** or **queue name**.
- **Driver:** Exact driver name/version (PCL6/PS/UFRII/KX) and installation source (local, server).
- **Job sample:** File type (PDF/Word), pages, grayscale/color, duplex, finisher options.
- **Exact error:** Panel code/message, "filter failed", PCL/PS error text, or spooler message.

- **What you tried:** Power-cycle, cancel queue, spooler reset, re-add printer, alternate driver, different app.
 - **Screenshots** of settings and error dialogs; **timestamp** of failed attempt.
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11) Paste-able Snippets (for quick replies)

Windows spooler reset (run as admin):

```
net stop spooler
del /Q /F %systemroot%\System32\spool\PRINTERS\*
net start spooler
```

- - **macOS: Reset printing system:** *System Settings → Printers & Scanners → Control-click in the list → Reset printing system... then re-add the printer.*
 - **Add by IP (Windows):** *Settings → Printers & scanners → Add device → Add manually → TCP/IP address or hostname → enter IP → choose the model driver.*
 - **Add by IP (macOS):** *Add Printer → IP → Protocol = IPP or HP JetDirect (9100) → enter IP → Add → enable duplex/finisher in Options.*
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Final Notes

- If a print looks wrong, **print to PDF** first, then print the PDF—this often normalizes complex content.
- When in doubt about drivers, try the **vendor's PostScript** package for graphics-heavy PDFs, or the **universal PCL6** for general office work.
- For repeated office issues, ask IT to check the **print server queue** and device **firmware** versions.