



Mobile Barcode Scanning for Salesforce[®]
and NFC!

support@cp3cloud.com

www.cp3cloud.com

CP3Cloud is a mobile application development company focused on the Lightning Platform. Our goal is create straightforward, easy to use, and easy to maintain software for the AppExchange community.

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Your use of CP3 Scan is subject to Terms of Use and an End User License Agreement located here: <http://www.cp3cloud.com/policies.html>

Requirements

Mobile

CP3Scan requires...

- iOS™ 10 or higher
- Android™ 6.0 (Marshmallow) or higher

CP3 Cloud may periodically change our support policy.

Make sure that you can receive emails from support@cp3cloud.com to ensure that you are notified in a timely manner.

Salesforce

CP3Scan requires...

- Lightning Platform™ Enterprise (or higher)
- The CP3 Scan AppExchange™ App

The CP3Scan Trial is functionally identical to the purchased version. Purchase CP3Scan via the Salesforce AppExchange™ prior to the 15 day expiration to ensure uninterrupted use.

Unlimited Sandbox orgs are included in your CP3Scan license.

Non-profit
pricing available

Plans as low as \$500/yr

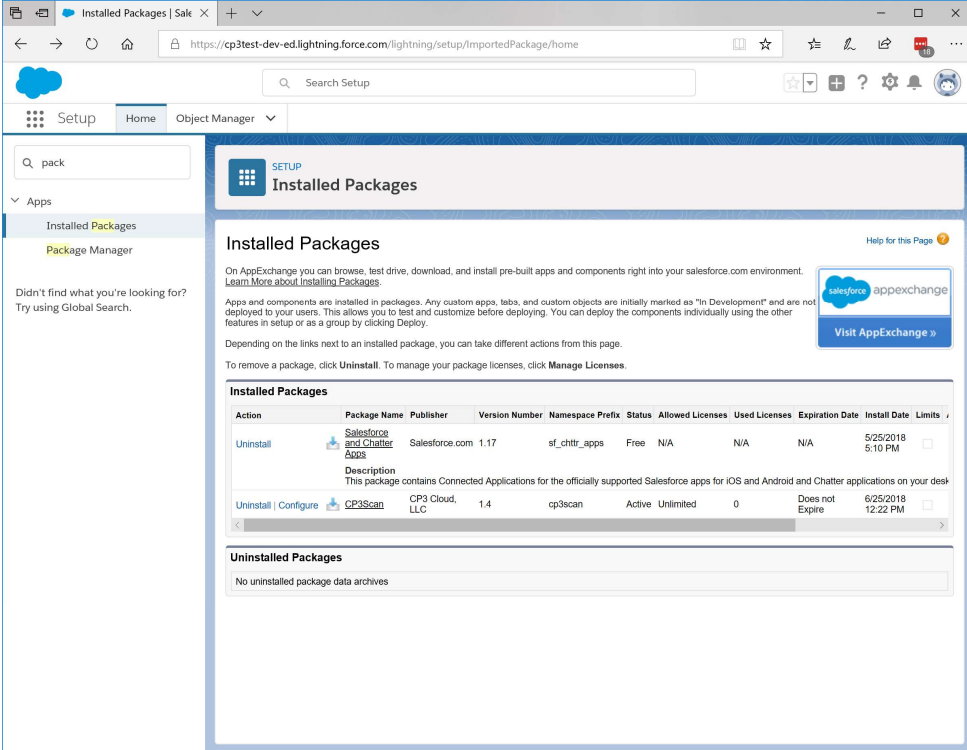
<10 Users	10-100 Users	>100 Users
Up to ten users Flat annual fee Email Support \$500/yr	10-50 Users Flat annual fee Email Support \$1000/yr	10-50 Users Flat annual fee Email Support \$2000/yr

All prices in US Dollars.
Ask about implementation support options.

Setup Instructions

The CP3Scan Package

The CP3Scan configuration screen is available from the “Installed Packages” configuration screen.



The screenshot shows the Salesforce Setup interface for the "Installed Packages" section. The page title is "Installed Packages" and the URL is "https://cp3test-dev-ed.lightning.force.com/lightning/setup/ImportedPackage/home". The left sidebar shows the navigation menu with "Setup" selected. The main content area displays the "Installed Packages" section, which includes a search bar, a "Help for this Page" link, and a "Visit AppExchange" button. Below this, there is a table of installed packages.

Action	Package Name	Publisher	Version Number	Namespace Prefix	Status	Allowed Licenses	Used Licenses	Expiration Date	Install Date	Limits
Uninstall	Salesforce and Chatter Apps	Salesforce.com	1.17	sf_chtr_apps	Free	N/A	N/A	N/A	5/25/2018 5:10 PM	
Uninstall Configure	CP3Scan	CP3 Cloud, LLC	1.4	cp3scan	Active	Unlimited	0	Does not Expire	6/25/2018 12:22 PM	

The table shows two installed packages. The first is "Salesforce and Chatter Apps" by Salesforce.com, version 1.17, with namespace prefix sf_chtr_apps, status Free, and no licenses used. The second is "CP3Scan" by CP3 Cloud, LLC, version 1.4, with namespace prefix cp3scan, status Active, unlimited licenses, and 0 licenses used. The CP3Scan package has an expiration date of "Does not Expire" and was installed on 6/25/2018 at 12:22 PM.

Scan Profile List

You can view a list of configured Scan Profiles. Click “New” or “Edit” to create or edit an existing Profile.

Only Active profiles will be available on mobile devices.

The screenshot shows a web browser window displaying the CP3 SCAN Scan Profile List. The browser address bar shows the URL: <https://cp3scan-dev-ed--cp3scan.na59.visual.force.com/apex/scanconfig>. The page header includes the CP3 SCAN logo, links for Documentation and Terms of Service, and buttons for "Get it on Google Play" and "Available on the App Store". A "New" button is located in the top right corner. The main content is a table with the following columns: LABEL, CUSTOM METADATA RECORD NAME, ACTIVE, BARCODE TYPE, BARCODE CONTENT, and SERVER ACTION. The table contains 11 rows of scan profiles. A "New" button is also located at the bottom center of the table.

LABEL	CUSTOM METADATA RECORD NAME	ACTIVE	BARCODE TYPE	BARCODE CONTENT	SERVER ACTION
Edit Screen Pop	ScreenPop	<input type="checkbox"/>	QR	Salesforce ID	CP3 Scan Event
Edit Unit Test 3	UnitTest3	<input checked="" type="checkbox"/>	QR	SOBJECT JSON	Insert
Edit Unit Test 9	UnitTest9	<input checked="" type="checkbox"/>	QR	External ID	Validate
Edit Unit Test 2	UnitTest2	<input checked="" type="checkbox"/>	QR	SOBJECT JSON	Upsert
Edit Unit Test 8	UnitTest8	<input checked="" type="checkbox"/>	QR	External ID	Apex
Edit Unit Test 5	UnitTest5	<input checked="" type="checkbox"/>	QR	Raw Text	Flow Interview
Edit Unit Test 4	UnitTest4	<input checked="" type="checkbox"/>	QR	JSON	Apex
Edit Unit Test 7	UnitTest7	<input checked="" type="checkbox"/>	QR	Raw Text	Apex
Edit Unit Test 6	UnitTest6	<input checked="" type="checkbox"/>	QR	JSON	Apex
Edit Unit Test 1	UnitTest1	<input checked="" type="checkbox"/>	QR	Salesforce ID	CP3 Scan Event

Scan Profile Screen

The Scan Profile screen provides a guided configuration process.

1. Select the Barcode contents and barcode type
 - Enter a regular expression if you want to only recognize some barcodes
2. Select the Salesforce Action
 - Choose an existing SObject and Field
 - These will be used for External ID Lookups, or to Insert a new record
3. Select the Mobile Action
4. Configure Barcode Security (optional)

The screenshot shows the 'Screen Pop' configuration page in Salesforce. The page is titled 'Screen Pop' and has a 'Developer Name' of 'cp3scan__ScreenPop'. The configuration is divided into several sections:

- Details:** Label 'Screen Pop', Developer Name 'cp3scan__ScreenPop', and an 'Active' checkbox.
- Barcode:** Barcode Content is set to 'Salesforce ID', Barcode Type is 'QR Code', and there is a 'Regular Expression' field with examples: 'Example: Salesforce ID' and 'Example: Salesforce ID with prefix'. A QR code is shown with the text: 'The barcode embeds a Salesforce ID that can be used as input into a Quick Action, Flow, or Apex Handler. QR Code is a popular 2D barcode format that supports arbitrary content, include JSON documents and content that is encrypted using the CP3 Scan envelope format. Many barcode-generation packages can create QR Codes. You may optionally provide a Regular Expression to use when validating barcodes. If provided, only barcodes that match the regular expression will be recognized by the CP3 Scan mobile application. The regular Expression is matched before decryption. The regular expression must match the entire barcode string in order to be considered a match, but if match groups (parentheses) are used in the regular expression only match group 1 (the first set of parentheses) will be transmitted to Salesforce.'
- Salesforce Action:** Action is 'CP3 Scan Event', Object Name is 'Account', CP3 Scan Event Field is 'Account ID', and 'Enforce Security' is checked. Text: 'Regardless of the Barcode Content type, a record can be inserted into the CP3Scan__e Platform Event. If the barcode contains a Salesforce ID, External ID, or SOBJECT JSON, the Platform Event will contain the record ID. In any case, the decrypted payload will be included in the event. Select the Object type that will be inserted or updated by this Profile. CP3Scan will ensure that any record IDs are of the correct type, and will use this object for External ID Lookups. Select the Field Name type that will be inserted or upserted, and that will be used for External ID Lookups. If checked, CP3Scan will not allow users to scan barcodes that would affect records they are not allowed to see or edit. Users also may not insert or update objects and fields that are not permitted by their profile.'
- Mobile Action:** Response Action is 'Launch Salesforce Mobile'. Text: 'When a scan completes successfully, the screen will flash Green and attempt to launch Salesforce Mobile using the Salesforce ID provided in the Response. If the scan fails, the screen will turn Red and display the associated error message.'
- Security:** Security Type is 'None'. Text: 'Use the None Security type when working with asset barcodes or other "simple" barcode values. You can also use "None" with more complex barcode types as long as the content payload is not confidential or sensitive.'

Buttons for 'Save', 'Cancel', and 'Deactivate' are located at the top right and bottom of the form.

See the "Advanced Configuration" section for more information about Platform Events, Apex Handlers, and SOBJECT JSON

Salesforce Actions

Action	Description	Content Types
Validate	Validates that a Salesforce ID matches the correct Object type and that the record actually exists, or looks up the Salesforce ID based on the provided field value.	Salesforce ID External ID
Insert	Inserts a new record into Salesforce.	SOBJECT JSON – Inserts a record using the field values you provide. External ID – Inserts a record, putting the content of the barcode into the field and object you specify.
Update	Updates a record in Salesforce.	SOBJECT JSON – Updates a record using the field values you provide. If you specify an External ID field, CP3 Scan will try to update an existing record by looking up that value.
Upsert	Inserts or updates a record in Salesforce.	SOBJECT JSON – Updates a record using the field values you provide. If you specify an External ID field, CP3 Scan will try to update an existing record by looking up that value. External ID – If you specify an External ID field, CP3 Scan will try to update an existing record by looking up that value. Otherwise a new record will be created.
Apex	Calls an Apex handler that you write. The handler must extend the ScanHandler interface.	Any content type. If the content type is Salesforce ID, External Id, or SOBJECT JSON, and you provide an External ID field in the configuration, the Platform Event will contain the ID of the related Salesforce record.
CP3 Scan Platform Event	Inserts a record into the CP3Scan platform event. You can write your own Process Builder flows or Triggers to take action based on these events.	

Mobile Actions

Action	Description
Display Error Message Only	The mobile application will flash GREEN if the server operation completed successfully. If the server operation did not complete, the screen will turn RED and display an error message. The user will have to press "OK" to continue after an error.
Display Message	The mobile application will turn GREEN and display a success message. If the server operation did not complete, the screen will turn RED and display an error message. <u>In either case</u> the user will have to press "OK" to continue.
Launch Salesforce Mobile	The mobile application will flash GREEN if the server operation completed successfully and attempt to launch Salesforce Mobile using the Salesforce ID of the record that was processed. If the server operation did not complete, the screen will turn RED and display an error message. The user will have to press "OK" to continue.
Launch Browser	<p>The mobile application will flash GREEN if the server operation completed successfully, and will attempt to launch a Mobile browser or application using the URL returned by the server. If the server operation did not complete, the screen will turn RED and display an error message. The user will have to press "OK" to continue.</p> <p>This feature requires you to write a custom Apex Handler.</p>

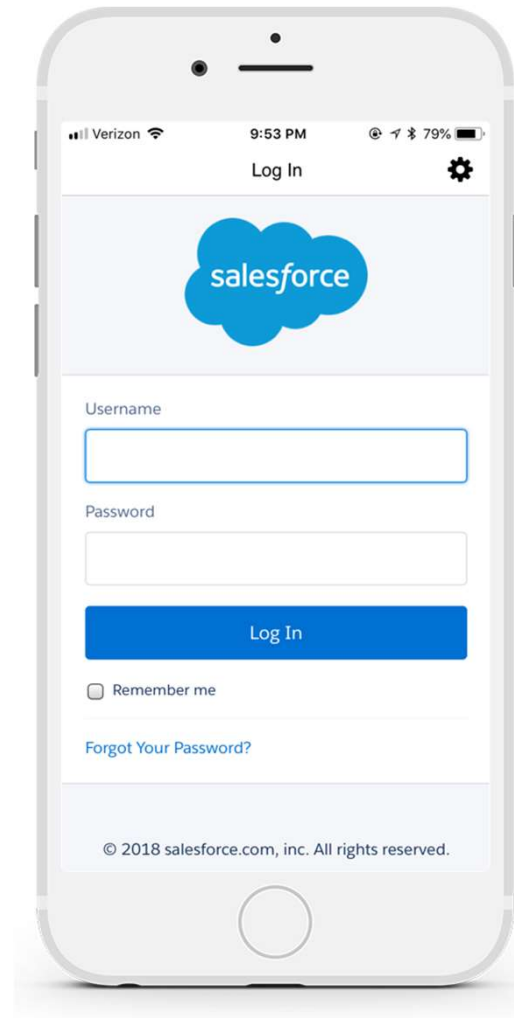
Barcode Types

Family	Description
Linear Barcode	<p>CP3Scan supports most common linear (one bar) barcode formats, including Code 39, interleaved 2 of 5, ITF-14, UPC, EAN, and more! Most word processing and reporting tools support one or more linear barcode types.</p> <p>Linear barcodes support a limited number of characters, and some only support numeric or alphanumeric content. You should use linear barcodes to store asset tags, inventory numbers, or Salesforce IDs.</p>
2D Barcode	<p>2D Barcodes include the popular QR Code, Aztec, and Datamatrix formats. Several web services exist to create 2D barcodes, and some reporting tools can create them natively.</p> <p>2D barcodes support a large amount of data, as much as thousands of characters. You should use 2D barcodes when you need to store JSON or XML content, including Salesforce SObject JSON.</p>
Near Field Communication (NFC)	<p>Both Android and iOS devices support NFC communication. NFC devices include asset tags, inventory tags, conference badges, and security badges.</p> <p>The data format of NFC tags is highly variable, and is usually not easy to decipher without help from your IT department. Please consider using your 15 day trial to try out all your NFC devices, or contact support@cp3cloud.com for assistance.</p>

User Instructions

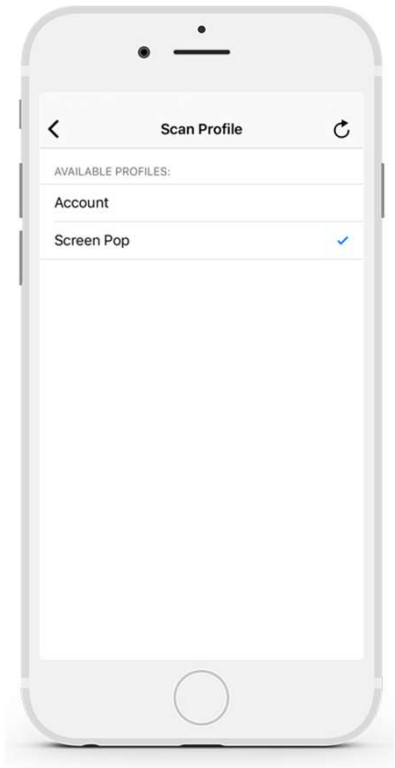
Use your Salesforce Login

Because CP3 Scan is based on the Salesforce Mobile SDK, you can login with your normal corporate login.

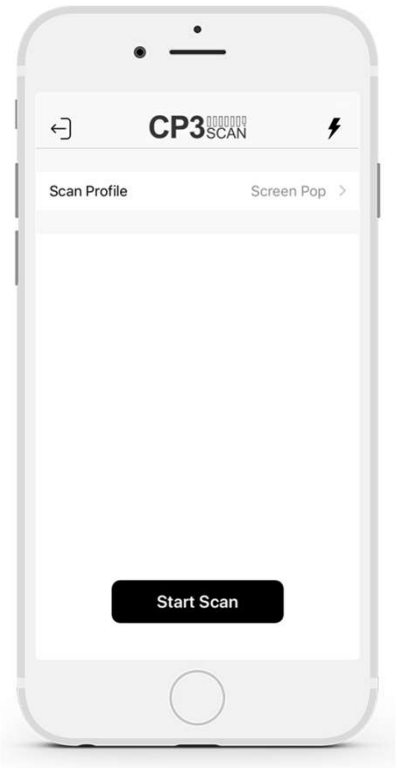


As easy as 1... 2... 3...

Select a Profile



Click "Start Scan"



Scan a Barcode



Use Cases

Open Salesforce (Mobile)

Use CP3Scan to open a customer record in Salesforce and/or Salesforce Mobile by scanning a barcode.

To use this profile, install the CP3 Barcode and CP3 Screen Pop Lightning managed package:

[Managed Package \(Production\)](#)

[Managed Package \(Sandbox\)](#)

CP3 SCAN
Configure Scan Profiles

Help for this Page

Screen Pop

Save Cancel Delete

Details

Label Screen Pop Developer Name ScreenPop

Active

Salesforce Action

Action CP3 Scan Event

Regardless of the Barcode Content type, a record can be inserted into the CP3Scan__e Platform Event. If the barcode contains a Salesforce ID, External ID, or SObject JSON, the Platform Event will contain the record ID. In any case, the decrypted payload will be included in the event.

Object Name -- None -- Field Name

Mobile Action

Response Action Launch Salesforce Mobile

When a scan completes successfully, the screen will flash Green and attempt to launch a web browser using the appropriate Salesforce URL for the Salesforce ID provided in the Response Message. If the scan fails, the screen will turn Red and display the associated error message.

Barcode

Barcode Content Salesforce ID

Barcode Type QR Code

Regular Expression

Example: Salesforce ID
Example: Salesforce ID with prefix

The barcode embeds a Salesforce ID that can be used as input into a Quick Action, Flow, or Apex Handler.

QR Code is a popular 2D barcode format that supports arbitrary content, include JSON documents and content that is encrypted using the CP3 Scan envelope format. Many barcode-generation packages can create QR Codes.

You may optionally provide a Regular Expression to use when validating barcodes. If provided, only barcodes that match the regular expression will be recognized by the CP3 Scan mobile application. The regular Expression is matched before decryption. If match groups (parentheses) are used in the regular expression, only match group 1 (the first set of parentheses) will be transmitted to Salesforce. The regular expression must match the entire barcode string in order to be considered a match.

Security

Security Type None

Use the None Security type when working with asset barcodes or other "simple" barcode values. You can also use "None" with more complex barcode types as long as the content payload is not confidential or sensitive.

Save Cancel Delete

Inventory tracking

Use CP3Scan to take inventory, including:

- Construction equipment
- IT assets
- Store inventory

This Use Case takes advantage of Process Builder and Flow. Install the Inventory Tracking managed package:

[Managed Package \(Production\)](#)

[Managed Package \(Sandbox\)](#)

1. Create a new object called “Touch”
 - Create a Lookup to the standard “Asset” object
 - Create a text field called “Barcode”
 2. Create a new Flow
 - Look up the parent asset with a Serial Number that matches the scanned barcode
 - Update the Asset field on “Touch” to point to that object
 3. Create a Process Builder
 - When a new Touch is added
 - Call the Flow you created above
 4. Configure a new Scan Profile
 - Insert a new Record
 - Select the “Touch” object
 - Select the “Barcode” Field
 - Choose “External ID” as the Content Type
- **OPTIONAL:** Use Profiles to limit access to the “Touch” object...
 - So that only authorized users can scan barcodes.
 - Check the “Enforce Roles/Profiles” box on the Scan Profile.

Physical Security

Scan employee and guest badges to check for authorized access.

To use this profile, configure and log in to Salesforce Mobile. Because this profile's Action is "Validate", nothing will happen on the Salesforce side. If a Contact with the matching Salesforce ID exists, Salesforce Mobile will be launched. If no matching user exists, the device will flash red.

Install the Physical Security managed package:

[Managed Package \(Production\)](#)

[Managed Package \(Sandbox\)](#)

User Scan Save Cancel Deactivate

Details = Required Information

Label Developer Name

Active

Salesforce Action

Action Some actions, like launching **Salesforce Mobile**, require a valid Salesforce ID.

Object Name Select the Object type that will be inserted or updated by this Profile. CP3Scan will ensure that any record IDs are of the correct type, and will use this object for External ID Lookups.

Validate Field Select the Field Name type that will be inserted or updated, and that will be used for External ID Lookups.

Enforce Security If checked, CP3Scan will not allow users to scan barcodes that would affect records they are not allowed to see or edit. Users also may not insert or update objects and fields that are not permitted by their profile.

Mobile Action

Response Action When a scan completes successfully, the screen will flash Green and prepare for another scan. If the scan fails, the screen will turn Red and display the associated error message.

Barcode

Barcode Content The barcode embeds a Salesforce ID that can be used as input into a Quick Action, Flow, or Apex Handler.

Barcode Type QR Code is a popular 2D barcode format that supports arbitrary content, include JSON documents and content that is encrypted using the CP3 Scan envelope format. Many barcode-generation packages can create QR Codes.

Regular Expression You may optionally provide a Regular Expression to use when validating barcodes. If provided, only barcodes that match the regular expression will be recognized by the CP3 Scan mobile application. The regular Expression is matched *before* decryption. If match groups (parentheses) are used in the regular expression, only match group 1 (the first set of parentheses) will be transmitted to Salesforce. The regular expression must match the entire barcode string in order to be considered a match.

Example: Salesforce ID
Example: Salesforce ID with prefix

Security

Security Type Use the **None** Security type when working with asset barcodes or other "simple" barcode values. You can also use "None" with more complex barcode types as long as the content payload is not confidential or sensitive.

Save Cancel Deactivate

Conference Check-in

Use CP3Scan to check-in customers at a conference:

This Use Case extends the ScanHandler abstract class.

Because Handlers are synchronous, you will be warned if a Campaign Member record cannot be created.

Install the Conference managed package:

[Managed Package \(Production\)](#)

[Managed Package \(Sandbox\)](#)

- Create a new Trigger
 - After insert to the CP3 Scan Platform Event
 - Using the Record ID value from the Platform event...
 - Create a new Campaign Member record
 - For the campaign of your choice
 - For the Contact matching the scanned ID
- Create a new Scan Profile
 - Select the “CP3 Scan Platform Event” action
 - Select the “Salesforce ID” Content Type
 - Select the “Contact” Object
 - Select the “Contact ID” Field
- OPTIONAL: Use Profiles to limit access to the “Campaign Member” object...
 - So that only authorized users can scan barcodes.
 - Check the “Enforce Roles/Profiles” box on the Scan Profile.

Frequently Asked Questions

Support

We have unusual requirements. Can you help us?

We are always happy to hear about new use cases for CP3 Scan. If you don't find your use case already documented here, email support@cp3cloud.com with your requirements and we will try to help.

We cannot accommodate telephone support requests at this time.

Can you help us implement CP3Scan?

Contact sales@cp3cloud.com to discuss a professional services engagement.

Can you help us build barcode scanning into our own software?

Contact sales@cp3cloud.com to discuss a professional services engagement.

Barcodes

You don't support our preferred barcode type. Can you add it?

We support most barcode formats via Native Mobile APIs. Please contact support@cp3cloud.com to confirm.

The most common 2D barcode type is QR Code, which supports a very large amount of content. Use it when you need to store SObject JSON content or a large amount of raw text.

The most common linear barcode type is Code 128. Because Code 128 can support most ASCII characters, it is perfect for storing Salesforce IDs or External IDs.

How do we make barcodes?

Most report builders and word processing tools support Barcode generation.

We don't provide a Barcode API, but there are a number of free and paid services available:

<https://www.barcodes4.me/>

<https://goqr.me/>

<https://github.com/metafloor/bwip-js/wiki/Online-Barcode-API>

<https://products.aspose.cloud/barcode/cloud>

New Features

We would like you to add <a new feature> to your software. Will you?

We will certainly consider it! Contact us at sales@cp3cloud.com to discuss options.

Advanced Configuration

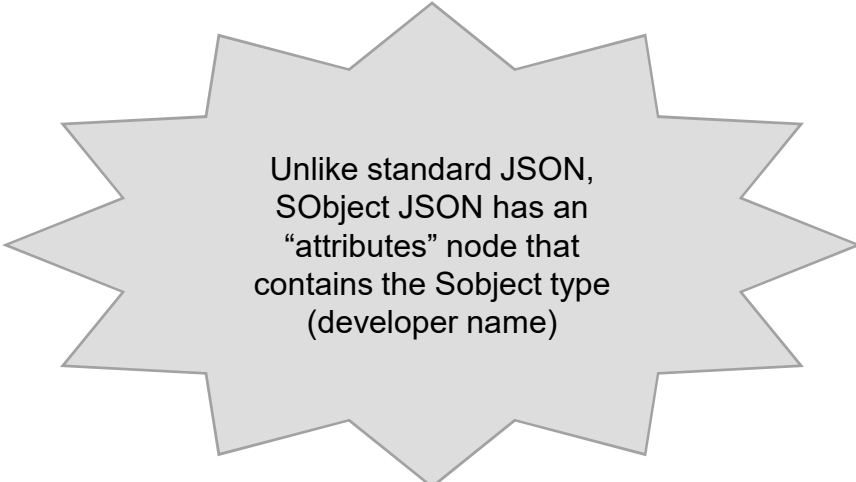
SObject JSON

Any of the supported operations support SObject JSON as content.

If you provide a Salesforce ID, it will be used as the ID for a Platform Event or for an Upsert or Update.

If you set an External ID field in the Scan Profile, CP3 Scan will try to look up a record using the value you provide, and will use the ID of that record for further processing.

```
{  
  "attributes": {  
    "type": "Account"  
  },  
  "Name": "CP3Cloud, LLC",  
  "Type": "Prospect",  
  "Description": "A premier  
  developer of straightforward  
  Mobile applications"  
}
```



Unlike standard JSON, SObject JSON has an "attributes" node that contains the Subject type (developer name)

Apex Handler

CP3 Scan provides two ways to implement complex logic:

- A custom Apex handler
 - The CP3 Scan Platform Event
- The custom Apex handler must implement the ScanHandler interface
 - The class and handle() method must be in the global scope
 - The handle() method has two parameters:
 - A ScanProfile__mdt (custom metadata) object that will be provided by CP3 Scan
 - A Payload object containing:
 - The Barcode Content
 - The Salesforce Record ID
 - The Payload Type
 - The handle() method returns a Response object containing:
 - A code (“OK”)
 - A message
 - A Salesforce ID (optional)
 - Any response code other than “OK” will be interpreted as an error
 - If your Scan Profile launches Salesforce Mobile, the “id” field in the Response will be used to launch the application
 - If your Scan Profile launches a URL, the contents of the “message” field will be used
 - Otherwise, the message may be displayed to the user

CP3 Scan Platform Event

CP3 Scan provides two ways to implement complex logic:

- A custom Apex handler
- The CP3 Scan Platform Event

The CP3Scan Platform Event has three fields:

- Scan Profile
 - The name of the Scan Profile
- Record ID
 - The Salesforce ID
 - This will only be present if the barcode contains a Salesforce ID or an External ID (and you provided an External ID Field name)
- Payload
 - The raw contents of the barcode