KOON SYSTEMS

KOONSYSTEMS SCAN (FOR SAP B1)

MANUAL 1

From the source code (developers)

Only for developers. Run KoonScan from the source code on Windows, first with the demo SAP and then with a real SAP Business One. To install KoonScan, use Manual 2.

KoonScan

Version 1.1.1 · 02-11-2026

KoonSystems · koonsystems.com

Contents

Before you start

What you need

1 **Installing programs (once)**

2 **Getting the code and building the web app**

3 **Trying it first with the demo SAP**

4 **Connecting to real SAP**

5 **Giving yourself a PIN**

6 **Starting and checking**

7 **Getting a new version**

8 **If it does not work**

Before you start

> **NOT A DEVELOPER? YOU DO NOT NEED THIS MANUAL**
>
> This manual is only for developers. To install KoonScan for your company, use the installer: Manual 2, Installing KoonScan. Installing with a script (IT suppliers): Installing with PowerShell.

With this set-up you run KoonScan straight from the source code: handy for trying a new version before there is an installer. You need access to the private code repository. For a customer, always use KoonScan-Setup (Manual 2).

What you need

- The laptop with SAP Business One 10.0 (FP 2608) and the Service Layer.
- Administrator rights on Windows (to install).
- Your GitHub account (the code is in a private repo).
- Two SAP users who are superusers: one with an **Indirect Access** licence and one with a **Professional** licence. KoonScan is meant for the Indirect Access user; test with both.
- A **test company** (a copy of your company database, for example JISDEMO). KoonScan really posts in SAP. Always test in the test company first, every new version too: that is a condition of the licence (terms and conditions, article 4.7).

> **POWERSHELL**
>
> Type all commands in **PowerShell** (Start menu → type "PowerShell"). **Every line is a separate command**: type or paste one line and press Enter before you do the next. A part that starts with `#` is explanation and you do not have to type it.

> **SERVICE AND DEVELOPMENT VERSION**
>
> If KoonScan also runs as a service on this laptop (through KoonScan-Setup), it already uses port 5080. Stop the service while you run the development version: PowerShell as administrator, `Stop-Service KScan` ; afterwards `Start-Service KScan` again.

CHAPTER 1

Installing programs (once)

1. **.NET 10 SDK**: go to `https://dotnet.microsoft.com/download`, choose .NET 10 → SDK → Windows x64 and install.
2. **Node.js 22 LTS**: `https://nodejs.org` → the LTS version, install with the default choices.
3. **Git**: `https://git-scm.com` → Download for Windows, install with the default choices.
4. Close PowerShell and open a **new** one. Check:

```
dotnet --version     # starts with 10
node --version       # starts with v22
git --version
```

5. By default PowerShell may not run scripts, and npm needs that. Turn it on once for your own user (answer Y if a question comes up):

```
Set-ExecutionPolicy -Scope CurrentUser RemoteSigned
```

CHAPTER 2

Getting the code and building the web app

```
cd C:\
git clone https://github.com/kahnsch365/KScan.git KoonScan-source
cd C:\KoonScan-source\web
npm ci
npm run build
cd C:\KoonScan-source
```

`git clone` opens a window to sign in to GitHub. `npm run build` prepares the web app in the server; that takes about a minute.

CHAPTER 3

Trying it first with the demo SAP

This shows you whether everything works before SAP comes into play. Nothing happens in SAP.

```
cd C:\KoonScan-source
dotnet run --project src\Scan.Api
```

1. Wait until it says *Now listening on: http://localhost:5080* and open `http://localhost:5080` in the browser.
2. Sign in as **Kim de Vries** with PIN **2468**.
3. Try a few codes in the scan field (type the code and press Enter, or tap the magnifying glass to search):

Code	What it is
`8712345000011`	Item (J.B. Officeprint 1420)
`01-A-03-02`	Bin location
`B-2610-044`	Batch
`8712345999995`	Barcode on two items → choice panel
`PO1042`	Purchase order → receiving screen
`18712345000025`	Box of 6 (on purchase order 1041)

To stop: click in the PowerShell window and press **Ctrl+C**.

CHAPTER 4

Connecting to real SAP

1. In File Explorer, go to `C:\KoonScan-source\src\Scan.Api`. Copy `appsettings.Local.example.json` to `appsettings.Local.json` (in the same folder) and open that in Notepad.
2. Fill it in as below. You can remove the blocks **Companies_voorbeeld** and **Kestrel**; they are for more companies and for HTTPS.

```
{
  "Sap": {
    "Mode": "ServiceLayer",
    "ServiceLayer": {
      "BaseUrl": "https://laptop-kosc:50000/b1s/v1/",
      "CompanyDb": "<test company, e.g. JISDEMO>",
      "UserName": "<SAP user (Indirect Access)>",
      "Password": "<password>",
      "TrustedCertificateThumbprint": "<fingerprint, see below>"
    }
  },
  "Database": {
    "Provider": "SqlServer",
    "ConnectionString":
      "Server=.\\KSCAN;Database=KScanDev;Trusted_Connection=True;TrustServerCertificate=T
  },
  "Auth": { "PinPepper": "<long random text, see below>" },
  "Seed": { "DemoUsers": false }
}
```

Field	Where to get it
CompanyDb	The database name of the company (as in the SAP sign-in window under "Choose Company"). Use the test company first.
UserName and Password	The SAP user of the server. Start with the Indirect Access user; later run the same test with the Professional user (change only these two lines).
TrustedCertificateThumbprint	Open `https://laptop-kosc:50000` in Edge or Chrome → padlock or "Not secure" → certificate → Details → copy the SHA-256 fingerprint next to **Certificate** (not the one next to "Public key"). Spaces may stay in.

Field	Where to get it
ConnectionString	Optional: the own instance `KSCAN` of SQL Server Express (KoonScan-Setup installs it only if you tick it; to install it yourself: Manual 2, appendix B). Never the SQL Server of SAP. In JSON use a double backslash. KoonScan creates the database `KScanDev` itself. If you leave out the whole Database block, KoonScan uses an SQLite file `scan.db` in this folder.
PinPepper	Create it with the command below and paste the result between the quotation marks. **Keep it safe**: if it changes, all PINs stop working.

```
[Convert]::ToBase64String((1..48 | % { Get-Random -Max 256 }))
```

> **CAREFUL**
>
> Never put passwords on GitHub. `appsettings.Local.json` deliberately does not go to GitHub (it is in .gitignore).

CHAPTER 5

Giving yourself a PIN

1. In SAP, look up your **employee number**: Human Resources → Employee Master Data. That is the number at the top of the window, not the "External Employee No.". A code such as 007 is read as 7.

2. Give yourself a PIN and administrator rights (replace 12 with your number; KoonScan asks for the PIN):

```
cd C:\KoonScan-source
dotnet run --project src\Scan.Api -- users set-pin 12 --admin
```

You give other employees a PIN in the administration screen (Administration → Users), or with the same command without `--admin` and with rights, for example `--rights receive,stock --warehouse 01`. Overview: `dotnet run --project src\Scan.Api -- users list`.

CHAPTER 6

Starting and checking

```
dotnet run --project src\Scan.Api
```

1. Open `http://localhost:5080` and sign in with your own name and PIN.
2. At the bottom of the start screen it must say **"Connected to SAP Business One"**, and the tiles show the real numbers (open purchase orders, pick lists, ...).
3. The first time, KoonScan creates fixed queries in SAP itself (the names start with SCAN_). If you get a message about authorisation, make a note of it.
4. If something goes wrong, SAP's message appears in the PowerShell window. See "If it does not work".

What you test next and how is in the test plan: `documentatie/TESTPLAN.md` in the code.

CHAPTER 7

Getting a new version

Has Claude built something new? Stop KoonScan (Ctrl+C) and do:

```
cd C:\KoonScan-source
git pull
cd web
npm ci
npm run build
cd ..
dotnet run --project src\Scan.Api
```

Your settings (`appsettings.Local.json`) and the database stay as they are; KoonScan creates new tables itself when it starts.

> **TIP**
>
> This page is only for KoonScan from the source code (`C:\KoonScan-source`). Did you install KoonScan with the installer (folder `C:\KoonScan` , service KoonScan)? Then `git pull` does not work there: update with the new setup, see Manual 2, "Installing a new version".

CHAPTER 8

If it does not work

What you see	What you do
"dotnet" or "npm" is not recognized	Close PowerShell and open a new one. If that does not help: redo chapter 1.
npm: "running scripts is disabled on this system"	Once only: `Set-ExecutionPolicy -Scope CurrentUser RemoteSigned` (chapter 1), or type `npm.cmd` instead of `npm`.
"A positional parameter cannot be found"	You pasted several commands on one line. Type each line separately and press Enter.
"Pincode:" seems to hang	Normal: the PIN is invisible while you type. Type it, press Enter, and once more to confirm.
Port 5080 already in use	The KoonScan service or an old development version is still running. `Stop-Service KScan` (as administrator) or close the other PowerShell window.
Start screen: "No connection to SAP"	Read the message in the PowerShell window. Check BaseUrl, CompanyDb, user, password and the fingerprint. Is the Service Layer running (Services → SAP Business One Service Layer)?
Error about the Service Layer certificate	Copy the fingerprint again (chapter 4); it changes after a new SAP certificate.
Error about SQL Server or "Login failed"	Is the server name right (`localhost\KSCAN`)? Your own Windows user must be allowed to create a database (whoever installed KoonScan-Setup is sysadmin on KSCAN).
Message about SQL queries or authorisation (403)	The SAP user must be a superuser, or have the authorisations "Modify SQL Queries in Service Layer" and "Service Layer SQL Query".
PIN no longer works	Did the PinPepper change? Put the old one back, or give everyone a new PIN (chapter 5).
Back to the demo	Temporarily rename `appsettings.Local.json` (for example to .off) and start KoonScan again.