KOON SYSTEMS

KOONSYSTEMS SCAN (FOR SAP B1)

MANUAL 2

Administrator

Step by step - install KoonScan, connect it to SAP Business One, add employees and manage it day to day.

KoonScan

Version 1.1.1 · 02-11-2026

KoonSystems · koonsystems.com

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Before you start

KoonScan (in full: KoonSystems Scan (for SAP B1)) is an app for the warehouse. Employees scan with a handheld scanner or phone; KoonScan posts it in SAP Business One. You install KoonScan once on a Windows computer (the "server") and then manage it from your browser.

Two ways to install

You choose **one** of these two ways. Both give exactly the same KoonScan; the rest of this manual is the same for both.

	With the installer (recommended)	With PowerShell (for IT)
For whom	Anyone. You do not need to know anything about IT.	IT suppliers who install with a script or on several servers.
What you download	`KoonScan-Setup-<version>.exe`	`koonscan-<version>.zip` (or the installer, silently)
What you do	Double-click, click **Next** a few times	Run `Install-KoonScan.ps1` in PowerShell as administrator
Where to read on	Chapter 1, then chapter 2	Chapter 1, then Installing with PowerShell

> **NOT AN IT PERSON? TAKE THE INSTALLER**
> Pick the installer. You never have to type a command. Manual 1 ("From the source code") is only for developers: you do not need it to install KoonScan.

How to read this manual

- Every task consists of **numbered steps**. Do them in order, one by one.
- Next to the steps is the screen you see. The **orange numbers** on the picture belong to the steps: for step ③ you click or tap the spot marked ③.
- A **green box** ("Check: this is what you see now") tells you what you should see when it has worked. See something different? Look in chapter 13 "If it does not work".
- An **orange box** ("Careful") is important: read it before you carry on.

- Pictures of Windows windows (such as the installer) are **sketches**: they look like what you see, and the button to click is marked.

> **TEST FIRST, THEN USE FOR REAL**
>
> Test KoonScan, and every new version, first in a **test company** of SAP Business One (a copy of your company database) before you work with it in the real company. KoonScan really posts in SAP. That testing is a condition of the licence (KoonSystems terms and conditions, article 4.7).

CHAPTER 1

Preparing

Make sure you have everything to hand before you start. Fill in the data sheet below (or ask your SAP partner for the details). Then you do not have to look anything up during the installation.

What you need

- ☐ A **Windows computer** (Windows Server, or Windows 10/11, 64-bit) in the same network as SAP. Often that is the SAP server itself.
- ☐ A **Windows account with administrator rights** on that computer (you must be allowed to install programs).
- ☐ **Internet** on that computer, only if you choose SQL Server Express in the installer (more than 50 scanners at the same time; about 300 MB). The standard installation with a database file needs no internet.
- ☐ The installation file `KoonScan-Setup-<version>.exe`. You download it from the customer portal portal.koonsystems.com → **Downloads** → **Windows installer** (chapter 2).
- ☐ The details from the data sheet below.

Data sheet

What	Where to find it	Fill in
Service Layer address	With your SAP partner. Usually https://<name of the SAP server>:50000/b1s/v1/	
Company database (CompanyDB)	In SAP: the "Choose Company" window at sign-in, database name column. Start with the test company.	
SAP user	A technical user for KoonScan (for example an Indirect Access user); ask your SAP partner.	
Password of that user	Do **not** write this down; make sure you know it or have it to hand.	
Your employee number in SAP	In SAP: Human Resources → Employee Master Data, the number at the top (not the external number).	
Licence key	In the customer portal → **Licences** → your licence → **Copy key** (starts with KoonScan-). Can also be later.	

What	Where to find it	Fill in
A PIN for yourself	4 to 8 digits, not too simple (not 1111 or 1234). Remember it, do not write it down.	

> **TIP**
>
> Don't know something? You can close the wizard in between or go to another window: KoonScan remembers where you were and what you had already filled in, even if the server restarts in between (see chapter 3).

CHAPTER 2

Installing KoonScan

Do this on the Windows computer where KoonScan is going to live. Allow 10 to 20 minutes. This chapter uses the installer: the way for everyone. Do you install with a script? Then read Installing with PowerShell (for IT) at the bottom.

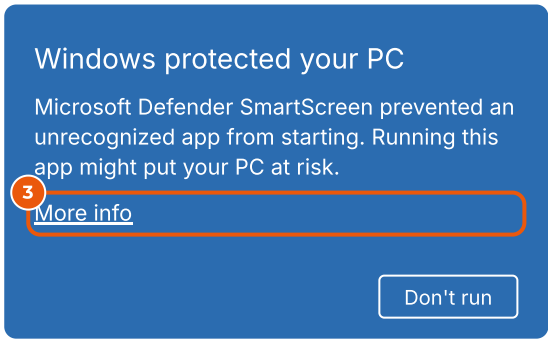
Downloading the installer

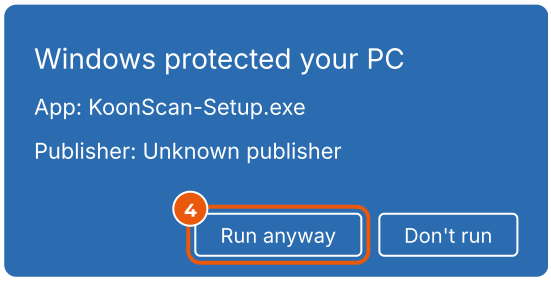
1. On the server, open the customer portal portal.koonsystems.com and sign in.
2. On the left, click **Downloads**.
3. At **Windows installer**, click the file `KoonScan-Setup-<version>.exe`. Your browser puts it in the Downloads folder.

> **DOWNLOADS IS EMPTY?**
>
> You see downloads as soon as you have a licence or a trial. A trial is free: in the portal, go to **Licences** and click **Start trial**. Want to be sure the file is complete? Compare the **Checksum (SHA-256)** with the result of `Get-FileHash` in PowerShell.

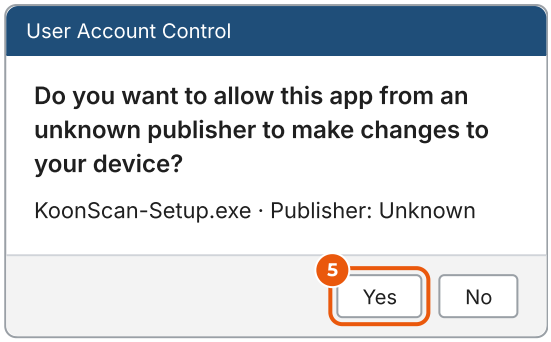
Running the installer

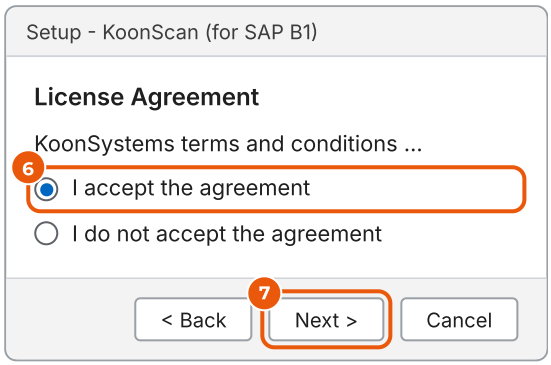
1. Open the Downloads folder.
2. **Double-click** `KoonScan-Setup-<version>.exe`.
3. Does a blue window "Windows protected your PC" appear? Then click **More info** ③. (If you do not see this window, go on to step 5.)
4. Click **Run anyway** ④. This window appears because KoonScan does not have a digital signature yet; the program is safe.



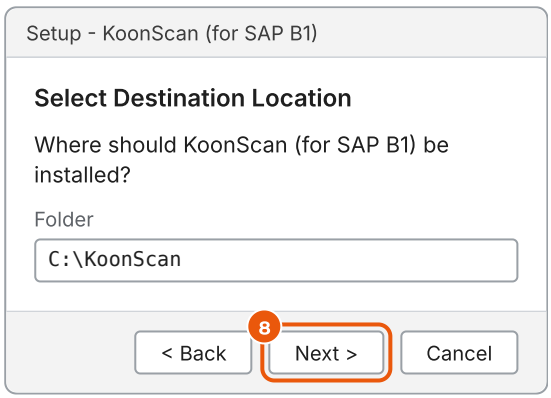


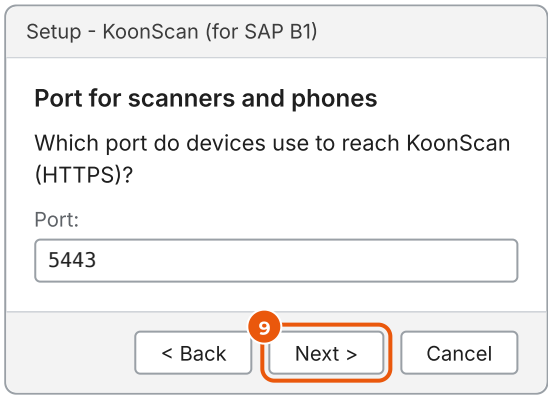
5. Windows asks: "Do you want to allow this app from an unknown publisher to make changes to your device?" Click **Yes** ⑤.
6. The installer starts in the language of Windows. Read the terms and conditions, choose **I accept the agreement** ⑥ and click **Next** ⑦.





8. **Select Destination Location**: leave `C:\KoonScan` as it is and click **Next** ⑧.
9. **Port for scanners and phones**: leave **5443** as it is and click **Next** ⑨. (Only if your IT supplier says that 5443 is already in use do you choose another number.)

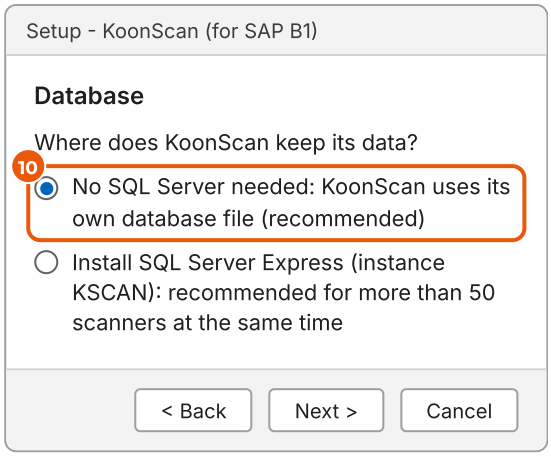


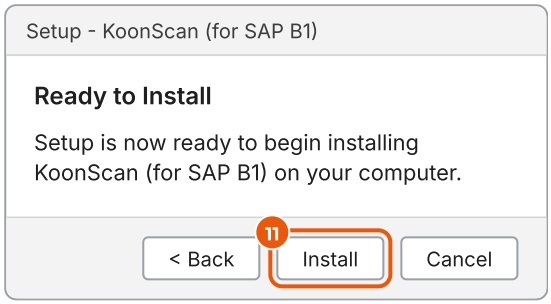


10 **Database**: leave the top option **No SQL Server needed: KoonScan uses its own database file (recommended)** selected ⑩. Click **Next**. (More than 50 scanners at the same time? Then choose **Install SQL Server Express (instance KSCAN)**; see the tip below.)

11 Click **Install** ⑪.

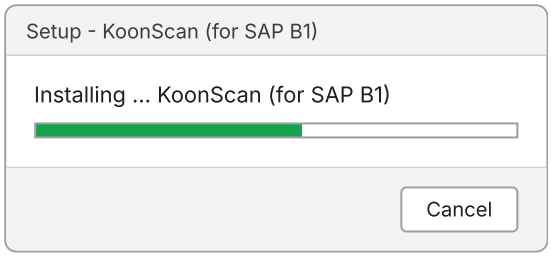
12 Wait until the bar is full. This takes a minute or two; with SQL Server Express **5 to 15 minutes**, and the bar sometimes stands still for a while. Do not close it.

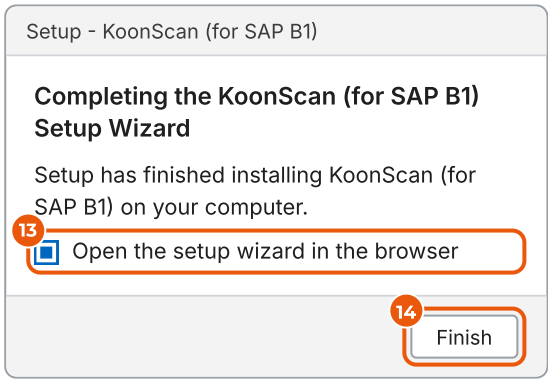




13 On the last screen there is a tick at **Open the setup wizard in the browser** ⑬. Leave it on.

14 Click **Finish** ⑭.





✓ CHECK: THIS IS WHAT YOU SEE NOW

Your browser opens with the title **Set up KoonScan**. In the Start menu there is a folder **KoonScan** with **KoonScan administration**, **KoonScan setup**, **Restore previous version** and **Administrator manual**. Carry on with chapter 3.

> **TIP**
>
> **Database file or SQL Server Express?** The database file is fine for most warehouses: nothing extra to install, and it also works where installing SQL Server is not allowed (for example with a hosting party such as Cloudiax). With more than 50 scanners working at the same time, choose SQL Server Express: the installer then downloads the free SQL Server 2025 Express from Microsoft (internet required, about 300 MB) and sets up KoonScan's own instance KSCAN. Is there already a SQL Server on the computer? The KSCAN option is still the right one: the SQL Server of SAP Business One may only be used for SAP itself.

> **CAREFUL**
>
> Chose SQL Server Express and got a message that it could not be installed (for example no internet)? KoonScan itself is installed. Make sure you have internet and start the installer again: it then installs what is still missing.

Installing with PowerShell (for IT)

For IT suppliers who install with a script or on several servers. The result is the same as with the installer: the Windows service **KoonScan**, the folder `C:\KoonScan` and the setup wizard. Not an IT person? Use the installer above.

Option 1: the zip package

1. In the customer portal → **Downloads**, download the **Zip file** `koonscan-<version>.zip` and unzip it, for example to `C:\Temp\koonscan`.
2. Open **PowerShell as administrator** (right-click → Run as administrator) in that folder and type:

```
Set-ExecutionPolicy -Scope Process Bypass
.\Install-KoonScan.ps1
```

3. The script copies the app to `C:\KoonScan\app`, creates the Windows service, the firewall rule and the settings file, starts the service and opens the setup wizard. Carry on with chapter 3.

Option	What it does
`-InstallDir D:\KoonScan`	Another folder (default `C:\KoonScan`).
`-HttpsPort 5443`	Port for the devices (default 5443; not 5080).

Option	What it does
`-NoBrowser`	Do not open the wizard; the script only shows the address (for a server without a desktop).

Running the script again is safe: settings, certificates and the database stay. The zip also contains `Update-KoonScan.ps1` for updates (chapter 10) and `appsettings.Local.example.json`, an example of the settings for those who set up KoonScan without the wizard (appendix B).

> **THE ZIP PACKAGE USES THE DATABASE FILE**
>
> `Install-KoonScan.ps1` does not install SQL Server Express. Want SQL Server Express? Install it yourself first with the instance KSCAN (appendix B), or use the installer silently with `/SQLEXPRESS=install`.

Option 2: the installer without questions

```
KoonScan-Setup-<version>.exe /VERYSILENT /SUPPRESSMSGBOXES /DIR=C:\KoonScan /PORT=5443
```

All options of the silent installation are in appendix B. Silent installation counts as accepting the terms and conditions. The wizard does not open by itself: on the server, open Start menu → KoonScan → **KoonScan setup** (the setup code is then filled in).

CHAPTER 3

Connecting KoonScan to SAP (the wizard)

The setup wizard opens by itself after the installation. It has eight steps; at the top you see where you are (for example "2 / 8"). Nothing is saved until the last step.

> **YOU CAN ALWAYS TAKE A BREAK**
>
> Need to step away? Just close the browser. Later, open Start menu → KoonScan → KoonScan setup and click **Yes** when Windows asks for permission: you come back to the same step, with everything still filled in. Even after the computer has restarted.

Setup code (only if it is asked for)

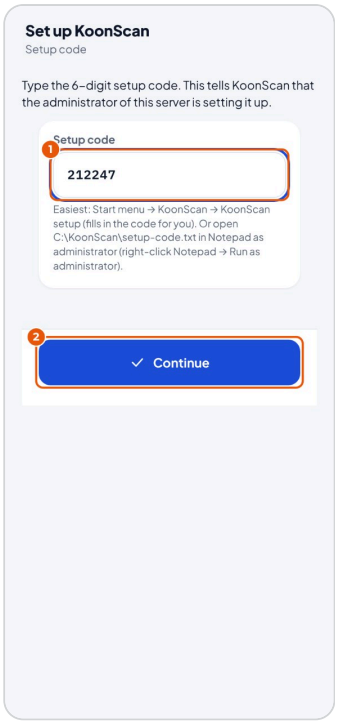
The wizard asks for a setup code if you open it in another way, for example through KoonScan administration or in another browser. You do not have to type the code:

1. Close the browser.
2. Open Start menu → KoonScan → KoonScan setup.
3. Windows asks whether the app may make changes. Click **Yes**. The wizard opens with the code already filled in.

Do you want to type the code yourself after all? The code is in `C:\KoonScan\setup-code.txt`. That file is for administrators only: double-clicking does not work ("Access is denied").

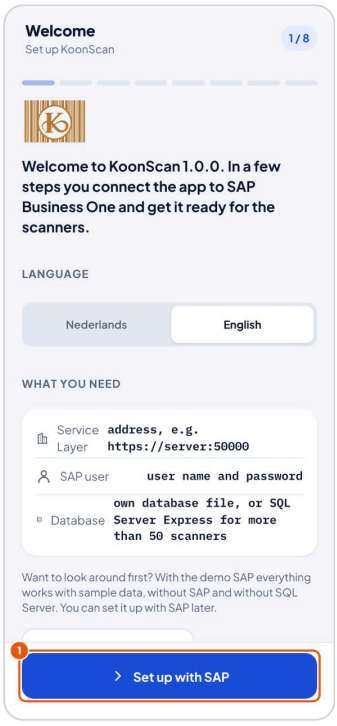
1. Click Start and type Notepad.
2. Right-click Notepad and choose Run as administrator. Click **Yes**.
3. In Notepad, choose File → **Open**, type `C:\KoonScan\setup-code.txt` and click **Open**.

1. Type the 6 digits in the box ①.
2. Click **Continue** ②.



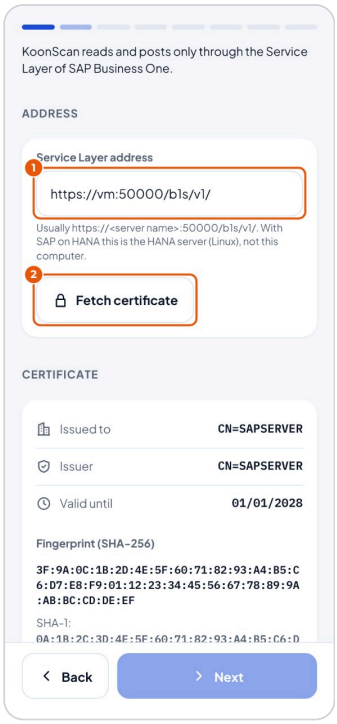
Step 1 · Welcome

1. Click **Set up with SAP** ①.

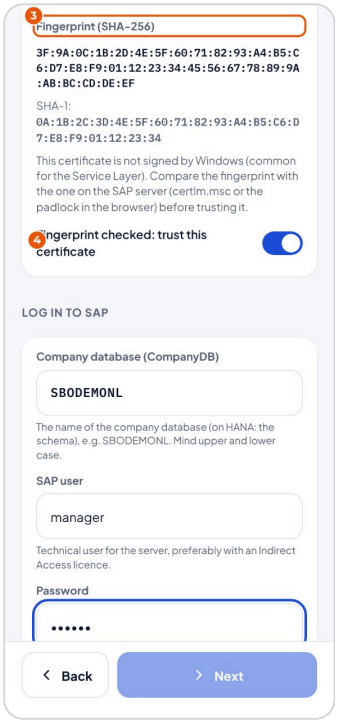


Step 2 · SAP

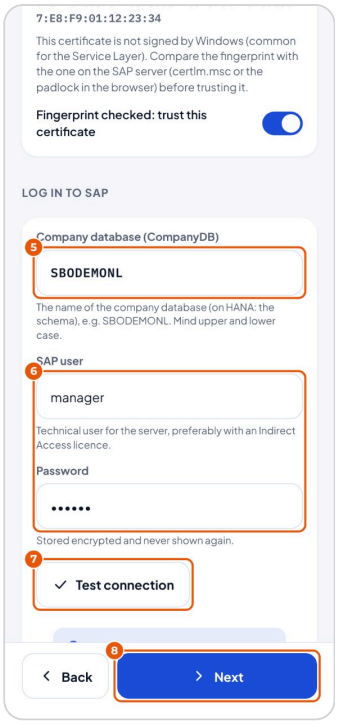
1. At **Service Layer address** ① type the address from your data sheet. Often the right address is already there.
2. Click **Fetch certificate** ②.



3. A fingerprint ③ appears: a long series of letters and numbers. Ask your SAP partner whether it is correct.
4. Is it correct? Switch on the toggle **Fingerprint checked: trust this certificate** ④.



5. At **Company database (CompanyDB)** ⑤ type the database name from your data sheet. Mind the upper and lower case.
6. At ⑥ fill in the **SAP user** and the **Password**.
7. Click **Test connection** ⑦. After a few seconds it says in green "Connected to ..." with the name of your company.
8. Click **Next** ⑧.

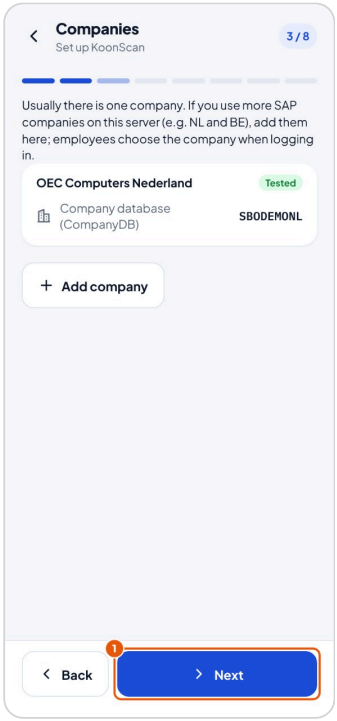


CAREFUL

Is there a red message after Test connection? Read what it says: it tells you what is wrong (address, certificate, user or password, company database). Correct it and test again. If it still does not work, send the message to your SAP partner or KoonSystems.

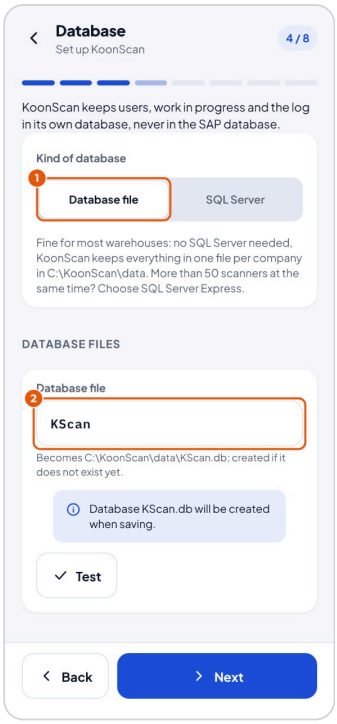
Step 3 · Companies

1. Do you use one SAP company (usually the case)? Then click **Next** ①. (If you work with more companies, add them with **Add company**; each company is tested.)

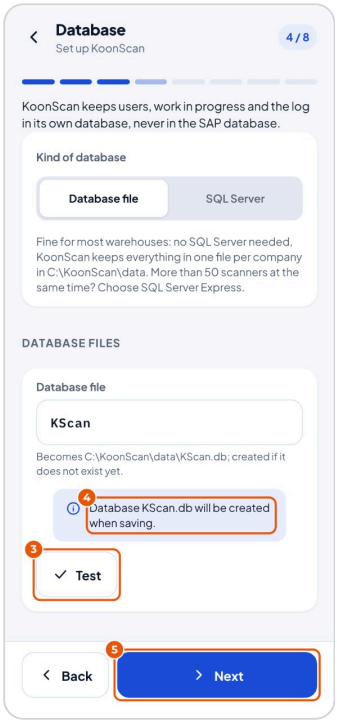


Step 4 · Database

1. Leave **Database file** ① selected. KoonScan then keeps its data in one file per company in `C:\KoonScan\data`; no SQL Server needed.
2. At **Database file** ② it says KScan. Leave it as it is: the file becomes `C:\KoonScan\data\KScan.db`. (With more companies, each company gets its own name, for example KScan_NL.)



3. Click **Test** ③.
4. It says "Database KScan.db will be created when saving" ④ (or "already exists"). That is fine.
5. Click **Next** ⑤.



SQL SERVER INSTEAD OF A DATABASE FILE

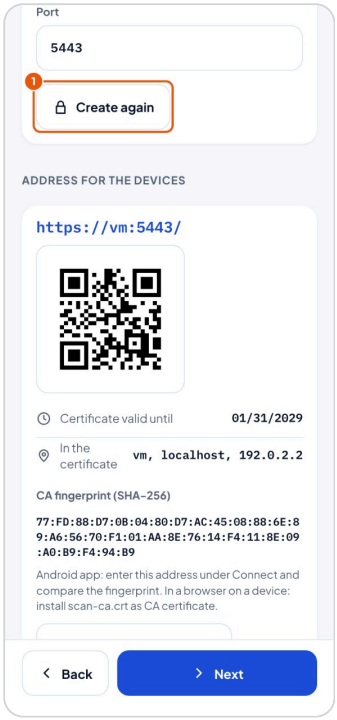
Did you tick SQL Server Express in the installer (more than 50 scanners at the same time)? Then **SQL Server** is already selected here. At **SQL Server instance** it says localhost\KSCAN; leave **Windows authentication** selected, click **Test** and then **Next**. Another SQL Server than KSCAN is only allowed with its own licence (not the one from SAP Business One); the wizard asks you to confirm that. More in chapter 15.

DATABASE BELONGS TO ANOTHER COMPANY

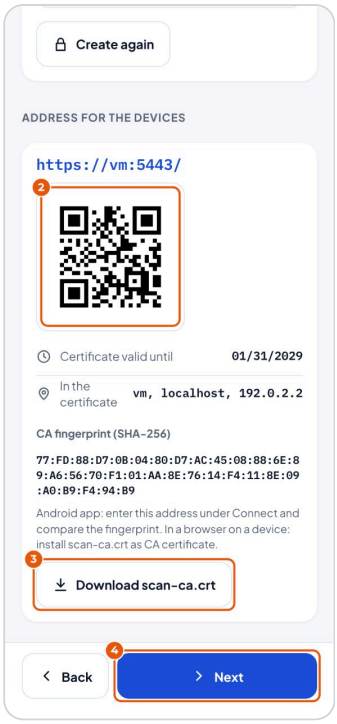
Does it say "Database KScan.db already belongs to another SAP company"? Then that database was set up earlier for another company (for example the SQL version of your test company, while you now connect HANA). Type another name at **Database file**, for example KScan_HANA, and click **Test** again. Are you sure you no longer need the old data? Then switch on **Empty database KScan.db and start again**. The users, settings and work in progress in that database are then lost. KoonScan never empties a database that is not a KoonScan database (such as the SAP one); then always choose another name.

Step 5 · HTTPS (for handheld scanners and phones)

1. Click **Create certificate** ①. (After that the button is called "Create again".)

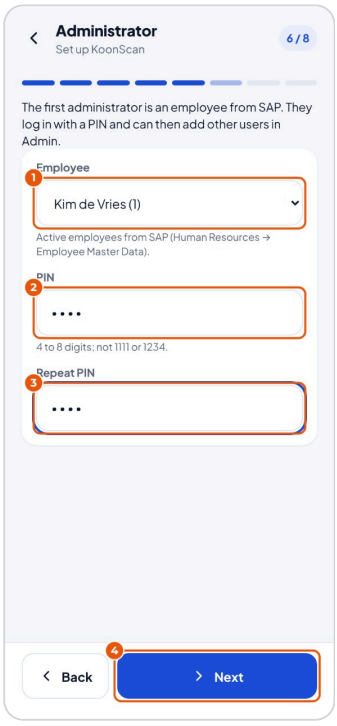


2. You see the **Address for the devices** and a QR code ②. Write the address down; you need it in chapter 7.
3. Do you use phones with a browser (not the Android app)? Then click **Download scan-ca.crt** ③ and save the file.
4. Click **Next** ④.



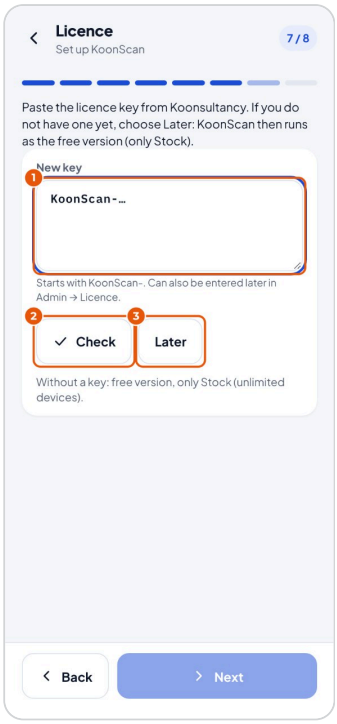
Step 6 · First administrator (you)

1. At **Employee** ① choose your own name from the list (the list comes from SAP).
2. At **PIN** ② type your PIN (4 to 8 digits).
3. Type the same PIN again at **Repeat PIN** ③.
4. Click **Next** ④.



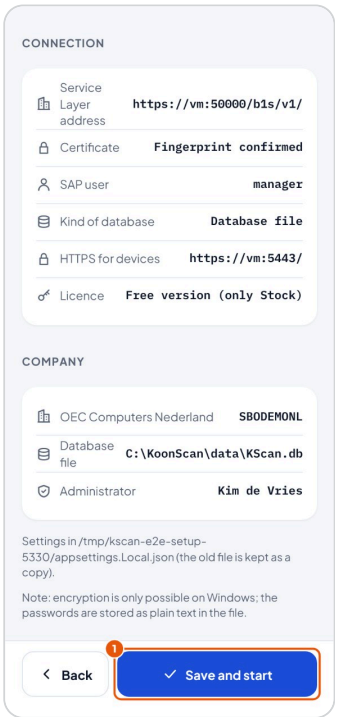
Step 7 · Licence

1. Do you have a licence key? Paste it in the box ① (right-click → Paste).
2. Click **Check** ②: you see who the key is for and until when. Then click **Next**.
3. No key yet? Click **Later** ③. KoonScan then works as the free version (only Stock); you enter the key later (chapter 6).



Step 8 · Save

1. Read the summary and click **Save and start** ①.
2. Wait. It says "KoonScan is restarting". After about half a minute the login screen appears by itself.



✓ CHECK: THIS IS WHAT YOU SEE NOW

You see the login screen **Who are you?** with your name. KoonScan is ready. Carry on with chapter 4.

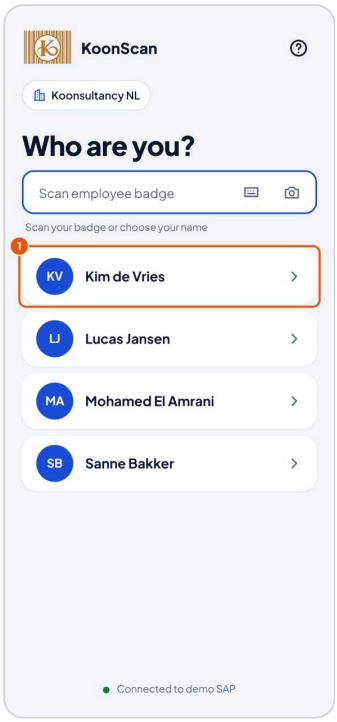
CHAPTER 4

Signing in and opening the administration screen

You open the administration screen in the browser on the server (Start menu → KoonScan → KoonScan administration), or on a handheld scanner or phone. Only administrators can get in.

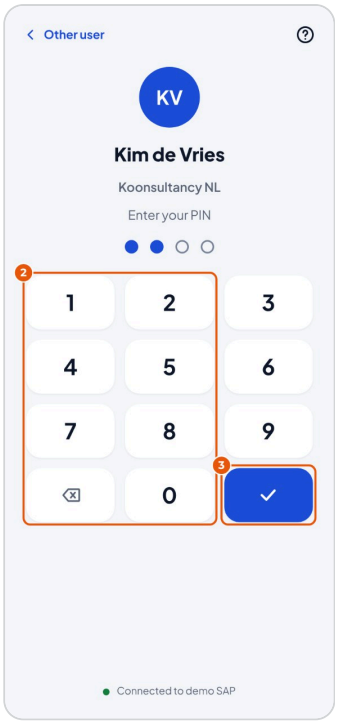
Signing in

1. Tap or click your name ①. (If you work with more than one company, choose the company first.)

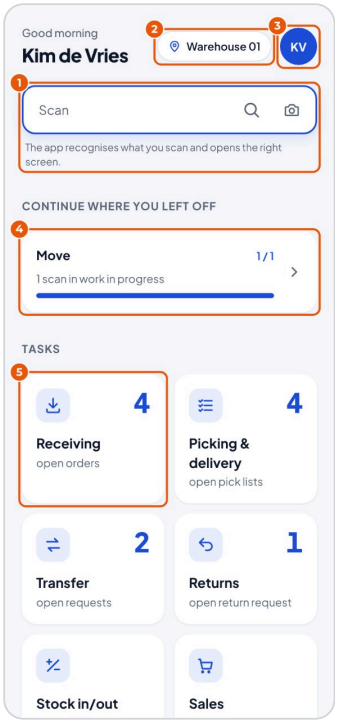


2 Enter your PIN on the digits ②.

3 Tap the check mark ③ to sign in.

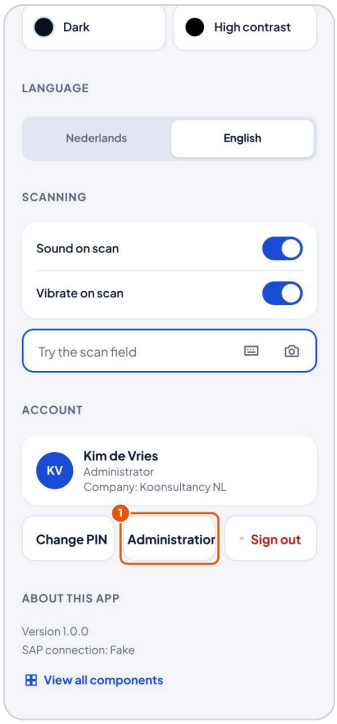


4 You are on the start screen. At the top right, tap your initials ③.

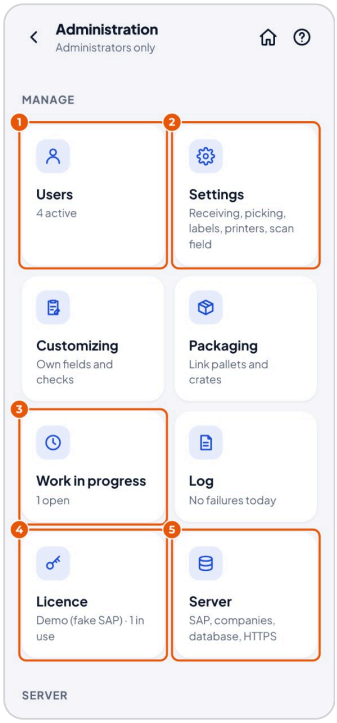


The administration screen

1. You see your settings. At the bottom, tap **Administration** ①.



2. This is the administration screen. From here you do everything: **Users** ①, **Settings** ②, **Work in progress** ③, **Licence** ④ and **Server** ⑤. There are also **Customizing** (own fields and checks, chapter 9), **Log** (chapter 8) and **Packaging** (pallets and crates, appendix B). At the bottom you see the details of the server.
3. Is there a message at the top (for example: licence is about to expire, database almost full)? Read it and do what it says.



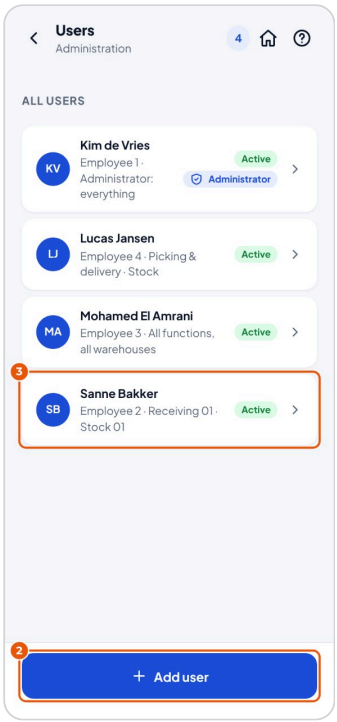
CHAPTER 5

Adding and managing employees

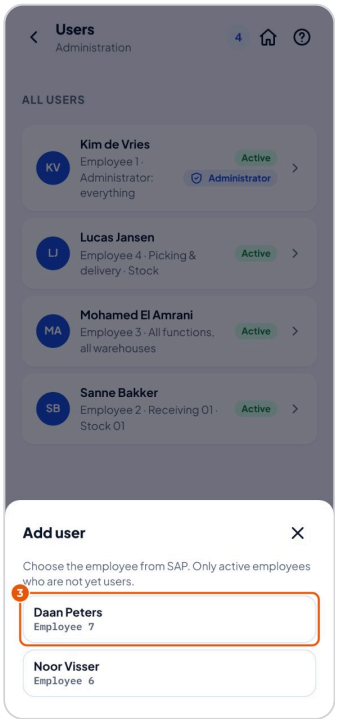
Everyone who works with KoonScan is an employee in SAP with their own PIN. You add someone once; after that they sign in with their name and PIN.

Adding an employee

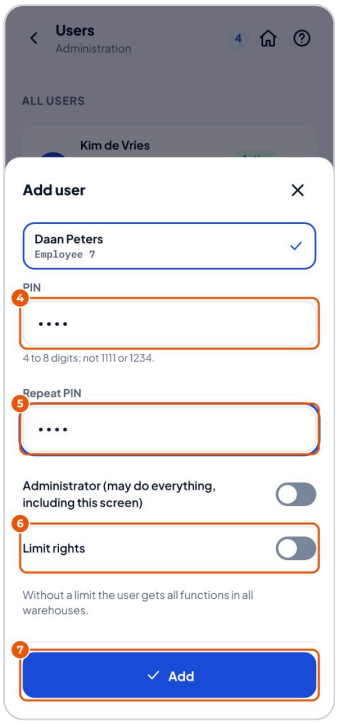
1. Go to Administration → **Users**.
2. Tap **Add user** ②. (At ③ you see the existing users.)



3. Choose the employee ③. You only see active employees from SAP who are not users yet. Is someone missing? Then first create them in SAP (Human Resources → Employee Master Data).



4. Type a **PIN** ④ and type it again at **Repeat PIN** ⑤. Then give the PIN to the employee in person.
5. May the employee do everything? Leave **Limit rights** ⑥ off. Do you want to choose what they may do? Then switch it on and choose per function *Off*, *All warehouses* or *Choose warehouses*.
6. Tap **Add** ⑦.

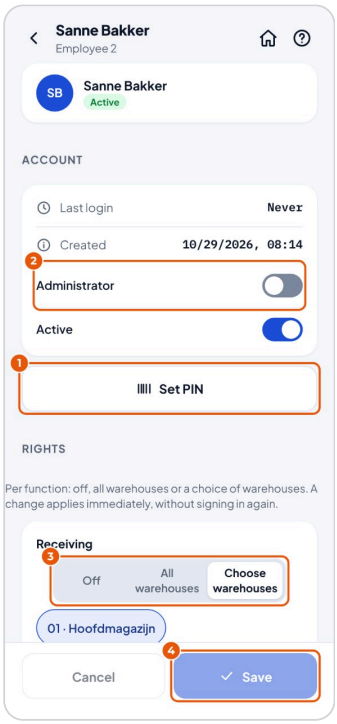


✓ CHECK: THIS IS WHAT YOU SEE NOW

The employee is in the list with "Active". On the handheld scanner their name is now on the login screen.

Forgotten PIN, making an administrator or changing rights

1. Go to Administration → Users and tap the name. **Forgot your PIN?** Tap **Set PIN** ① and type a new PIN twice.
2. **Making an administrator?** Switch on **Administrator** ② (an administrator may do everything, including this administration screen).
3. **Want to change rights?** Choose per function ③ what the employee may do.
4. Tap **Save** ④.



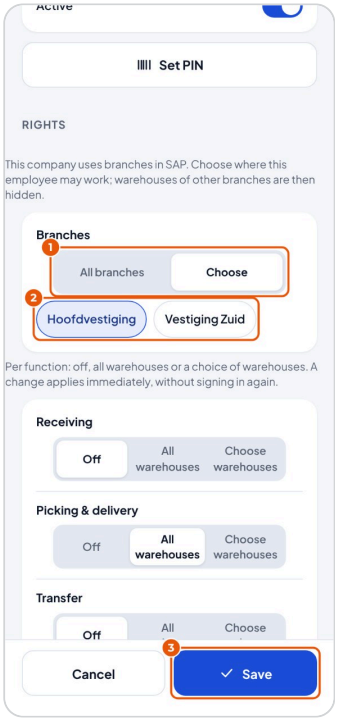
> **TIP**
>
> **Locked** (too many wrong PINs)? On the same page you then find the **Unlock** button. **Left the company?** Switch off **Active**: the employee is signed out everywhere straight away and their devices no longer count towards the licence. An administrator cannot switch themselves off.

> **TIP**
>
> Changing rights takes effect immediately; the employee does not have to sign in again. A new PIN does sign them out. A new PIN does **not** switch a deactivated employee back on: switch on **Active** for that. In the log you (the administrator) appear as the person who did it.

Branches (only if SAP works with branches)

Does your company work with several branches in SAP? Then you choose per employee in which branches they may work. Without branches in SAP you do not see this block.

1. Go to Administration → Users and tap the name. At **Branches** ① choose **Choose**. (**All branches** is the default.)
2. Tap the branches where the employee may work ②. A dark button is on.
3. Tap **Save** ③.



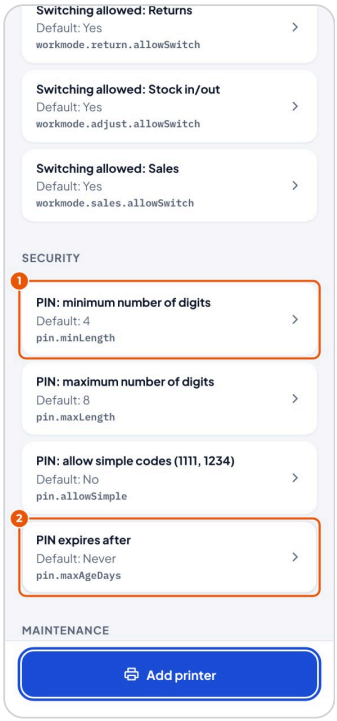
> **✓ CHECK: THIS IS WHAT YOU SEE NOW**
>
> When choosing a warehouse, the employee only sees the warehouses of those branches, with the name of the branch after it. It applies immediately, without signing in again.

> **TIP**
>
> Every posting gets the branch of the warehouse in SAP. One document belongs to one branch: if someone scans in a warehouse of another branch, KoonScan reports this straight away. When picking, KoonScan itself creates a delivery per branch.

PIN rules

By default a PIN is 4 to 8 digits, not as simple as 1111 or 1234, and it never expires. You can make this stricter.

1. Go to Administration → **Settings** → group **Security** and tap **PIN: minimum number of digits** ①. Choose the number.
2. Should employees replace their PIN regularly? Tap **PIN expires after** ② and choose the number of days.



> **TIP**
>
> The rules apply to every **new** PIN. An existing PIN keeps working until it expires; the period counts from the day the PIN was set. If a PIN has expired, KoonScan asks the employee right after signing in to choose a new one themselves. Employees can also change their PIN themselves (Manual 3).

What may an employee do? (rights)

Right	This lets the employee
Stock	Look up stock per item and bin location, print labels, view bin locations, block a batch (with a reason).

Right	This lets the employee
Receiving	Receive against a purchase order and without a purchase order.
Transfer	Move, whole bin, whole batch, transfer requests, put away and replenish.
Picking & delivery	Pick and post pick lists, and deliver a sales order without a pick list (Deliver order).
Returns	Returns from a customer and to a supplier.
Stock in/out	Add or remove stock without a document, with a reason.
Count	Do counting tasks and quick count, also via "Stock is wrong" on the stock screens.
Bin locations	Block and release bin locations, change attributes, release a blocked batch again.
Production	Issue and return components, report finished.
Sales	Sell at the counter (delivery and invoice in one go) and make a credit note on a sales invoice. Packing falls under Picking & delivery.
Packaging	Post a single pallet exchange at the door (Packaging tile). Packaging with a delivery, goods receipt or return belongs to that document and needs no extra right.

CHAPTER 6

Entering the licence key

You get the key from the customer portal. A key is valid for **one SAP company**: the company database (CompanyDB) you entered when you bought the licence or started the trial.

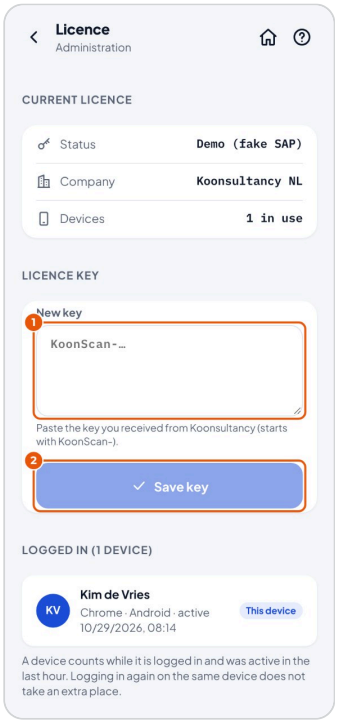
Getting the key from the customer portal

1. Open portal.koonsystems.com and sign in.
2. Click **Licences** and then your KoonScan licence.
3. Click **Copy key**. (Or **Download .lic**: a file with the key, handy if you enter the key on another computer.)

No licence yet? In the portal, under **Licences**, fill in the SAP company database (for example SBODEMO_NL) and click **Start trial**.

Entering the key

1. Go to Administration → **Licence** and paste the key in **New key** ① (everything from KoonScan- onwards).
2. Tap **Save key** ②.



✓ CHECK: THIS IS WHAT YOU SEE NOW

At the top, Status says "Valid", with the customer, the number of devices and the end date.

Good to know

- **Devices**: the key is valid for a maximum number of devices at the same time. Under **Logged in** you see who is working where. **Sign out device** frees the place; the employee has to sign in again on that device and their work is kept.
- **Reminder**: thirty days before the end date everyone gets one reminder, and in the last seven days every day.
- **Expired**: then only Stock works, until there is a new key. There is no extra time.
- **Automatic renewal**: with a licence per month or per year, KoonScan itself fetches the new key from koonsystems.com, twice a day (the server needs internet for that; only the KoonScan version is sent). Under Licence → **Automatic renewal** you see **Last checked** and **Last successful**, you can tap **Check now**, and you can switch it off. Switched off, or no internet on the server? Then copy a new key from the customer portal before the current one expires, and enter it here.
- **Key from**: says where the current key comes from: **Admin screen** (entered here) or **appsettings.Local.json** (entered by your IT supplier in the settings file). A key entered here takes precedence. **Remove key** deletes the key entered here.
- **Licence number and Key number**: a key from the customer portal shows the **Licence number** (stays the same for your licence) and the **Key number** (new with every key). A trial shows "trial" after the customer.
- **Withdrawn key**: if KoonSystems withdraws the signature of a key, the licence screen says so and only Stock works. With automatic renewal KoonScan fetches a new key itself (tap **Check now**); without internet, enter a new key by hand.
- **Without a key**: free version, only Stock. A trial key (7 days, free) opens everything.

When the key is not accepted

Message	What you do
This key is not for this company (...)	The key belongs to another SAP company. In the customer portal, check the installation of the licence (**Change installation**, at most twice in 12 months), or start a trial for this company.
This is not a licence key. Copy the whole key (starts with KoonScan-).	Copy the key again with **Copy key** and paste it in one go.
This key runs longer than a key from the customer portal may	Fetch a new key in the customer portal or ask KoonSystems.

Message	What you do
KoonSystems has withdrawn the signature of this key	Tap **Check now** under Automatic renewal, or copy a new key from the customer portal.
This key is for another KoonSystems product	You copied the key of another product. Take the KoonScan licence in the portal.

CHAPTER 7

Pairing handheld scanners and phones

Every device has to be told once where KoonScan is. You need the **Address for the devices** from the wizard (step 5), for example `https://sapserver:5443`. Lost it? Administration → Server → HTTPS.

Handheld scanner (Android app, recommended)

1. Download the app file (APK) from the customer portal → **Downloads** → **Android app**, put it on the handheld scanner (with a USB cable, or download it on the scanner itself) and tap it to install. If Android asks whether you may install apps from this source: **Allow**.
2. Open the **KoonScan** app.
3. Type the **Address for the devices** and tap **Connect**.
4. The app shows a fingerprint. Compare it with Administration → Server → HTTPS → "CA fingerprint (SHA-256)". The same? Then confirm with **Trust**.
5. Do you work with more SAP companies? Then the app asks **Choose the company**. Tap the company of this handheld scanner. You can then no longer switch on the login screen; you choose another company by pairing again (in the app: Settings → Change server address).
6. The login screen appears. Done. Do the same on every handheld scanner.
7. Put KoonScan on the home screen: open the list of all apps (swipe up), hold your finger on **KoonScan** and drag it to the home screen.

> **TIP**
> Zebra handheld scanners work straight away. With a Newland handheld scanner (for example NLS-N7): open the app "Quick Settings" → "Scan settings" and set the output mode to "Output via API". Does a scan still not appear in KoonScan? Choose "Simulate keystroke". Do not use "Fill in EditText directly": KoonScan then receives nothing.

Updating the Android app

The app on the device usually does not need an update: it shows the web app of the server, so a new version of KoonScan on the server is visible straight away. Only when KoonSystems announces a new Android app (in the release notes):

1. Download the new APK from the customer portal → **Downloads** → **Android app**.

2. Install it over the old app, as in step 1 above. Pairing, server address and company stay.
3. Check: in the app, Settings → **About this app** shows **Android app** with the new version.

Phone or tablet with a browser

1. Send the file scan-ca.crt (from the wizard, or from the folder C:\KoonScan\cert on the server) to the phone, for example by email.
2. Android: Settings → Security → Encryption & credentials → Install a certificate → CA certificate → choose scan-ca.crt.
3. Open the browser and type the **Address for the devices** (or scan the QR code from the wizard with the camera).
4. In the browser menu choose Add to Home screen. KoonScan then appears as an app icon on the phone.

> **CAREFUL**
>
> Use a fixed name or a fixed IP address for the server. If the address changes, the pairing stops working: then make a new certificate in Administration → Server → HTTPS (**Renew**). The devices do not have to do anything again afterwards.

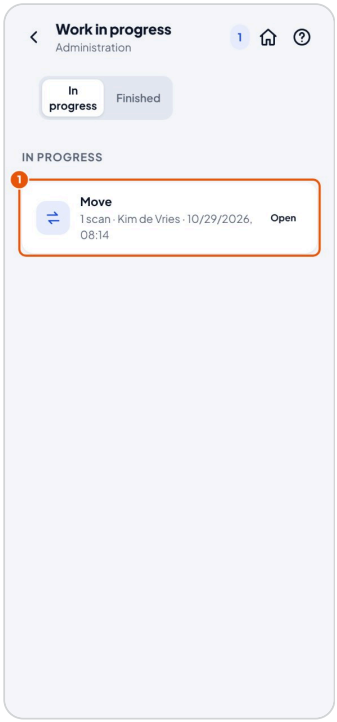
CHAPTER 8

Daily management

Releasing stuck work

Sometimes a posting stays on "Posting...", for example when the server was briefly down. This is how you free it again:

1. Go to Administration → **Work in progress** and tap the work that is stuck ①.
2. Tap **Release**. The employee can now post again; KoonScan first checks in SAP whether it was already posted, so nothing is posted twice.
3. Do you want to throw the work away without posting? Tap **Close without posting** and confirm.

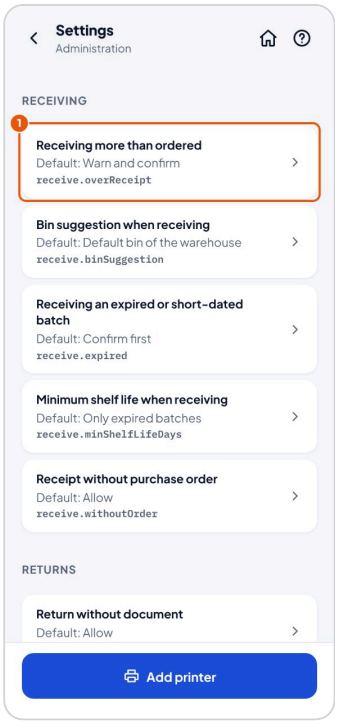


> **CAREFUL**
>
> Did an earlier posting **partly succeed** (some of it may already be in SAP)? Then KoonScan warns you once more before you close it. First check in SAP what has already been posted; usually it is better to post again (by the employee) than to close.

Changing a setting

For example: may an employee receive more than was ordered?

1. Go to Administration → **Settings** and tap the setting, for example **Receiving more than ordered** ①.
2. Choose the new value. Changed your mind? Choose **Back to default**.

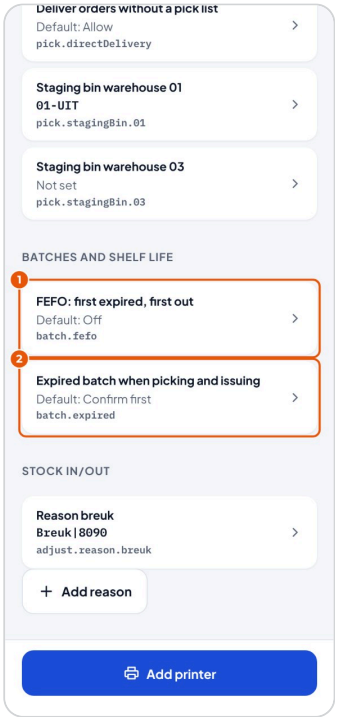


All settings with an explanation are in appendix A at the back.

Watching expiry dates (FEFO)

First expired, first out. FEFO is off by default; an expired batch does already ask for confirmation.

1. Go to Administration → **Settings** → group **Batches and shelf life** and tap **FEFO: first expired, first out** ①. Choose **Confirm first** (the employee may still take another batch) or **Refuse** (only the oldest batch).
2. Tap **Expired batch when picking and issuing** ② and choose Allow, Confirm first (default) or Refuse.
3. Under **Receiving** you set what happens with a batch that has already expired or has too short a shelf life, and how many days it must still be good for at least.



> **TIP**
> FEFO applies to picking, order delivery, the counter, stock out and issuing for production. A batch that SAP has allocated to the order always comes first. Blocked and expired batches do not count.

Setting the default customer for the counter

Does your warehouse sell at the counter to walk-in customers? Then set, per warehouse, the customer that KoonScan chooses by itself.

1. In SAP, create a customer for the counter, for example "Counter customer", with the price list that applies at the counter. Note the customer code.
2. Go to Administration → **Settings**. Under **Sales**, tap **Default counter customer warehouse ...** for the warehouse with the counter.
3. Type the customer code and tap **Save**. If it is not an active customer in SAP, KoonScan warns you.

> **✓ CHECK: THIS IS WHAT YOU SEE NOW**
> As an employee, open Sales → Counter sale. The customer is already there. The employee can still choose another customer.

Photos: the attachments folder in SAP

Employees can take photos (for example of damage) with a receipt or return. They go to SAP as an attachment. For that, SAP needs a folder for attachments that the Service Layer is allowed to write to. You set this up once; ask your SAP partner if you are not sure.

1. Open SAP Business One. Go to Administration → System Initialization → **General Settings**, **Path** tab.
2. Look at **Attachments Folder**. Is there already a folder (for example \\server\B1_SHF\Attachments)? Then you do not have to change anything here. Empty? Choose a shared folder and click **Update**.
3. Give the Service Layer write permission on that folder. On Windows the Service Layer runs as **Network Service**: right-click the folder → Properties → Security → Edit → Add → type **NETWORK SERVICE** → tick **Modify** → OK.
4. In KoonScan: Administration → **Settings** → **Photos**. Photos when receiving and with returns are on by default, at most 10 per document. You can also switch them off here.

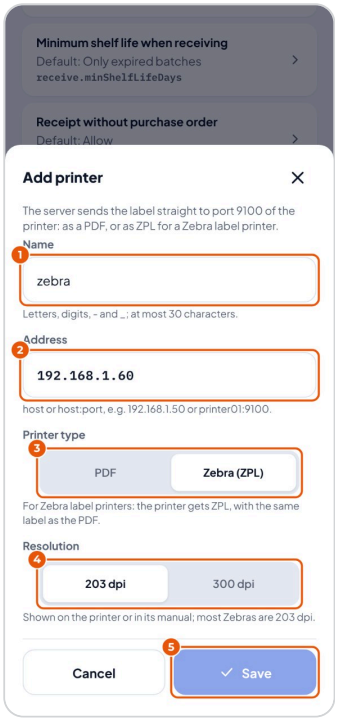
✓ CHECK: THIS IS WHAT YOU SEE NOW

Have an employee post a receipt with one photo. In SAP the photo is on the receipt under **Attachments**. If KoonScan says "SAP could not save the photos", check the folder and the permissions (steps 2 and 3).

Adding a network printer for labels

Go to Administration → Settings and, at the bottom under Network printers, tap **Add printer**.

1. Type a **Name** ①, for example "warehouse" or "zebra".
2. Type the **Address** of the printer ②, for example 192.168.1.50. If needed, ask your IT supplier for the address.
3. Choose the **Printer type** ③: **PDF** for an ordinary printer that can print PDF, **Zebra (ZPL)** for a Zebra label printer.
4. For a Zebra: choose the **Resolution** ④ (it says on the printer; usually 203 dpi).
5. Tap **Save** ⑤.



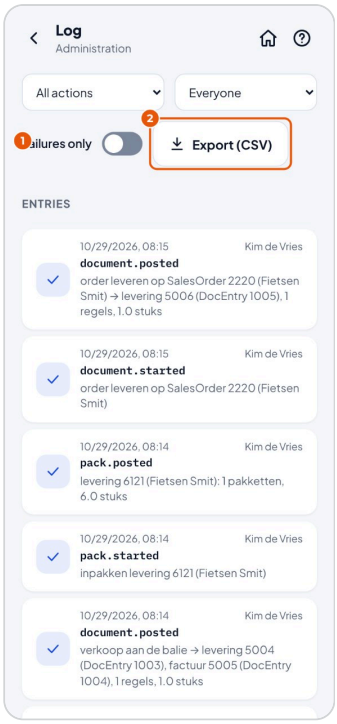
✓ CHECK: THIS IS WHAT YOU SEE NOW

In the list, tap **Test label** next to the printer. Does a label come out? Then it works. If not: check the address and the printer type, or print through the device ("This device").

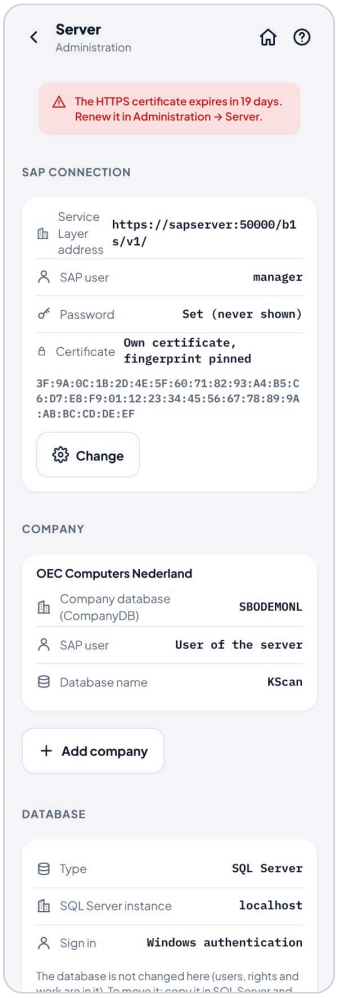
Who did what? (log)

Administration → **Log** shows everything that happened: signing in, postings with the SAP number, failed postings with the message, changes.

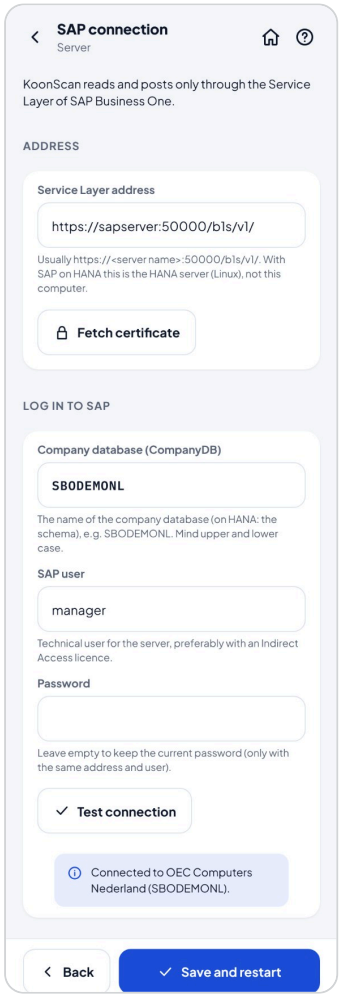
1. Go to Administration → **Log**. Switch on **Failures only** ① to find problems, or choose an action or user.
2. Do you want to look at it in Excel or keep it? Tap **Export (CSV)** ②. The file contains the lines with the same choices as on the screen, newest first. Headings and details are in the language of the app; lines from before the five languages appear as they were stored.
3. Open the file (Downloads folder) with Excel: the columns are right straight away.



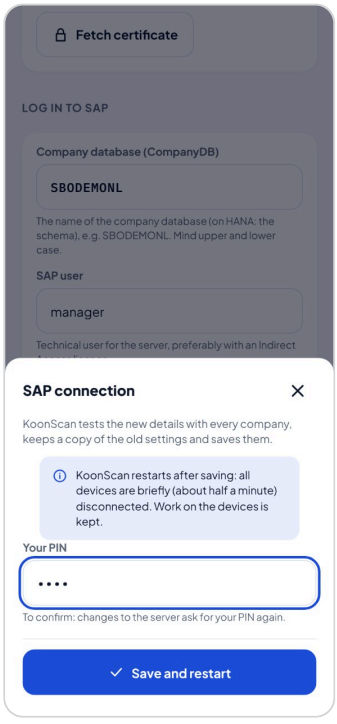
Changing the SAP password or the server



Administration → Server.



Changing the SAP connection.



Confirming with your PIN.

1. Go to Administration → **Server** and choose what you want to change (for example **SAP connection** if the password of the SAP user has changed).
2. Change it and test (just like in the wizard).
3. Confirm with your PIN. KoonScan restarts: all devices are gone for about half a minute; their work is kept.

Adding a second SAP company

One KoonScan server can serve several SAP companies. Each company gets its own database with its own users and work; employees choose the company when signing in.

1. Go to Administration → **Server** and tap **Add company**.
2. Fill in **Code in the app**, **Name** and **Company database (CompanyDB)** of the new company. Does this company use another SAP user? Switch on **Own SAP user for this company** and fill it in; otherwise KoonScan uses the user of the server.
3. Check the database with **Test**, and choose under **Employee** who becomes the administrator of the new company (usually yourself).
4. Tap **Test the connection first**. Correct what the message says until the test succeeds.
5. Tap **Add and restart** and confirm with your PIN. KoonScan creates the database for the new company with you as administrator and restarts (about half a minute).

> **TIP**
>
> With a second company, the current company also gets a code and a name, for choosing the company when signing in. Its users, work and database stay as they are. Each company needs its own licence key (chapter 6). A database that already belongs to another SAP company is refused: choose another name.

> **TIP**
>
> Do you work with more than one company? Then only an administrator of the **first** company changes the server itself (HTTPS, adding a company, setting up again). An administrator of another company only changes the SAP connection of their own company.

CHAPTER 9

Customizing: own fields and checks

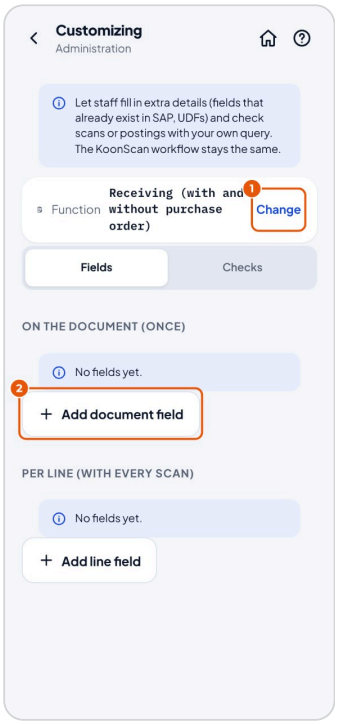
Do you want employees to fill in **extra details** for a function that already exist in SAP (own fields, UDFs), or do you want to **check a scan or posting with your own query**? You set that up here. The way KoonScan works stays the same; only details and checks are added.

> **TIP**
>
> Customizing only uses what is already in SAP. You create a new field in SAP first (Tools → Customization Tools → User-Defined Fields - Management), if needed together with your SAP partner. You write the query of a check in SQL; ask KoonSystems or your SAP partner if you do not do that yourself.

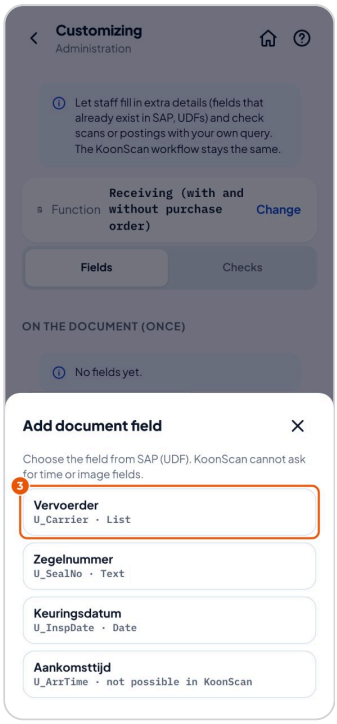
Having an extra field filled in

For example: the carrier with every receipt, and an inspection code per item.

1. Go to Administration → **Customizing**. Next to **Function**, tap **Change** ① and choose the function, for example **Receiving (with and without purchase order)**.
2. Once per document (such as the carrier)? Tap **Add document field** ②. Per item (such as an inspection code)? Tap **Add line field**.



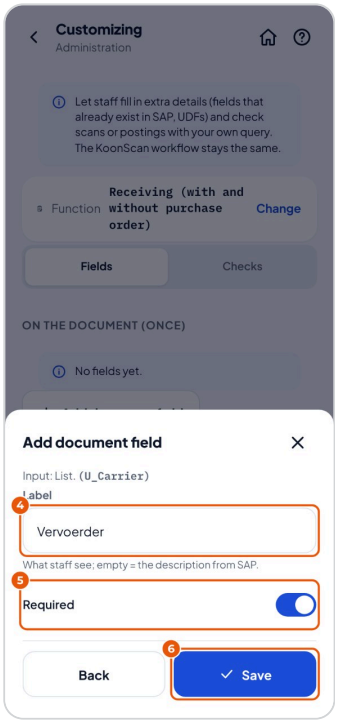
3 You see the own fields that SAP has on this document. Tap the field ③. Grey with "not possible in KoonScan"? That is a time or an image; KoonScan cannot have those filled in.



4 If you like, change the **Label** ④: that is what the employee sees. Empty = the description from SAP.

5 Does the employee always have to fill it in? Switch on **Required** ⑤.

6 Tap **Save** ⑥.



✓ CHECK: THIS IS WHAT YOU SEE NOW

The field is in the list. As an employee, open the function: at the top there is a button with a form (fields on the document), and in the card of an item the line **Extra details** (fields per line). The values that were filled in are on the document in SAP after posting.

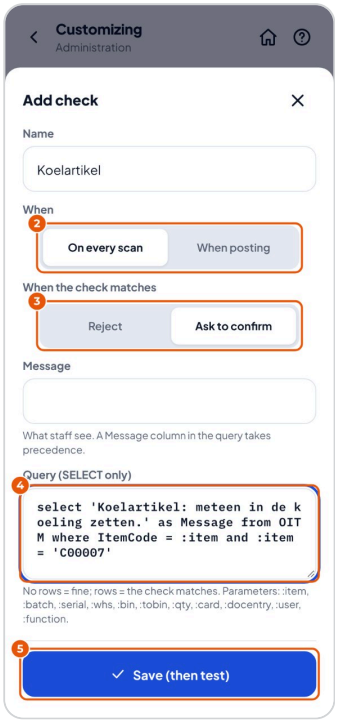
TIP

To change or remove a field: tap it in the list. Does it say **Not in SAP**? Then the field has been deleted in SAP; remove it here too.

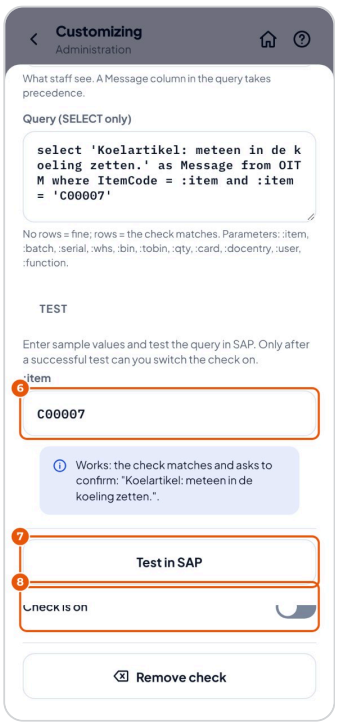
Making your own check

For example: an item that is blocked for purchasing in SAP must not be received. A check is a query: if **no rows** come out, everything is fine; if **rows** do come out, the check matches.

1. Administration → **Customizing**, choose the function, tap **Checks** and then **Add check**. Type a **Name**.
2. Choose **When** ②: on every scan, or when posting (once per document).
3. Choose what happens when the check matches ③: **Reject**, or **Ask to confirm** (the employee may then still carry on).
4. Type the **Query (SELECT only)** ④, for example `select 'Item is blocked for purchasing' as Message from OITM where ItemCode = :item and frozenFor = 'Y'`.
5. Tap **Save (then test)** ⑤.



6. Enter a sample ⑥, for example an item code, and tap **Test in SAP** ⑦. KoonScan puts the query in SAP and runs it.
7. Do you see "Works: ..."? Then switch the check on with **Check is on** ⑧. Do you see "Not working: ..."? Then change the query and test again.



✓ CHECK: THIS IS WHAT YOU SEE NOW

If an employee scans an item for which the check matches, they see your message (or the text from the Message column). Every time someone carries on anyway with "Ask to confirm", it is recorded in the log.

What you can use in a query

Parameter	What KoonScan fills in
:item	Item code
:batch / :serial	Batch or serial number (otherwise empty)
:whs / :bin / :tobin	Warehouse, bin location, and when moving the destination bin location
:qty	Quantity in the stock unit (a number)
:card	Customer or supplier
:docentry	The document from SAP being worked on (DocEntry; when picking, the pick list)
:user	Employee number in SAP
:function	The function, for example receive or pick
:U_...	Only when posting: the fields on the document (for example :U_Carrier)

CAREFUL

Only **SELECT** is allowed, and only tables that the Service Layer allows (the list from your SAP partner, b1s_sqltable.conf). If a check stops working (an error from SAP or no answer within 10 seconds), KoonScan blocks scanning or posting with "Check ... is not working; please tell your administrator". Then switch the check off and fix it.

CHAPTER 10

Installing a new version

You install a new version over the old one. Users, settings and work are kept.

1. Ask the employees to pause their work for a moment (KoonScan is unavailable for a few minutes during the update).
2. Download the new `KoonScan-Setup-<version>.exe` from the customer portal → **Downloads** → **Windows installer** and start it on the server (More info → Run anyway → Yes, as with the installation).
3. The program recognises the existing installation and does not ask for a folder or port. Click **Next >** and **Install**.
4. Click **Finish**.

> ✓ **CHECK: THIS IS WHAT YOU SEE NOW**
>
> After installing, KoonScan starts by itself. On the devices: refresh the screen (or reopen the app). The Android app only has to be installed again if KoonSystems announces that (chapter 7).

> **INSTALLED WITH POWERSHELL?**
>
> Unzip the new `koonscan-<version>.zip` and run `.\Update-KoonScan.ps1` in PowerShell as administrator. The script does the same as the installer and checks afterwards that KoonScan answers. The installer also recognises an installation made with the script.

Does it stop working after the update? Back to the previous version

1. Click the Windows start button and look for the folder **KoonScan**.
2. Click **Restore previous version** and click **Yes** at the Windows prompt.
3. Wait until the window says it is finished and press Enter. The previous version is running again. Report the problem to KoonSystems.

With every update the installer keeps the old version in `C:\KoonScan\backup` (the last three). **Restore previous version** puts back the most recent one; with the zip package: `.\Update-KoonScan.ps1 -Rollback`. Your settings, certificates and database are not touched.

CHAPTER 11

Database and backup

KoonScan keeps its own data (users, work in progress, log) in its own database: by default one **database file** per company in `C:\KoonScan\data` (for example `KScan.db`), or, if you chose that, in **SQL Server Express (instance KSCAN)**. Never in the SAP database, and not on the SQL Server of SAP either: that licence covers SAP itself only.

Backup: happens by itself

- Every night at 02:30 KoonScan makes a backup: one file per weekday, so always the last seven days.
- Database file: `KScan_ma.db` to `KScan_zo.db` in `C:\KoonScan\data\backup`. KoonScan keeps working while the copy is made.
- SQL Server Express: `KScan_ma.bak` to `KScan_zo.bak` in `C:\Program Files\Microsoft SQL Server\MSSQL17.KSCAN\MSSQL\Backup`.
- Ask your IT supplier to include that folder in the normal backup. Also keep `C:\KoonScan\appsettings.Local.json` and the folder `C:\KoonScan\cert` in a safe place.
- To make a copy yourself: Administration → Server → Maintenance → **Back up now**.
- KoonScan also cleans up old, finished work by itself (after 365 days by default, see Maintenance). Open or failed work always stays.

Restoring a backup (database file)

Only if the database file is damaged or lost. Everything since the backup (work, new users) is lost. On the server, Terminal (Admin):

1. Stop KoonScan: `Stop-Service KScan`. The scanners show that KoonScan cannot be reached.
2. Open `C:\KoonScan\data` in Explorer. Rename `KScan.db` to `KScan-damaged.db`. Are there also files `KScan.db-wal` and `KScan.db-shm`? Delete them.
3. Copy the backup of the day you want from `C:\KoonScan\data\backup` (for example `KScan_di.db`) to `C:\KoonScan\data` and rename it to `KScan.db`.
4. Start KoonScan: `Start-Service KScan`.
5. Sign in and check that your users and work are there.

> **TIP**
> With more companies, each company has its own file (for example `KScan_NL.db`, backup `KScan_NL_di.db`). Restore only the file of the company that needs it. With SQL Server Express, restore the `.bak` file in SQL Server Management Studio (Restore Database), or let your IT supplier do it.

Maintenance: size and cleaning up

Administration → **Server** → **Maintenance** shows the state of the database:

- **Database size**: how big KoonScan's database is. With SQL Server Express there is a limit per database (50 GB with SQL Server 2025 Express, which the installer sets up; 10 GB with older versions); near the limit, Administration shows the message "The database is nearly full".
- **Retention period**: how long finished work (posted or closed), the log and signed-out devices are kept; every night KoonScan cleans up what is older. Tap **Change** to choose 30 to 3650 days, or **Never clean up**. Open and failed work, users and settings always stay; what was posted is in SAP anyway.
- **Clean up now**: cleans up straight away instead of tonight. The message says how much ("Cleaned up: ... finished tasks, ... log lines, ... devices").
- **Backup**, **Folder** and **Last backup**: see above. **Back up now** makes an extra copy.

Moving the database to KSCAN

Only needed if Administration shows the message that the database is on another SQL Server than KSCAN (for example the SQL Server of SAP). For this you need **SQL Server Management Studio** (free from Microsoft). If in doubt, let your IT supplier do it.

1. Make sure SQL Server Express with the instance **KSCAN** is on the server. The installer only offers it with a new installation; afterwards you install it yourself (appendix B).
2. Administration → Server → Maintenance → **Back up now**. Remember the file name from the message (for example ...\KScan_di.bak).
3. Copy that file to `C:\Program Files\Microsoft SQL Server\MSSQL17.KSCAN\MSSQL\Backup`.
4. Open SQL Server Management Studio and connect to **localhost\KSCAN** (Windows authentication).
5. Right-click **Databases** → **Restore Database...** → **Device** → choose the file. Leave the name **KScan** as it is.
6. On the left, go to **Files** and tick **Relocate all files to folder**. Click **OK**.

7. Administration → Server → **Set up again** and confirm. Then, on the server, open Start menu → KoonScan → **KoonScan setup**: the wizard opens with the setup code filled in. For Database, choose **SQL Server**, **localhost\KSCAN**, Windows authentication and the same name (KScan): it says "already exists; KoonScan updates it". Carry on until **Save and start**.
8. Check that your users and work are still there. If everything is fine, have the old database on the SAP SQL Server removed.

> **TIP**
>
> In Management Studio you only see the databases of the server you are connected to. You see the KScan database when you connect to **localhost\KSCAN**.

CHAPTER 12

Uninstalling or reinstalling

1. Windows: Settings → Apps → Installed apps → **KoonScan (for SAP B1)** → **Uninstall**.
2. The program asks whether the settings, certificates, database files (data folder) and backups may stay:

- **Yes** (recommended): they stay. If you install again, KoonScan works again straight away as before. The wizard does not come back.
- **No**: these files go too, including the database file with your users and work. A new installation then starts with the wizard, and all handheld scanners and phones have to be paired again (chapter 7).

With **Yes**, the database file stays in `C:\KoonScan\data`. Do you use SQL Server Express (KSCAN)? Then the database always stays, just like SQL Server Express itself. Either way: if you choose the same database in the wizard, your users and work are back.

CHAPTER 13

If something goes wrong

Find what you see in the left column; on the right is what to do. Not listed, or it does not solve anything? Then contact KoonSystems and tell us what you did, the message (word for word, or a photo of it) and the version number (Administration, at the bottom under Server).

What you see	What you do
"Windows protected your PC"	Click More info and then Run anyway (chapter 2).
Setup: "Service KoonScan does not respond"	Restart the computer and start the installer once more. If it stays the same: contact KoonSystems.
The wizard asks for a setup code, or says "Setup is only possible on the server itself"	Open the wizard on the computer where KoonScan is installed: Start menu → KoonScan → **KoonScan setup** (click Yes); the code is then already filled in. To type it yourself: the code is in `C:\KoonScan\setup-code.txt`, which you can open with Notepad as administrator (chapter 3). Ten wrong attempts: wait five minutes.
Red message at Test connection	Read the message: the address, certificate, user or password, or company database is wrong. Correct it and test again; or ask your SAP partner.
Red message at Test (database), or "... is not SQL Server Express"	Database file: the message says which folder KoonScan may not write in; ask your IT supplier to give NT SERVICE\KScan write access to `C:\KoonScan\data`. SQL Server: choose localhost\KSCAN. If that still does not work, start the installer again so that SQL Server Express (KSCAN) is set up properly, or ask your IT supplier.
After Save and start (or Save and restart), "KoonScan is restarting" stays on the screen	Wait a minute and refresh the page (F5). If that does not help: restart the computer.
Sign-in screen: "No users with a PIN yet"	KoonScan has no users yet (for example a new, empty database). Give yourself a PIN on the server with `users set-pin` (appendix B). If your users are in another database, move them (chapter 11).
Device: "Not secure" or a certificate error	Pair the device again as in chapter 7 (Android app, or install scan-ca.crt).

What you see	What you do
Device cannot find the server	Is the address right (Administration → Server → HTTPS)? Is the device on the right wifi network?
"Administrators only"	You are not an administrator. Ask another administrator to switch on Administrator (chapter 5).
Posting fails with a message from SAP	The work is kept. Fix the cause in SAP (for example period closed, not enough stock, customer blocked) and post again.
Work stays on "Posting..."	Administration → Work in progress → Release (chapter 8).
Employee: "Check '...' is not working; please tell your administrator"	One of your own checks gives an error in SAP. Administration → Customizing → Checks: switch the check off, test it and adjust the query (chapter 9).
"Not in SAP" on a field in Administration → Customizing	The custom field has been deleted in SAP. Remove it in KoonScan, or create it again in SAP (chapter 9).
"The maximum of ... devices has been reached"	Ask someone to log out, or Administration → Licence → sign out the device. Need more devices? Ask KoonSystems.
It no longer works after an update	Start menu → KoonScan → Restore previous version (chapter 10), and report it to KoonSystems.
Wizard or Add company: "Database ... already belongs to another SAP company"	Each SAP company has its own KoonScan database. Choose another name for the database, or tick **Empty database ... and start again** (its users, settings and work in progress are then lost).
Database "... contains other data and is not a KoonScan database"	Choose another name: KoonScan never writes in a database of another program.
KoonScan does not start after the company database was changed in the settings file	The database belongs to the old company. Put the old CompanyDB back, or add the new company via Administration → Server → **Add company** (chapter 8).
Licence: "Invalid key" or "This key is not for this company"	See chapter 6.

What you see	What you do
"The database is nearly full"	Shorten the retention period or clean up now (chapter 11).
A scan gives no input in KoonScan (Newland handheld scanner)	In the app "Quick Settings" → "Scan settings", set the output mode to "Output via API", or else "Simulate keystroke"; not "Fill in EditText directly" (chapter 7).
A counting from SAP does not appear on the handheld scanner	Check that the counting is open and in a warehouse where the employee has permission for Count. With several counters, the employee must be one of the counters in SAP. On the scanner the employee can tap **Show all warehouses**.

CHAPTER 14

Appendix A: all settings

Administration → Settings. A setting without a value of its own uses the default (in brackets).

Setting	Meaning (default)
Receiving more than ordered	Warn and confirm (default) or refuse.
Receipt without purchase order	Allow (default) or refuse; the button then disappears.
Bin suggestion when receiving	Default bin of the warehouse (default) or per item, like put-away.
Return without document	Allow (default) or refuse; the Without document button then disappears.
Return reason required	No (default). Yes: choose a reason from SAP for every return line (only if SAP has return reasons).
Posting also creates the delivery	Yes (default). No: the office creates the delivery in SAP.
Link between delivery and pick list	Via the sales order (default) or via the pick list.
Packaging (pallet exchange) on	Off (default). On: the Packaging button when delivering, receiving and returning, and the Packaging tile for a stand-alone exchange.
Suggest quantity out from SAP	Off (default). On: the number of pallets comes from the packaging data of the items in SAP.
Packaging bin warehouse ...	Bin for packaging that is an inventory item in SAP (per warehouse with bins). Empty: SAP decides.
Staging bin warehouse ...	When posting a pick list, the employee chooses **Deliver** (right away) or **Stage at** this bin (for example 01-OUT); the employee delivers what has been staged later from Picking, or the office does it in SAP.
Label size (mm) and **Labels per page**	Size in mm (default 100×50); one label per page or a grid on A4.
Network printers	Printers for labels, PDF or Zebra (ZPL) (chapter 8).

Setting	Meaning (default)
Reason ... (Stock in/out)	Reasons with a G/L account. If there are reasons, the employee has to choose one. Add one with **Add reason**: **Code** (short, without spaces), **Description** (becomes the journal remark in SAP) and **G/L account** (empty: the default account of SAP). **Remove reason** deletes it.
Blind count (do not show stock according to SAP)	The employee does not see what should be there according to SAP on a counting (default yes).
Only items on the counting	No (default): other items may be counted too.
Posting when counting	Only update the counting (default) or also post the differences.
Put away: search order	Fixed bin, default bin, where it already is, empty bin.
Put away from bin, warehouse ...	Per warehouse a fixed bin to put away from.
Zones: attribute holding the zone	Not set (default). A number 1–10: that bin attribute in SAP is the zone; put-away stays in the zone of the item, and replenishing takes from the same zone first.
Issue or report more than planned	Refuse (default) or allow. Also applies to disassembly.
Photos when receiving / Photos with returns	On (default): the employee can take photos; they go to SAP as an attachment (attachments folder needed, chapter 8).
Maximum photos per document	10 (default); 1 to 20.
FEFO: first expired, first out	Off (default). Confirm first or refuse: when issuing, a batch that expires later than another batch in the same warehouse.
Expired batch when picking and issuing	Confirm first (default), allow or refuse.
Receiving an expired or short-dated batch	Confirm first (default), allow or refuse; with the minimum shelf life in days (default 0: only expired batches).

Setting	Meaning (default)
Other batch than allocated	Confirm first (default): the employee chooses "Use ... anyway". Allow: no question. Refuse: only the batch that SAP has allocated (pick list or sales order).
Deliver orders without a pick list	Allow (default): deliver a sales order directly. Refuse: only via pick lists.
Default counter customer warehouse ...	Not set (default): the employee chooses. A customer code: that customer is already there at the counter.
Scan field	Recognition order and the prefixes of documents (PO, PL, SO, TR, PRD): 1 to 10 letters or digits, each prefix only once.
Work mode per function	Overview or Step by step, and whether employees may switch (also for returns, stock in/out and sales).
Security: PINs	Minimum number of digits (default 4), maximum (default 8), allow simple codes like 1234 (default no), PIN expires after (default never).
Maintenance	Retention period (default 365 days; 30 to 3650 days or never), nightly backup (default on) and its folder (empty: the folder `backup` next to the database file, or with SQL Server its default folder) (chapter 11).

CHAPTER 15

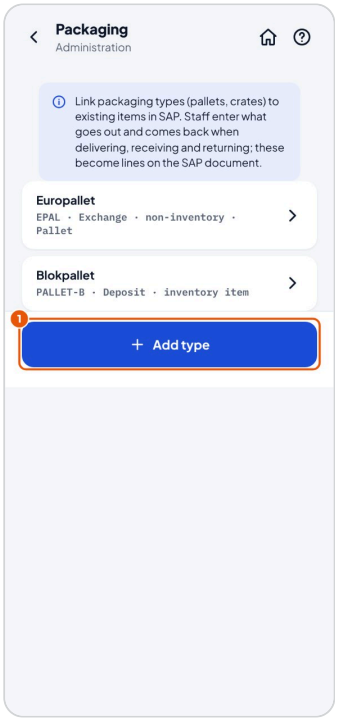
Appendix B: for advanced users

Packaging: pallets and crates out and back

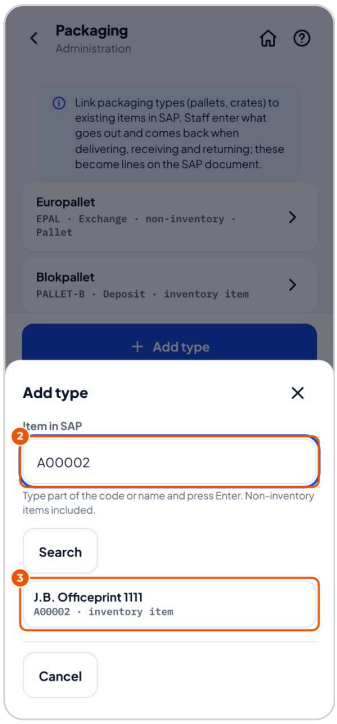
Does your warehouse work with exchange pallets or deposits? Then employees fill in what goes out and what comes back when delivering, receiving and returning. KoonScan puts that on the SAP document as lines; the balance per customer or supplier comes from SAP. You only set this up once.

1. In SAP, create an **item** for each kind of packaging, for example EPAL (Euro pallet). The simplest is a **non-inventory** item (Inventory Item unticked, but Sales Item and Purchase Item ticked). Do you want to count the pallets in stock for real? Then create an inventory item; in a warehouse with bin locations that needs a **packaging bin**. Deposit? Put the price in the customer's price list.
2. Go to Administration → **Settings** → **Packaging** and set **Packaging (pallet exchange) on** to On. Do you use an inventory item? Then enter the bin at **Packaging bin warehouse ...**.

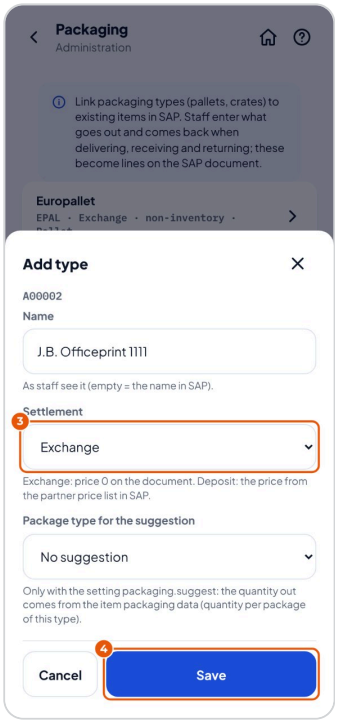
1. Go to Administration → **Packaging** and tap **Add type** ①.



2 Type part of the item code or name ②, press Enter and tap the item ③. Items with batches or serial numbers cannot be packaging.



3 At **Settlement** ③ choose **Exchange** (price 0 on the document) or **Deposit** (price from the price list in SAP). Tap **Save** ④.



✓ CHECK: THIS IS WHAT YOU SEE NOW

As an employee, open Sales at the counter or Receiving: the header has the **Packaging** button (box icon). On the home screen, anyone with the Packaging right has the **Packaging** tile.

> **TIP**
>
> **Suggest quantity out from SAP** (Settings → Packaging) pre-fills the number of pallets from the packaging data of the items in SAP (Item Master Data, Sales Data or Purchasing Data tab: Package Type and Quantity per Package). Link the type to the package type (for example Pallet). Without that data in SAP it stays 0.

Commands on the server

Everything in the administration screen can also be done on the server itself. Right-click the Windows start button → **Terminal (Admin)**, and type:

```
cd C:\KoonScan\app
.\Scan.Api.exe users list                    # all users
.\Scan.Api.exe users set-pin 12 --admin      # PIN + administrator (12 = employee number)
.\Scan.Api.exe users unlock 15               # unlock
.\Scan.Api.exe settings list                 # all settings
.\Scan.Api.exe sap picklist 12               # test the pick list link (read only)
```

With more than one company, add `--company <code>` at the end. To restart the service: `Restart-Service KScan`.

Database file or SQL Server?

By default KoonScan keeps its data in a database file per company (`C:\KoonScan\data\KScan.db`). That is fine for most warehouses: measured with 50 scanners at the same time, a scan took on average less than a hundredth of a second. Choose **SQL Server Express** if more than 50 scanners work at the same time, or if your IT supplier wants to manage the database in SQL Server. Tick it in the installer, or install it yourself (below), and choose **SQL Server** in the wizard. Moving existing data from a database file to SQL Server is not possible: decide before you start working.

Installing SQL Server Express yourself

Only needed if you want SQL Server Express and the installer could not install it. **Server without internet?** On another computer, download "SQL Server 2025 Express" from Microsoft (Download Media → Express Core), put the file `SQLEXPR_x64_ENU.exe` next to KoonScan-Setup.exe and start KoonScan-Setup again: it will then use that file. To install it entirely yourself:

1. Start the SQL Server Express installer and choose **Custom** → **New SQL Server standalone installation**.

2. Tick only **Database Engine Services**. At Instance Configuration choose **Named instance** and type **KSCAN**. Choose **Windows Authentication**.

3. Install KoonScan (if that has not been done yet) and give KoonScan the right to create a database. Terminal (Admin):

```
sqlcmd -S localhost\KSCAN -E -Q "CREATE LOGIN [NT SERVICE\KScan] FROM WINDOWS;
  ALTER SERVER ROLE dbcreator ADD MEMBER [NT SERVICE\KScan]"
```

4. In the wizard, at Database choose **localhost\KSCAN** with Windows Authentication.

Silent install (without questions)

```
KoonScan-Setup-<version>.exe /VERYSILENT /SUPPRESSMSGBOXES /DIR=C:\KoonScan /PORT=5443
KoonScan-Setup-<version>.exe /VERYSILENT /SQLEXPRESS=install    # also install SQL Server
C:\KoonScan\unins000.exe /VERYSILENT /SUPPRESSMSGBOXES      # silent uninstall
```

Option	What it does
`/DIR=<folder>`	Installation folder (default `C:\KoonScan`).
`/PORT=<number>`	Port for the devices (default 5443).
`/SQLEXPRESS=install`	Also install SQL Server Express with the instance KSCAN. Without this option a silent installation uses the database file.
`/SQLEXPRESS=skip`	Never install SQL Server Express (if KSCAN is already there, KoonScan still gets its login).
`/SQLEXPRESSURL=<address>`	Download SQL Server Express from another address (for example a share in your own network).
`/SERVICEACCOUNT=LocalSystem`	Run the service as Local System instead of its own restricted account `NT SERVICE\KScan`. Only if your IT supplier asks for it.

A silent installation does not open the wizard: on the server, open Start menu → KoonScan → **KoonScan setup**. Started again over an existing installation, the installer silently updates it, as in chapter 10. The PowerShell scripts in the zip package are in chapter 2.

Settings without the wizard

Want to set up KoonScan entirely with a script? The zip package contains `appsettings.Local.example.json`: an example of `C:\KoonScan\appsettings.Local.json` with SAP, database, licence and more companies. Fill it in, put it in the installation folder and start the service; then give the first administrator a PIN with `users set-pin` (Commands on the server). Passwords you type in this file yourself stay readable: only administrators may open the folder. If in doubt, use the wizard: it tests every step and stores the passwords encrypted for this server.

How it is built

- The Windows service **KoonScan** runs as its own restricted account `NT SERVICE\KScan` and is the only thing that talks to SAP, through the Service Layer.
- The web app is at `https://<server>:5443/` for the devices and at `http://localhost:5080` on the server itself.
- The settings are in `C:\KoonScan\appsettings.Local.json`; passwords are encrypted and can only be read on this server.
- The database file is in `C:\KoonScan\data`, the nightly backups in `C:\KoonScan\data\backup`. An update of KoonScan leaves that folder alone.
- A SQL Server other than KSCAN is only allowed with its own licence (not the one from SAP Business One); the wizard asks you to confirm that.