

 ZESTFUL TECHNOLOGIES LTD

Zest Print Manager

v2.0 User Manual & API Guide

The ultimate enterprise-grade desktop & server printing orchestration platform. Thermal receipt rendering, Zebra ZPL streaming, Hotfolder auto-watchers, and seamless REST API automation.

PRODUCT VERSION

v2.0.0 (Production Release)

TARGET PLATFORMS

**Windows 10/11, Windows Server,
Docker**

SUPPORT & COMMERCIAL LICENSING

support@zestfultech.com

OFFICIAL PORTAL

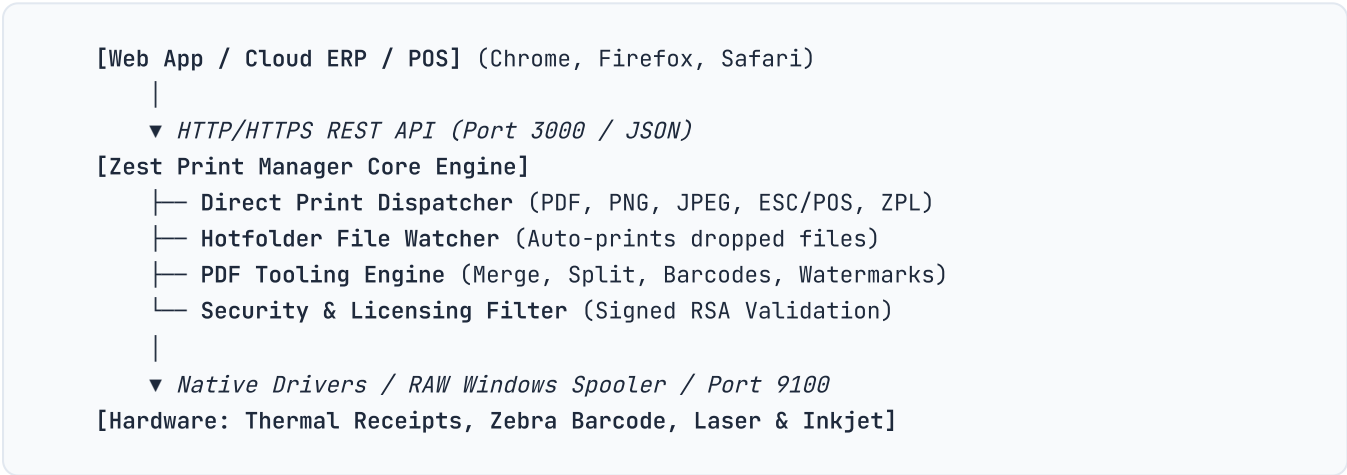
<https://www.zestfultech.com>

1. Overview & Architecture

Zest Print Manager is a robust, local-first print orchestration server and desktop application designed to bridge web applications, POS systems, ERPs, and local printing hardware without browser popups or cloud latency.

Key Architectural Advantage: Web browsers strictly sandbox direct hardware access. Zest Print Manager operates as a lightweight local microservice (default port 3000) that accepts secure REST calls from any web or cloud app and communicates natively with Windows Spoolers, Network Raw Sockets (Port 9100), and USB COM ports.

System Architecture Diagram



Minimum System Requirements

Component	Minimum Requirement	Recommended Enterprise
Operating System	Windows 10 64-bit / Windows Server 2016+	Windows 11 Pro / Windows Server 2022
Memory (RAM)	512 MB Free RAM	2 GB Dedicated RAM
Storage	250 MB Free Disk Space	1 GB SSD (for high-volume spooling)
Network	Loopback 127.0.0.1 (Local)	Static LAN IP for Multi-Terminal Hubs

2. Installation & Quick Start

Step 1: Choose Your Distribution

STANDARD Windows Setup (.exe)

Recommended for standard desktop workstations. Installs system shortcuts, configures auto-start with Windows, and manages automatic background updates.

PORTABLE Portable Edition (.exe)

Zero installation required. Runs directly from USB flash drives or secure enterprise workstations without requiring administrative privileges.

Step 2: Starting the Server

Once launched, Zest Print Manager starts a local background daemon. You can verify the server status by opening your web browser to:

```
http://localhost:3000/api/health
```

Response confirms server readiness:

```
{
  "status": "online",
  "version": "2.0.0",
  "printers_detected": 4
}
```

Step 3: Docker & Headless Server Mode (Enterprise)

For cloud servers, Linux containers, or headless centralized print servers, deploy using Docker Compose:

```
version: '3.8'
services:
  zest-print:
    image: zestfultech/print-manager:2.0.0
    ports:
      - "3000:3000"
    volumes:
      - ./hotfolder:/app/hotfolder
      - ./license.json:/app/license.json
    restart: always
```

3. Core Printing Features & Capabilities

3.1 Silent Background Printing

Eliminates browser print preview dialogues completely. Files sent to the API or dropped into hotfolders are dispatched directly to the target printer with custom page ranges, orientations, and paper sizes (A4, Letter, 80mm POS, 58mm Thermal, 4x6" Labels).

3.2 Thermal Receipt & ESC/POS Engine

Designed specifically for retail, hospitality, and warehouse environments:

- **Raw ESC/POS Commands:** Full support for paper cut, cash drawer kick (pin 2 & 5), acoustic buzzer, and thermal density controls.
- **Zebra ZPL II Support:** Direct barcode streaming for shipping labels (UPS, FedEx, DHL) and asset management tags without image raster distortion.
- **Codepage & Multilingual Support:** Supports UTF-8 and legacy code pages (PC437, PC850, PC858, Cyrillic, Arabic).

3.3 Hotfolder Automation (Drop & Auto-Print)

Any legacy ERP, accounting software (e.g. QuickBooks, SAP), or external microservice can print simply by copying files into designated folders:

Folder Path	Behavior & Function
/hotfolder/input/	Drop files here (PDF, PNG, ZPL, RAW). Automatically detected within 500ms.
/hotfolder/processed/	Successfully printed files are archived here with timestamp metadata.
/hotfolder/failed/	Invalid or jammed print tasks are moved here alongside an error log.

3.4 PDF Power Tools (Merge, Split & Watermark)

Zest Print Manager includes an integrated PDF manipulation engine:

- **PDF Merging:** Combine multiple invoices, delivery notes, and cover letters into a single unified batch print job.
- **Dynamic Watermarks:** Overlay diagonal or header stamps ("PAID", "CONFIDENTIAL", "DRAFT", or custom logos) with adjustable opacity.
- **Live Barcode / QR Stamp:** Inject real-time tracking QR codes or Code128 barcodes into predetermined document coordinates before spooling.

4. Complete REST API Reference

Integrate Zest Print Manager with any modern web or backend stack using clean HTTP requests.

4.1 Get List of Available Printers

GET /api/printers

```
// Response (200 OK)
[
  {
    "name": "EPSON TM-T20III Receipt",
    "isDefault": true,
    "status": "READY",
    "type": "thermal"
  },
  {
    "name": "HP LaserJet Pro M404",
    "isDefault": false,
    "status": "READY",
    "type": "standard"
  }
]
```

4.2 Send Direct Print Job

POST /api/print

```
// Request Body
{
  "printer": "EPSON TM-T20III Receipt",
  "type": "pdf",
  "fileUrl": "https://app.zestfultech.com/invoices/INV-9041.pdf",
  "copies": 1,
  "options": {
    "paperSize": "80mm",
    "silent": true,
    "cutPaper": true
  }
}
```

4.3 Code Integration Example (JavaScript / Node / Web App)

```
async function printReceipt(invoiceUrl) {
  const res = await fetch('http://localhost:3000/api/print', {
    method: 'POST',
    headers: { 'Content-Type': 'application/json' },
```

```
body: JSON.stringify({
  printer: 'EPSON TM-T20III Receipt',
  type: 'pdf',
  fileUrl: invoiceUrl,
  copies: 1
})
});
const data = await res.json();
console.log('Print job ID:', data.jobId);
}
```

5. Licensing, Activation & Support

5.1 Instant License Activation

METHOD 1 Instant Paystack Reference

After completing payment on the official USD checkout page, paste your transaction reference (e.g. `T1234567890`) into the app license modal. The app verifies directly with Paystack and activates automatically.

METHOD 2 Offline Hardware Key

For air-gapped enterprise environments with zero internet access, provide your Machine Signature to support to receive an offline signed RSA license key.

5.2 Edition Comparison Matrix

Capability	Community Edition	Pro Edition (\$49)	Enterprise Server (\$149)
Silent PDF & Image Printing	Up to 50 jobs/day	Unlimited	Unlimited
ESC/POS & Zebra ZPL Streaming	Basic	Advanced	High-Speed Direct Socket
Hotfolder Auto-Watchers	1 Directory	5 Directories	Unlimited Multi-path
Docker / Headless Server Mode	No	No	Yes
Commercial SLA Support	Community Forum	Priority Email	24/7 Dedicated Priority SLA

5.3 Troubleshooting & Frequently Asked Questions

Q: The printer is not showing up in the list.

Fix: Ensure the printer is powered on and installed in Windows Settings > Bluetooth & Devices > Printers. Restart Zest Print Manager to refresh hardware handles.

Q: My POS cash drawer is not opening after printing.

Fix: In your print options payload, pass `"openCashDrawer": true` or ensure your thermal printer driver's hardware drawer trigger pin is set to Pin 2 (Standard EPSON pulse).

Q: Can multiple computers on the LAN send print jobs to one machine?

Fix: Yes! In `ecosystem.config.js` or `.env`, set `HOST=0.0.0.0` and allow inbound port `3000` in Windows Defender Firewall.

Official Support: support@zestfultech.com • Documentation: <https://www.zestfultech.com>