SHIFT4™

API Specifications

Merchant Management

Version 1.4 | February 2024

Contents

Introduction

The purpose of this document is to provide an in-depth description of the Shift4 Merchant Management API. Shift4 Merchant Management API is a proprietary platform for partners to onboard and manage merchants

The Merchant Management API is a simple-to-use RESTful API. The API operates as a basic request-response service where the partner instructs the gateway to perform an operation and the platform replies with the request's acknowledgement. Once the merchant creation or update process is completed, the partner receives a notification with the merchant creation status.

Audience

The intended audience includes Shift4 partners who wish to onboard their merchants via API.

PF *Payment Facilitator*	• The partner performs KYC processes to its merchants. • The partner settles to its merchants (requires PI lisence). • The merchant contracts with the partner.
PSP *Payment Service Provider*	• Shift4 performs KYC processes to the partner's merchants. • Shift4 settles to the partner's merchants. • The merchant contracts with Shift4 and the partner.
SMB *Partner of Small and Medium Sized Businesses*	• Manages large number of small businesses. • Shift4 performs KYC processes to the partner's merchants. • Shift4 settles to the partner's merchants. • The merchant contracts with Shift4 and the partner. • Particular need of fast onboarding. • Special parameters in this API are tagged SMB

API Version Control

The information provided in this document is accurate and reliable for standard processing as of its publication date. Any new implementations should thus avoid using previous versions of the API specification.

The API version number is a sequence-based identifier. Changes to the first part indicate major specification updates, while changes to the second part indicate minor updates.

The revision number reflects smaller specification changes, the correction of typing errors, or corrections that do not affect the API protocol itself.

Certification

All new implementations must go through a certification process in order to ensure the quality of their integrations and the integrity of merchant data.

An additional certification process will be required if new features are introduced.

Glossary

The following terms are used throughout the document.

Term	Definition
Authorised signatory	The individual who has legal permission to act on behalf of the business, and the one who will be signing the Contract. In cases where the partner is signing on behalf of its merchant, this function is not relevant for this API.
Corporate	An entity registered as business, which is a separated legal entity from the owner itself. The term includes various forms of registered businesses, such as: Limited liability Company, Partnership, Association, Foundation and so on.
Director	A member of the management staff of the merchant's business, that is listed as a director on the business. There can be one or more directors, and the director can sometimes also be a shareholder or ultimate beneficiary owner (UBO).
Shareholders	The owners of the company, each individual that owns at least 1 share of the company's stocks or mutual funds. All the shareholders' shares need to make up a sum of 100% of the ownership.
Corporate Shareholder	A business entity that has shares in another company. The corporate shareholder company itself is the one that owns the shares, and not any individual person.
Sole Trader	A type of business that is owned and run by one person, where there is no legal distinction between the owner and the business. In many cases, sole traders conduct business on their own name, and their name is the registered business name.
Ultimate Beneficiary Owner (UBO)	An individual who holds 25% or more of the company's shares.

Implementation Guidelines

To ensure frictionless onboarding and underwriting processes, refer to Appendix H – Implementation Guidelines, that outlines main issues and how to correctly reflect them through the API.

Gateway Interface

Introduction

Merchant management requests are sent online and in real-time using the HTTPS (Hypertext Transfer Protocol - Secure) protocol. The platform protocol, in turn, exposes multiple request types, including Create, Update, Get, and Upload.

Uniform Resource Locator (URL) Addresses

Integration URL	https://onboarding.int.sourcepayments.com/rest/setup/merchant/<action>
Production URL	https://onboarding.sourcepayments.com/rest/setup/merchant/<action>

Security/Authentication

All HTTP requests must be sent over a secure TLS (Transport Layer Security) 2.0 channel. The merchant management platform does not authenticate the TLS/SSL (Secure Sockets Layer) session using a client-based certificate, and thus does not employ a regular type of session authentication. Instead, the client is first authenticated by its source IP alongside a secondary authentication check that employs a cipher sent in the request header and used for pre-processing verifications. See Appendix A: HMAC-SHA512 Request Signature for further details.

Health Checks

The health of the *Shift4* Merchant Management production and integration environments can be checked by accessing the following URLs:

Production Environment	https://onboarding.sourcepayments.com/health
Integration Environment	https://onboarding.int.sourcepayments.com/health

The service will then respond with a JavaScript Object Notation (JSON) message.

One of the following responses will be provided:

- {"health":"OK"}
- {"health":"FAIL"}

Follow these guidelines when using health checks:

- A **maximum** of one health check is permitted every 10 seconds
- If no response is received within 20 seconds, consider the request timed out
- The *Shift4* Merchant Management service should be considered unavailable after 3 consecutive service failures

- In any event of unexpected service interruption contact the Shift4 Support Team immediately support.europe@shift4.com.

Timeout Handling

If a request takes too long to return a response, a timeout is initiated by the Gateway application and a result code “007” is returned. If many timeout result codes are received, please contact our support at support.europe@shift4.com

Implementing Merchant Management API

To integrate to Shift4's Merchant management API, the partner will go through the following steps:

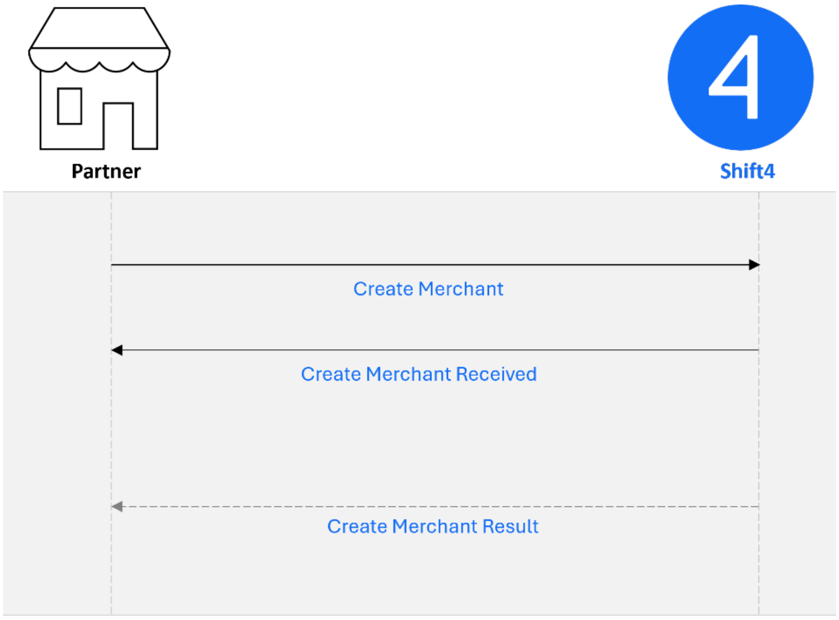
1. **Sign-up for the service:** contact your Shift4 Solution Architect and request to start using the Merchant Management API service
2. **API review and preparation:**
   a. Review the API specifications listed in this document and plan your development process
   b. Whitelist IPs and URLs required for the service
3. **Integration & certification**:
   a. You will receive credentials for the integration environment (a partner ID and a secret key)
   b. Develop and test the API in integration environment
   c. Run through the certification process to ensure everything works before you go live
4. **Go-live:** You will receive credentials for production environment, and you are ready to go live!

General API Flows

The Merchant Management API supports two types of flows: a 3-legged flow and a 2-legged flow

3-Legged Flows

Example 1 - 3-Legged Flow



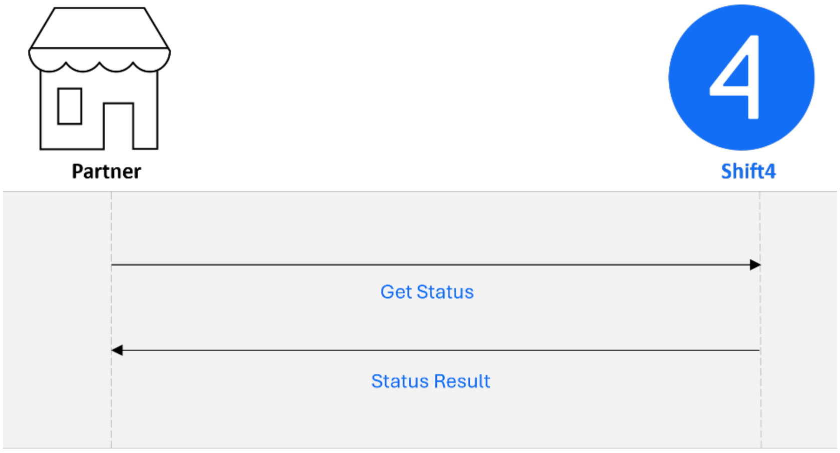
This flow is used for Create Merchant, Update Merchant and Upload Documents.

The partner sends a request to the Shift4 merchant management platform.

Shift4 instantly responds with an acknowledgment that the request was received successfully. In case the request was not received successfully in this step (due to validation errors such as incorrect format in parameters, API structure etc.) the partner will receive a sync detailed response.

Once the request handling process is complete, the partner receives a notification with the request status. The notification is sent from Shift4 notification engine. For more details about the Shift4 notification engine please refer to the Data Open API Specifications guide on the Shift4 Developer Portal.

2-Legged Flows



This flow is used for Get Status and Get Connectivity Details.

1. The partner sends a request to the Shift4 merchant management platform.
2. Shift4 instantly responds with a synchronous response with the information requested

Business Flows

The Merchant Management API supports the following business flows:

Main Business Flows

Create Merchant

A Create Merchant request creates a new merchant on Shift4's system. The merchant is automatically related to the requesting partner.

Update Merchant

The Update Merchant request enables you to request an update of an existing merchant's details and settings, as described below:

- Update merchant details
- Add / cancel a merchant bank account (to which funds from processing are transferred)
- Add / cancel / update a merchant contact
- Add / Update a merchant individual
- Add / deactivate a product
- Update product configuration
- Update merchant pricing
- Add / cancel a merchant requirement
- Update the number of Card Present (POS) devices
- Update the address of Card Present (POS) devices
- Update the address of a related corporate

Upload Document

The Upload Document request enables a partner to send relevant documents related to the merchant onboarding or update process.

Get Merchant Status

The Get Merchant Status request retrieves the merchant onboarding status.

Get Connectivity Details

The Get Connectivity Details request retrieves the merchant connectivity details credentials to start processing after setup is completed. This API call is available only when the onboarding and setup process for the merchant is complete.

Additional Flows

Pricing Management

Pricing is managed during merchant creation and merchant update

When Creating a Merchant

When creating a merchant you must assign a pricing to the merchant. The basic pricing assignment is based on pre-defined pricing templates set up for your partner account (sometimes referred to as “fixed pricing” or “partner terms”).

1. Using the partner_terms_id define which fixed pricing template should be used for this merchant
2. Assign a unique pricing ID for the merchant you are creating, using the merchant_terms_identifier
3. Override the fixed terms with unique ones using the pricing functionatliy

When Updating a Merchant

You can make pricing updates using the pricing object in a merchant update flow. Refer to the Update Merchant chapter for more details.

Message Format

General

The Merchant Management API is a JSON-formatted REST API.

Note that the Merchant Management API structure and fields might be updated from time to time without prior notice. Such changes may include the addition of new objects, fields and values.

Headers

Each request should contain the following headers:

- Target host.
  Host: onboarding.sourcepayments.com
- Content type – Payload content type, for POST requests.
  Content-Type: application/json
- Content length – Payload length, for POST requests.
  Example: Content-Length: 123
- Date – date in RFC-1123 format.
  Example: Date: Tue, 8 Feb 2022 04:59:40 GMT
- Authorization header: contains the hashed string that signs the request. See Appendix A: HMAC-SHA512 Request Signature for more information.
- Partner ID example: CEID-0000200332

Example

```
Host: onboarding.sourcepayments.com
Content-Type: application/json
Content-Length: 123
Date: Tue, 8 Feb 2022 04:59:40 GMT
Authorization: HMAC-SHA512 Credential= partnerID,
Signature=f8fa88335f76d3d2673575e3cb4e2c6bfcaf58869074fd9f42cbcd47a3be487626742eae68644e8acce565276392bf236353593f1c75926dce98a89d4ccc9ce4
```

Body

Valid JSON message. For more details about the possible objects and fields in a message see the Requests & Responses chapter.

Server-2-Server Notification

General

The response from Shift4 regarding merchant creation or merchant update is received after the request was successfully saved by Shift4's system. Shift4 initially returns an acknowledgement with response code 099, indicating that the request was received and is being processed. The full and final response will be returned in a separate notification message, see Appendix C: Result Codes

The *Shift4* gateway expects to receive a response of "200: OK" status code (without body) in response to the notification it sends.

Note:

To setup the notification service contact your Shift4 Solution Architect to set up the notification URL.

Notification Format

The notification format is based on the response format of each request type (Create Merchant, Update Merchant, and Upload Document).

IP Allowlist

In order to accept notifications allow the following IP on the partner side:

Integration IP	52.209.227.163
Production IP	199.233.202.161, 199.233.203.161

Requests and Responses

The following chapters describe the required parameters for each type of API request flow.

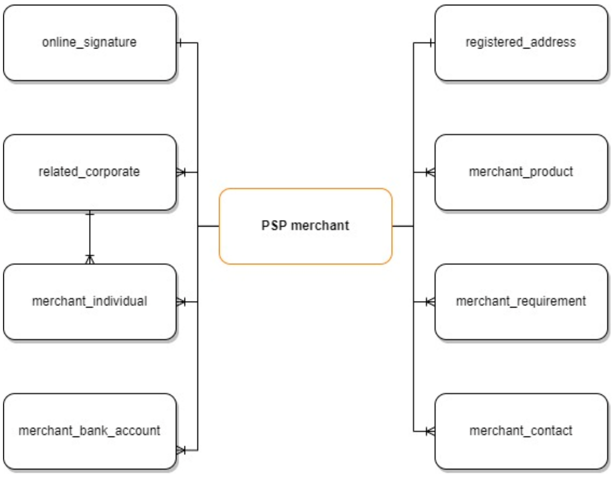
The tables describe the API parameters and specify whether the field is mandatory (M), conditional (C), optional (O), or not used (-), according to the partner type (Payment Facilitator, PSP/SMB).

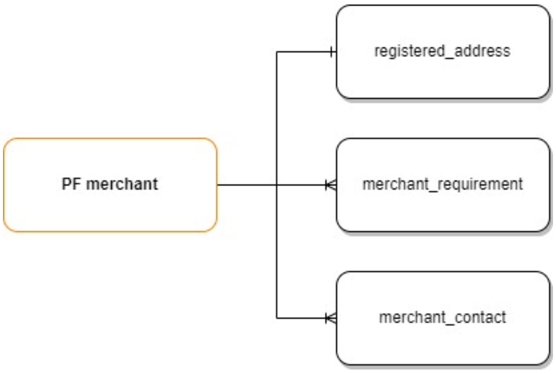
Create Merchant

Integration URL	https://onboarding.int.sourcepayments.com/setup/merchant/create
Production URL	[POST] https://onboarding.sourcepayments.com/setup/merchant/create

Request fields

The required request fields depend on the type of partner assigned to you by Shift4, PSP or PF (Payment Facilitator).





Root level fields and objects

The following table lists the root level fields and objects. The root level fields are listed in alphabetical order.

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
avg_delivery_days	[0-9]	(0,999)	The average days of delivery duration	C (M for SMB)	-
average_item_value_eur	[0-9]	(1,9)	The average value of an item sold by the merchant, in Euro (a number).	M	O

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
average_transaction_value	[0-9]	(0,18)	The average transaction amount expected for the merchant.	C (M for SMB)	-
business_model_description	[A-Z a-z 0-9 - _.():&/*<='?%,+]	(1, 32000)	A description of the merchant's business activity.	M	M
business_type	(corporate | sole_trader)	(9,11)	Specifies whether the merchant's business is a **corporation** or a **sole_trader** **Note:** Sole trader is a business that has only one owner. If the business has more than one owner list it as "Corporate". For more information about these business types refer to the Glossary.	M	-
company_registration_name	[A-Za-z0-9.< (+ & *) ; - , % _ > ? : ' =]	(1,50)	The official company registration name of the merchant's business.	M	O
company_registration_number	[A-Z a-z 0-9]	(1,255)	The official company registration/incorparation number of the merchant's business. **In case the merchant's jurisdiction doesn't have a registration number, add a VAT number or '0000'.	M	O
country_of_incorporation	[A-Z]	(3,3)	The country where the merchant is incorporated/registered, ISO alpha 3 Code.	M	O
date_of_incorporation	yyyy-mm-dd	(10,10)	The date when the merchant's business was incorporated/registered. For example: 2014-10-20	M	O

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
expected_monthly_turnover	[0-9]	(1,9)	The merchant's expected monthly turnover in Euro. A decimal number with 2 decimal places For example: 100.50 Note: We recommend to not pre-populate this field with a generic number for all your merchants, as an inaccurate number can cause issues in the underwriting process.	M	M
merchant_name	[A-Z a-z 0-9 -_.():&/*<='?%,+]	(1,120)	The merchant's name. Can contain letters, numbers, or symbols	M	M
merchant_bank_account	Object		A list object that can be sent more than once. It holds the merchant_bank_account details (also referred to as settlement bank account) This object includes a nested beneficiary_address object	C	-
merchant_contact	Object		A list object that holds the merchant_contact details. Send this object for at least one Primary Contact	M	M

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
merchant_individual	Object		A list object that holds the merchant_individual details. This object needs to be sent at least once.Send this object for an Authorised Signatory of the merchant (= the individual who will sign the contract) Send this object for every shareholder who is an individual with over 25% holding in a corporate. Send this object for every director in the corporate Note: It is important to fill in the details for all the individuals who are the owners or directors of the business, to accurately depict the business structure.	M	-
merchant_product	Object		A list object that holds the merchant_product details Send this object for every product the merchant needs to have in Shift4 (according to the Partner products) This object includes a nested product_configuration object	M	-

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
merchant_requirement	Object		A list object that holds the merchant_requirement details (also referred to as payment channel). Send this object for every MCC, site (URL), and store of the merchant. This object includes a nested pricing object. For card present channel, it also includes a nested pos_device object.	M	M
pricing	Object		A list object that holds the merchant pricing details. Send this object at least once, for creating a merchant pricing from the partner's fixed pricing. This object includes a nested optional fee_list object, to be sent only if you would like to override the fixed pricing.	M	-
primary_payment_channel	Value from the list: • MOTO • WEB • Card Present	(3,12)	The primary channel in which cardholders pay to the merchants.	C (M for SMB)	-
primary_sector	[0-9]	(3,3)	3 digits numeric code that represents the primary sector in which the merchant operates. Refer to Appendix G – Sector Code for the full list.	C (M for SMB)	-

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
purchase_charge_timing	Value from the list: • When placing the order • When order is shipped • When order is received	(21,22)	The timing in which the purchase is charged from the cardholder.	C (M for SMB)	-
online_signature	Object		Object that holds the online_signature details	M	-
registered_address	Object		Object that holds the registered_address details	M	M
related_corporate	Object		Object that holds the related_corporate details. mandatory when business_type = corporate (for sole traders related_corporate object is not required) Send this object at least once for the onboarded merchant itself, and if relevant, then also for: Every merchant shareholder or director which is a corporate See Appendix D: Related Corporate and Merchant Individual Scenarios.	C	-
top_4_countries	Object	-	A list object that holds the main countries the merchant is processing in.	C (M for SMB)	-

merchant_bank_account object

PSP and SMB onboarding merchants must send at least one active bank account per merchant. This is where the funds from the merchant's processing activity are transferred to.

PFs are not require to send this object

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Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
account_number	[A-Z 0-9]	(1,18)	The merchant's bank account number. Either the IBAN or the account number should be sent.	C	-
active	[true | false]	(4,5)	Specifies whether the merchant's bank account is currently active. In merchant create send 'true'	M	-
bank_country	[A-Z]	(3,3)	The country in which the merchant's bank is located. ISO alpha 3 Code. For example: GBR	M	-
bank_name	[A-Z a-z 0-9 - =:?_%,()+.;/*]	(1,70)	The name of the merchant's bank.	M	
beneficiary_address	Object		Object that holds the beneficiary_address details	O	-
beneficiary_name	[A-Z a-z 0-9 - =:?_%,()+.;/*]	(1,50)	The name of the beneficiary of the merchant's bank account.	M	-
iban	[A-Z 0-9]	(1,40)	The IBAN number of the merchant's bank account, should be according to bank_country, Capital letters and numbers only. Either the IBAN or the account number should be sent	C	-

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
merchant_terms_identifier	[A-Z a-z 0-9 -]	(1,10)	Identifier assigned by the partner and used to link between merchant requirement, merchant pricing and merchant bank accounts. Within this object, use the same value used in a pricing_object to link this bank account to a specific pricing, or leave blank if you want to link it to all the merchant pricings of this merchant.	O	-
partner_terms_identifier	[A-Z a-z 0-9 -]	(9, 10)	The ID of the fixed merchant pricing terms you are using to assign pricing to this merchant. The ID always begins with a leading 'MPS-' and continues with max 6 digits. For example: MPS-660832 NOTE: you receive these IDs as part of your connectivity details before go-live	M	-
routing_number	[A-Z a-z 0-9 -=':?_%,()&+.<>;/*]	(1,9)	The routing number of the merchant's bank. Either the SWIFT code or the routing number should be sent.	C	-
settlement_currency	[A-Z]	(3,3)	The currency in which funds are deposited in the merchant's bank account. ISO alpha 3 Code For example: GBP	M	-
sort_code	[A-Z a-z 0-9 -=':?_%,()&+.<>;/*]	(1,24)	The sort code of the merchant's bank account	O	-

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
swift	[A-Z 0-9]	(1,11)	The SWIFT code of the merchant's bank. Either the SWIFT code or the routing number should be sent.	C	-
use_merchant_address	[true | false]	(4,5)	Specifies whether to use the merchant's address for the bank account's beneficiary_address. If you set this parameter to "true", do not send a beneficiary_address object. The beneficiary address details will be taken from the address fields of the merchant_individual object.	M	-

beneficiary_address object

This object needs to be sent only if beneficiary's bank account address is different than the merchant address.

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
address_line_1	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(1,255)	Beneficiary's street name	M	-
address_line_2	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(1,255)	Beneficiary's street number	M	-
city	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(1,80)	Beneficiary's city	M	-
country	[A-Z]	(3,3)	Beneficiary's country, ISO alpha 3 Code For example: GBR	M	-
postcode	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(1,80)	Beneficiary's postal code	M	-
state	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(1,5)	Beneficiary's state	O	-

merchant_contact object

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
active	[true | false]	(4,5)	Specifies whether the merchant's contact person is currently active. For contacts in merchant creation the value is 'true'	M	M
email	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(1,80)	Email of the merchant's contact person	M	M
first_name	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(1,40)	First name of the merchant's contact person	M	M
last_name	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(1,80)	Last name of the merchant's contact person	M	M
mobile_phone	[0-9]	(1,40)	Mobile phone number of the merchant's contact person	O	M
phone	[0-9]	(1,40)	Primary phone number of the merchant's contact person (landline or mobile)	M	M
role	Values from the list: primary_contact cbk_contact general insights	(7,49)	This field specifies the Role of the merchant's contact person. at least one contact who is a primary_contact must be sent (there canbe only one) If the contact has several roles, enter them as a list separated by semicolons (";") if role=general, no other roles can be indicated for the contact	M	O

merchant_individual object

PSPs must send this object at least once for either corporate or sole trader merchant types.

For a corporate type of merchant, send the details of the following individuals:

- An individual who is an **authorized signatory** of the merchant (the individual who will sign the contract); and
- For every **UBO** - **shareholder** with over 25% holding in a corporate; and
- For every **director** in the corporate.

Note:

- When the type of merchant = sole trader, only one individual is applicable.
- When the type of merchant = corporate, it is important to fill in the details for all the individuals who are the owners and directors of that this business, to accurately depict the business structure.

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
active	[true | false]	(4,5)	Specifies whether the individual is currently active For merchant creation individuals the value is 'true'	M	-
address_line_1	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(1,255)	Individual's street name	O	-
city	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(1,80)	Individual's city of residence	M	-
country	[A-Z]	(3,3)	Individual's country of residence ISO alpha 3 Code. For example: GBR	M	-
date_of_birth	YYYY-MM-DD	(10,10)	Individual's date of birth For example: 1988-04-28	M	-
email_address	[A-Z a-z 0-9 + - _ ~]	(0,80)	Individual's email address, in email format.	C (M for SMB)	
first_name	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(1,25)	Individual's first name	M	-
holding_percent	[0-9.] Decimal: 3 digits + 2 decimal places	(1,6)	Specifies the Individual's percentage of ownership of the corporation. Mandatory if individual_type = 'UBO_ownership'	C	-
house_number	[0-9]	(1,9)	Individual's house number	O	-

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
individual_type	Value from the list: director UBO_ownership authorised_signatory sole_trader	(8,20	The individual's type. Note: If the individual is of several types, enter them as a list separated by semicolons (";"). For example: shareholder;director	M	-
last_name	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(1,80)	Individual's last name	M	-
nationality	[A-Z]	(3,3)	Individual's nationality. ISO alpha 3 Code. For example: GBR	M	-
official_id_expiry_date	YYYY-MM-DD	(10,10)	The expiry date of the official ID used by the individual. For example: 2030-03-24	O	-
official_id_number	[A-Z a-z 0-9 -]	(1.50)	The ID number/passport of the official ID used by the individual	M	-
official_id_type	Value from the list: • Passport • ID Card • Driver's license • Residence permit • Asylum seekers docu • Other document		The type of official ID used by the individual	M	-
passport_place_of_issue	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(1,255)	The place of issue of the Individual's passport Mandatory if official_id_type = 'Passport'	C	-

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
place_of_birth	[A-Z]	(3,3)	The Individual's place of birth ISO alpha 3 Code. For example: GBR	M	-
postcode	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(1,11)	The individual's postal code	M	-
related_corporate	[A-Z a-z 0-9 -]	(1,80)	Specify here the company_registration_number of the corporate this individual is related to. The value in this field should match the company_registration_number in related_corporate object. If the type is corporate you must send the related corporate id. If the type is sole trader this field is optional.	C	-
state	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(0,5)	The individual's state	O	-

merchant_product object

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
active	[true|false]	(4,5)	Specifies whether the product needs to be setup as active for the merchant. In merchant create send 'true'	M	-
product	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(3,80)	The type of product. See Appendix B: Product for the list of all possible products. Note that the partner must have the product in order for the merchant to have it.	M	-

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
product_configuration	Object		Object that holds the product_configuration details (also referred to as technical setup). In case product configuration for the merchant is similar to the partner's- no need to send this Object (configuration will be inherited from the partner to the merchant)	O	-

product_configuration object

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
3ds_adviser_rba_amount_threshold	[0-9]{1,3}(?:.[0-9]{1,2})	(0,6)	The threshold value for initiating 3D Secure when using a Risk Based approach. Only relevant if the partner is registered for this service, and the merchant intends to use the service.	O	-
3ds_adviser_smartguard_score_threshold	[0-9]	(0,4)	Specifies the risk score threshold for Shift4's SmartGuard service. Only relevant if the partner is registered for this service, and the merchant intends to use the service.	O	-
3ds_enable_notification	[true|false]	(4,5)	Specifies whether to implement a 3D Secure notification mechanism to automatically retrieve updates on the transaction processing progress without initiating another call to the gateway. Only relevant if the partner is registered for this service, and the merchant intends to use the service.	O	-

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
3ds_notification_url	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(0,255)	The URL to which 3D Secure notifications from Shift4 should be sent. Only relevant if the partner is registered for this service, and the merchant intends to use the service.	O	-
allowed_operations	[0-9]	(0,3)	List of all operations that the merchant should inherit from the partner. If all, leave empty. For example : 2,3,12,13	O	-
apm_allowed_operations	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(0,3)	The payment methods allowed for this merchant Only relevant if the partner is registered for this service, and the merchant intends to use the service.	O	-
apm_notification_address	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(0,255)	The address to which APM notifications from Shift4 should be sent. Only relevant if the partner is registered for this service, and the merchant intends to use the service.	O	-
apm_notification_mode	[true|false]	(4,5)	Specifies whether to implement an APM notification mechanism for receiving an update about a transaction’s status after the shopper’s action. Only relevant if the partner is registered for this service, and the merchant intends to use the service.	O	-

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
crx_acquiring_multi_capture	[true|false]	(4,5)	Specifies whether the merchant may capture a payment multiple times (for example, for an order with items that can be shipped at different times)	O	-
hpp_code_3d_secure_required	[true|false]	(4,5)	Specifies whether the merchant requires 3d Secure on its HPP code hosted payment page	O	-
hpp_code_enable_smartguard	[true|false]	(4,5)	Specifies whether to enable SmartGuard if the merchant uses an HPP code solution	O	-
hpp_code_enable_token	[true|false]	(4,5)	Specifies whether to enable token usage if the merchant uses an HPP code solution	O	-
hpp_code_shopping_cart	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(0,255)	The type of shopping cart solution if the merchant uses an HPP code solution. The available options include: Magento WooCommerce	O	-
hpp_form_3d_secure_required	[true|false]	(4,5)	Specifies whether the merchant requires 3D Secure on its HPP form hosted payment page	O	-
hpp_form_enable_notification	[true|false]	(4,5)	Specifies whether the merchant required registration for its HPP form notification service	O	-
hpp_form_enable_smart_guard	[true|false]	(4,5)	Specifies whether to enable SmartGuard if the merchant uses an HPP form solution	O	-
hpp_form_enable_token	[true|false]	(4,5)	Specifies whether to enable token usage if the merchant uses an HPP form solution	O	-

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
hpp_form_skin_name	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(0,255)	The name of the skin for setting up this merchant	O	-
pbl_allow_email	[true|false]	(4,5)	Specifies whether the merchant is allowed to have the email PayByLink functionality	O	-
pbl_allow_sms	[true|false]	(4,5)	Specifies whether the merchant is allowed to have the phone message PayByLink functionality	O	-
pbl_allow_vpos	[true|false]	(4,5)	Specifies whether the merchant is allowed to have the email virtual POS functionality	O	-
pbl_countries_of_payers	[A-Z]	(3,3)	The countries which the payer can be from, in ISO 3-letter country code format	O	-
pbl_countries_of_payers_default	[A-Z]	(3,3)	The default payer country, in ISO 3-letter country code format	O	-
pbl_currency	[A-Z]	(3,3)	The currencies in which payment can be accepted, in ISO 3-letter currency code format	O	-
pbl_default_currencies	[A-Z]	(3,3)	The default currency or currencies, in ISO 3-letter currency code format. To specify multiple currencies, enter them as a comma separated list	O	-
pbl_languages	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(0,2)	The languages in which the payment page can be sent, in ISO 2-letter language code format	O	-
pbl_language_default	[A-Z]	(0,2)	The default payment page language, in ISO 2-letter language code format	O	-

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
pbl_notification_address	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(0,255)	The address to which payment notifications will be sent	O	-
pbl_notification_mode	[true|false]	(4,5)	Specifies whether to activate notification mode	O	-
pbl_sender_email	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(0,255)	The email address from which emails will be sent	O	-
pbl_skin_type	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(0,255)	The type of skin used for the payment page	O	-
pbl_thankyou_email_content	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(0,1024)	The content of the email which will be sent on behalf of the merchant after the payment is done. Relevant only if pbl_allow_email=true	O	-
pbl_thankyou_sms_content	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(0,1024)	The content of the message which will be sent on behalf of the merchant after the payment is done. Relevant only if pbl_allow_sms=true	O	-
smart_guard_blocking_threshold	[0-9]	(0,4)	The SmartGuard risk score threshold. Transactions with a SmartGuard risk score equal to or higher than this threshold will be blocked. Only relevant if the partner is registered for this service, and the merchant intends to use the service.	O	-
smart_guard_ml_standalone	[true|false]	(4,5)	Indicates whether the merchant is enrolled for the standalone SmartGuard service	O	-

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
smart_guard_review_threshold	[0-9]	(0,4)	The SmartGuard transaction review threshold. Transactions with a SmartGuard risk score lower than this threshold will be automatically passed. Transactions with a SmartGuard risk score equal to or higher than this threshold, but lower than the smart_guard_blocking_threshold, will be passed and reviewed. Only relevant if the partner is registered for this service, and the merchant intends to use the service	O	-
token_skip_card_validation	[true|false]	(4,5)	Indicates whether the merchant is allowed to create tokens without card validation	O	-

pos_device object

This object is mandatory if you send a merchant_requirement object with a card present (CP) payment channel. It will be sent nested under the merchant_requirement object and will contain the POS device data.

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
address_line_1	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(1,80)	House number and street where the POS device is located	M	M
api_code	[0-9]	(1,4)	The code identifying the type of POS device as received from Shift4. For example: 009	M	M
city	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(1,80)	City in which the POS is located	M	M

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
country	[A-Z]	(3,3)	Country in which the POS is located ISO alpha 3 Code For example: GBR	M	M
number_of_devices	[0-9]	(1,4)	Number of POS devices of this type (=api_code), and at the this location	M	M
postcode	[A-Z a-z 0-9 -=':?_%,()&+.<>;/*]	(1,11)	Postal code of POS location	M	M
state	[A-Z a-z 0-9 -=':?_%,()&+.<>;/*]	(1,5)	State in which the POS is located	O	O

pricing object

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
fee_list	object	-	A list object that holds the fee name and the fee value of fees you want to have in this merchant pricing. Send this object to override fee values of the fixed pricing (also referred to as “partner terms”) assigned to this merchant.	O	-
max_trx_value	[0-9.] Decimal: Max 10 digits + 2 decimal places	(1,13)	The maximum transaction value which is allowed for the merchants in this merchant pricing. Send this parameter to override the maximum transaction value of the fixed pricing. Overriding your fixed pricing values requires additional approval from Shift4, which may prolong the onboarding process Note: We recommend not to pre-populate this field with a generic number for all your merchants, as an inaccurate number can cause issues in the underwriting process.	O	-

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
merchant_terms_identifier	[A-Z a-z 0-9 -]	(1,10)	Identifier assigned by the partner, and used to link between merchant requirements, merchant pricing and merchant bank accounts.	M	-
partner_terms_identifier	[A-Z a-z 0-9 -]	(9, 10)	The ID of the fixed merchant pricing terms you are using to assign pricing to this merchant. The ID always begins with a leading 'MPS-' and continues with max 6 digits. For example: MPS-660832 NOTE: Enter here the same value as the one you entered in parameter partner_terms_identifier in the merchant_bank_account object.	M	-
settlement_frequency	[A-Z a-z]	(5,12)	The frequency in which the settlement is paid to the merchant in this merchant pricing. Supported values: Monthly Weekly Daily Twice a week	O	-

fee_list_object

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
fee_name	[A-Z a-z]	(12,12)	The fee name of the fee you want to set up for the merchant Supported Values: Discount Fee Note: If the discount fee pricing set for your merchant has a different breakdown (for Card Scheme, Region, Card Type), using this object will override all the values with the value you set through the API.	C	-
fee_value	[0-9.] Decimal, Max 2 decimal places	(1,6)	The value of the fee assigned for this merchant terms. Note: for discount fee the max value is 100 (reflecting the percentage)	C (M if you fill in 'fee name')	-

merchant_requirement object

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
active	[true|false]	(4,5)	Specifies whether this merchant_requirement is active. Note: when creating a new merchant always send 'true'.	M	M
descriptor_city	[A-Z a-z 0-9 - =':?_%,()&+.<>; /*]	(1,13)	The portion of the merchant descriptor that identifies the city in which the merchant's business is located	M	M
descriptor_dba_name	[A-Z a-z 0-9 - =':?_%,()&+.<>; /*]	(1,22)	The portion of the merchant descriptor that identifies the merchant's "Doing Business As" (DBA) name	M	M
mcc_code	[0-9]	(4,4)	The requested merchant category code (MCC)	M	M

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
merchant_requirement_id	[A-Z a-z 0-9 - =':?_%,()&+.<>; /*]	(1,85)	The partner's ID assigned for this merchant_requirement object. This parameter value should be 1 for the first merchant requirement ID and the consecutive ID number for each additional merchant requirement objects sent for the merchant	M	M
payment_channel	(WEB|MOTO|CP)	(2,4)	Indicates whether transactions are sent from WEB, MOTO or CP	M	M
pos_device	Object	-	Object that holds the pos_device details. Must be sent if the payment channel is CP.	C	C
pricing	Object	-	Object that holds the pricing details. When sending the pricing object under the merchant requirements, send only partner_terms_identifier and merchant_terms_identifier that is related to this merchant requirements	M	M
sub_merchant_id	[0-9]	(0,15)	The sub merchant ID assigned to the merchant. For example: 246338000011008	-	M
url	[A-Z a-z 0-9 - =':?_%,()&+.<>; /*]	(0,255)	The merchant's site URL. Relevant only if the payment channel is WEB. URL format: must start with HTTP / HTTPS must contain WWW. For example: https://www.nicepictures.dk/	C	C

online_signature object

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
date_timestamp	YYYY-MM-DDThh:mm:ss.000Z	(24,24)	The timestamp from the partner's system, recording when the partner request is sent Example: 2021-10-30T15:27:02.000Z	M	M
service_agreement_version	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(1,255)	The version of the service agreement to which this merchant is subject For example: v1	M	M
signer_ip	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(1,255)	The IP address of the signer of the merchant creation request.	M	M

registered_address object

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
apartment_number	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(0,255)	The merchant's apartment number	O	O
city	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(1,80)	The merchant's city	M	M
country	[A-Z]	(3,3)	The merchant's country ISO alpha 3 Code. For example: GBR	M	M
house_number	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(1,255)	The merchant's house number	M	M
postcode	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(1,11)	The merchant's postal code	M	M
state	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(0,5)	The merchant's state	O	O
street	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(1,255)	The merchant's street	M	M

related_corporate object

This object is only required for merchants defined as corporate (not sole traders). Use it to provide the merchant’s company details as well as the details of any corporate director or shareholder.

Note: It is important to send this object to accurately depict the merchant’s business structure. Not sending this object with the necessary details can cause issues and declines in the underwriting process.

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
active	[true|false]	(4,5)	Specifies whether this corporate is active. For merchant creation send ‘true’.	M	-
address_line_1	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(1,255)	The corporate's address line 1	M	-
city	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(1,80)	The corporate's city	M	-
company_registration_name	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(1,80)	The corporate's registration name	M	-
company_registration_number	[A-Z a-z 0-9 -]	(1,80)	The corporate's registration number	M	-
country	[A-Z]	(3,3)	The corporate's country ISO alpha 3 Code. For example: GBR	M	-
country_of_incorporation	[A-Z]	(3,3)	The corporate's country of incorporation ISO alpha 3 Code. For example: GBR	M	-
date_of_incorporation	YYYY-MM-DD	(10,10)	The corporate's data of incorporation For example: 2017-05-20	M	-
house_number	[0-9]	(1,3)	The corporate's house number	M	-
postal_code	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(1,11)	The corporate's postal code	M	-
related_corporate	[A-Z a-z 0-9]	(1,255)	If this field is sent for a corporate with a holding in the merchant, specify here the **company_registration_number** of the merchant. If this field is sent for the onboarded merchant itself, send Null value. See Appendix D: Related Corporate and Merchant Individual Scenarios.	M	-

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
State	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(0,5)	The corporate's state	O	-

top_4_countries object

This object is only required for SMB. Use it to provide the main countries the merchant is processing in. Indicate the percentage of transactions for each country you list. The object can hold up to 4 countries, sending at least one country is mandatory.

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
country	[A-Z]	(3,3)	A main country the merchant is processing in, represented by 3 letters country code. Refer to ISO 3166-1- alpha 3	C (M for SMB)	-
percentage	[0-9] - Integer	(1,2)	The percentage this country holds out of all the merchants processing as Integer between 0-100. Example: For 58% send 58. The total sum of the top 4 countries percentage needs to be 100.	C (M for SMB)	-

Code Examples for Create Merchant

Create Merchant: Body Example

```
{
    "merchant_name": "Smoke {{merchant_name}}",
    "company_registration_name": "Nicehair ApS",
    "company_registration_number": "33061102",
    "country_of_incorporation": "DNK",
    "business_type": "corporate",
    "business_model_description": "Selling beauty products online 31231",
    "average_item_value_eur": "0",
    "expected_monthly_turnover": "64105",
    "date_of_incorporation": "2010-02-07",
    "registered_address": {
        "city": "Esbjerg",
        "country": "DNK",
        "street": "Randersvej",
        "house_number": "30",
        "apartment_number": "22",
        "postcode": "6700"
    },
    "online_signature": {
        "date_timestamp": "2021-10-30T15:27:02.000Z",
        "service_agreement_version": "0",
        "signer_ip": "0"
    },
    "merchant_contact": [
        {
            "first_name": "Mie",
            "last_name": "Henriksen",
            "email": "mie@nicehair.dk",
            "phone": "0",
            "active": true,
            "role": "principal_contact",
            "mobile_phone": "0"
        },
        {
            "first_name": "Mie",
            "last_name": "Nicehair ApS",
            "email": "wbyaulwwqkjedclyenxdbe1onbro@credoraxreadonly.jpgatb",
            "phone": "0",
            "active": true,
            "role": "general",
            "mobile_phone": "0"
        }
    ],
    "merchant_individual": [
        {
            "first_name": "Tonny Nielsen",
            "last_name": "Bruun",
            "nationality": "DNK",
            "date_of_birth": "1978-07-02",
            "place_of_birth": "DNK",
            "official_id_type": "Passport",
            "official_id_number": "210755174",
            "individual_type": "director",
            "city": "Esbjerg",
            "state": "IL",
            "postcode": "6710",
            "country": "DNK",
            "address_line_1": "Sandbakken",
            "address_line_2": "10",
            "holding_percent": "0",
            "passport_place_of_issue": "DNK",
            "active": true,
            "house_number": "412",
            "official_id_expiry_date": "2028-06-19",
            "related_corporate": "33061102",
            "email_address" : "alona@asd.com"
        }],
    "related_corporate": [
        {
            "company_registration_name": "Nicehair ApS",
            "related_corporate": null,
            "company_registration_number": "33061102",
            "country_of_incorporation": "DNK",
            "date_of_incorporation": "2010-02-07",
            "city": "Esbjerg",
            "state": "IL",
            "postal_code": "6700",
            "country": "DNK",
            "address_line_1": "Randersvej",
            "house_number": "30",
            "active": true
        },
        {
            "company_registration_name": "TONNY BRUUN",
            "related_corporate": "33061102",
            "company_registration_number": "33057636",
            "country_of_incorporation": "DNK",
            "date_of_incorporation": "2010-02-07",
            "city": "Esbjerg",
            "postal_code": "6710",
            "country": "DNK",
            "active": true
        },
        {
            "company_registration_name": "TONNY BRUUN",
            "related_corporate": "33061102",
            "company_registration_number": "13589100",
            "country_of_incorporation": "DNK",
            "date_of_incorporation": "1989-01-11",
            "city": "Copenhagen East",
            "postal_code": "2100",
            "country": "DNK",
            "address_line_1": "Strodamvej",
            "house_number": "46",
            "active": true
        },
        {
            "company_registration_name": "Tonny",
            "related_corporate": "33061102",
            "company_registration_number": "75272014",
            "country_of_incorporation": "DNK",
            "date_of_incorporation": "1984-05-09",
            "city": "Copenhagen K",
            "postal_code": "1120",
            "country": "DNK",
            "address_line_1": "Trolley Street",
            "house_number": "11",
            "active": true
        }
    ],
    "merchant_product": [
        {
            "product": "Acquiring services",
            "active": true
        },
        {
            "product": "Gateway Services",
            "active": true
        },
        {
            "product": "3D Secure",
            "active": true,
            "product_configuration": {
                "alowed_operations": "92;98"
            }
        }
    ],
    "merchant_bank_account": [
        {
            "settlement_currency": "EUR",
            "active": true,
            "beneficiary_name": "Nicehair ApS",
            "bank_name": "Danske Bank",
            "bank_country": "DNK",
            "iban": "DK0230004394082104",
            "swift": "DABADKKKXXX",
            "use_merchant_address": true,
            "beneficiary_address": {
                "country": "DNK"
            },
            "partner_terms_identifier": "MPS-631500"
        },
        {
            "settlement_currency": "DKK",
            "active": true,
            "beneficiary_name": "Nicehair ApS",
            "bank_name": "Danske Bank",
            "bank_country": "DNK",
            "iban": "DK0730000012986610",
            "use_merchant_address": true,
            "swift": "DABADKKKXXX",
            "beneficiary_address": {
                "country": "DNK"
            },
            "partner_terms_identifier": "MPS-631500"
        },
        {
            "settlement_currency": "CZK",
            "active": true,
            "beneficiary_name": "Nicehair ApS",
            "bank_name": "Danske Bank",
            "bank_country": "DNK",
            "iban": "DK5530004394082120",
            "use_merchant_address": true,
            "swift": "DABADKKKXXX",
            "beneficiary_address": {
                "country": "DNK"
            },
            "partner_terms_identifier": "MPS-631500"
        }
    ]
,
    "pricing":[
        {
            "partner_terms_identifier": "MPS-631500",
            "merchant_terms_identifier":"SSS-555",
            "settlement_frequency":"Weekly",
            "max_trx_value":"9999",
            "fee_list":[
                {
                    "fee_name":"Discount Fee",
                    "fee_value" : "0.3"
                }
            ]
        },
        {
                "partner_terms_identifier": "MPS-631500",
                "merchant_terms_identifier":"SSS-556"
            }
    ],
    "merchant_requirement": [
        {
            "pricing": {
                "partner_terms_identifier": "MPS-631500",
                "merchant_terms_identifier":"SSS-555"
            },
            "merchant_requirement_id": "1234",
            "active": false,
            "payment_channel": "WEB",
            "mcc_code": "5999",
            "descriptor_dba_name": "{{merchant_name}}",
            "descriptor_city": "DNK",
            "url": "https://www.nicehair.dk/"
        },
        {
            "pricing": {
                "partner_terms_identifier": "MPS-631500",
                "merchant_terms_identifier":"SSS-556"
            },
            "merchant_requirement_id": "1235",
            "active": true,
            "payment_channel": "WEB",
            "mcc_code": "5999",
            "descriptor_dba_name": "{{merchant_name}}",
            "descriptor_city": "4532200200",
            "url": "https://www.nicebeauty.com/de/"
        }
    ],
  "top_4_countries": [
    {
      "country": "USA",
      "percentage": "5"
    },
    {
      "country": "USA",
      "percentage": "55"
    }
  ],
  "purchase_charge_timing":"When placing the order",
  "avg_delivery_days":"100",
  "primary_sector":"100",
  "primary_payment_channel":"MOTO",
  "average_transaction_value":"15"
}
```

Create Merchant: Response Examples

Create succeeded

Sync response (immediate):

```
{"crx_request_id": "c424665c9336410e9f7459031b1003ef", "original_request_time": "2022-10-28T13:41:44.097","result": {"response_code": "000","response_description": "Request is successful"}}
```

ASync response (Up to 4 hours), via webhook notification:

```
{"type": "Merchant onboarding API","event_id": "b342417170704c4dbe54bcb9166569ed",
"event_status_code": "03","event_status_description": "Merchant was created successfully for
merchant CEID-0000008335","event_additional_fields": {"operation_type": "Merchant Creation",
"result.merchant_id": "CEID-0000251426"}}
```

Create failed

Sync response (immediate):

```
{"crx_request_id": "2c2ff3e8beec4173b2affe1c2f890093","original_request_time": "2022-10-
28T13:42:09.571", "result": {"response_code": "012","response_description": "At least one of input
parameters is malformed.","response_details": ["company_registration_name parameter has to be
equal to the merchant upsert value in this case.", "company_registration_name parameter is
required."] }}
```

ASync response (Up to 4 hours), via webhook notification:

```
{"type": "Merchant onboarding API","event_id":"140761842829451e99625b3bab3b1b7b",

"event_status_code": "05","event_status_description": "Merchant was not created successfully for
merchant CEID-0000008335","event_additional_fields": {"operation_type": "Merchant
Creation","failure_message": "Account, You're creating a duplicate record. We recommend you use
an existing record instead."}}
```

Update merchant

The ‘Update Merchant’ service allows you to manage merchants during onboarding or when already processing.

- For onboarding merchants, use this service to complete onboarding with missing data or documents or to update information you submitted before, in accordance with available fields.
- For processing merchants, use this service to update some information about the merchants, in accordance with available fields.

Production	[POST] https://onboarding.sourcepayments.com/setup/merchant/update/<merchant id>
Integration	https://onboarding.int.sourcepayments.com/rest/setup/merchant/update/<merchant id>

Request Fields

- When sending an Update merchant call, you must send all the root level fields listed below, as well as the relevant object(s) (depending on the type of update).
- For adding a new object
  - Active = true
  - Is_update= false
  - Send all the fields you would send in the creation
- For updating existing object:
  - Active = true
  - Is_update= true
  - Send only the fields you want to update as well as the field to identify the object
- For cancelling existing object:
  - Active = false
  - Is_update= true

Root level fields and objects

Parameter Name	Type	Length (min,max)	Description	Presence- PSP/SMB	Presence- PF
is_update	[true | false]	(4,5)	At the root level, set this to **is_update=true**	M	M
merchant_id	[A-Z a-z 0-9 -]	(15,15)	The merchant ID, as provided in the notification returned to the partner once the merchant creation is successful. For example: CEID-0000190628	M	M
partner_id	[A-Z a-z 0-9 -]	(15,15)	The Shift4 assigned ID of the partner creating the merchant For example: CEID-0000190325	M	M
merchant_bank_account	Object		A list object that can be sent more than once. It holds the merchant_bank_account details (also referred to as settlement bank account) This object includes a nested beneficiary_address object	O	-
merchant_contact	Object	-	Object that holds the merchant_contact details	O	O
merchant_individual	Object	-	Object that holds the merchant_individual details	O	-
merchant_product	Object	-	Object that holds the merchant_product details	O	-
merchant_requirement	Object	-	Object that holds the merchant_requirement details (also referred to as Payment Channel)	O	O
registered_address	Object	-	Object that holds the registered_address object details	O	O
related_corporate	Object	-	Object that holds the related_corporate details	O	-

merchant_bank_account object

Using this object in the Update merchant API call, you can add or cancel a merchant bank account (i.e., a settlement bank account).

- To add a settlement bank account, specify **active=true**, **is_update=false**, and all the fields you would send in the merchant_bank_account object of a **Create merchant** call.
- To cancel a settlement bank account, **specify active=false**, **is_update=true**, as well as the **settlement_currency** field to identify the bank account, as described in the table below:

Parameter Name	Type	Length (min,max)	Description	Presence-PSP/SMB	Presence-PF
active	[true | false]	(4,5)	Specifies whether a merchant bank account is being added **(active=tru**e), or cancelled **(active=false)**	M	-
is_update	[true | false]	(4,5)	Specifies whether to create a new object of this type (**is_update=false**), or cancel an existing object (**is_update**=**true**) . The existing object is identified by its **settlement_currency**. Specifies whether a merchant bank account is being added (**active=true**), or whether a merchant bank account is being cancelled (**active=false**). To create a new object of this type, send all the fields you would send in the merchant_bank_account object of a **Create merchant** call.	M	-
settlement_currency	[A-Z]	(3,3)	The currency in which funds are deposited in the merchant's bank account. ISO alpha 3 Code For example: GBP	M	-

merchant_contact object

Using this object in the Update merchant API call, you can add, update or cancel a merchant contact.

- To add a merchant contact, specify **active=true**, **is_update=false**, and the rest of the fields listed below.
- To update a merchant contact, specify **active=true**, **is_update=true**, the **email** field to identify the contact, and the fields you wish to update from those listed below.
- To cancel a merchant contact, specify **active=false**, **is_update=true**, as well as the **email** field to identify the contact.

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
active	[true | false]	(4,5)	Specifies whether a merchant contact is being added or updated (**active=true**), or whether a merchant contact is being cancelled (**active=false**).	M	M
email	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(1,80)	Email of the merchant's contact person	M	M
first_name	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(1,40)	First name of the merchant's contact person	M	M
is_update	[true | false]	(4,5)	Specifies whether to create a new object of this type (**is_update**=**false**), overwrite the values of an existing object (**is_update**=**true**), or cancel an existing object (**is_update**=**true**). The existing object is identified by its **email**.	M	M
last_name	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(1,80)	Last name of the merchant's contact person	M	M
mobile_phone	[0-9]	(1,40)	Mobile phone number of the merchant's contact person	O	M
phone	[0-9]	(1,40)	Landline phone number of the merchant's contact person	M	M
role	Values from the list: primary_contact cbk_contact general insights	(7,49)	This field specifies the Role of the merchant's contact person. If the contact has several roles, enter them as a list separated by semicolons (";") if role=general, no other roles can be indicated for the contact	M	O

merchant_individual object

Using this object in the Update merchant API call, you can add or update a merchant individual**.**

- To add a merchant invidiual, specify **active=true**, **is_update=false**, and **all the fields** you would send in the merchant_individual object of a **Create merchant** call.
- To update a merchant indivudual, specify **active=true**, **is_update=true**, the **official_id_number** to identify the individual, and the fields you wish to update from among those listed below.

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
active	[true | false]	(4,5)	Specifies whether a merchant individual is being added or updated (**active=true**)	M	-
address_line_1	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(1,255)	Individual's street name	O	-
city	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(1,80)	Individual's city of residence	M	-
country	[A-Z]	(3,3)	Individual's country of residence ISO alpha 3 Code. For example: GBR	M	-
holding_percent	[0-9.] Decimal: 3 digits + 2 decimal places	(1,6)	Specifies the Individual's percentage of ownership of the corporation.	O	-
house_number	[0-9]	(1,9)	Individual's house number	O	-
is_update	[true | false]	(4,5)	Specifies whether to create a new object of this type (**is_update=false**), or overwrite the values of an existing object (**is_update=true**). The existing object is identified by its **official_id_number**.	M	-
official_id_expiry_date	YYYY-MM-DD	(10,10)	The expiry date of the official ID used by the individual. For example: 2030-03-24	O	-
official_id_number	[A-Z a-z 0-9 -]	(1.50)	The ID number/passport of the official ID used by the individual	M	-

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
passport_place_of_issue	[A-Z a-z 0-9 -=':?_%,()&+.<>;/*]	(1,255)	The place of issue of the Individual's passport Mandatory if official_id_type = 'Passport'	C	-
postcode	[A-Z a-z 0-9 -=':?_%,()&+.<>;/*]	(1,11)	The individual's postal code	M	-
state	[A-Z a-z 0-9 -=':?_%,()&+.<>;/*]	(0,5)	The individual's state	O	-

merchant_product object

Using this object in the Update merchant API call, you can add, deactivate or update product configuration of a merchant product**.**

- To add a merchant product, specify **active=true**, **is_update=false**, and all the fields you would send in the merchant_product object of a **Create merchant** call.
- To deactivate a merchant product, specify **active=false**, **is_update=true**, as well as the **product** field to identify the product.
- To update a merchant product configuration, specify **active=true, is_update=true**, the product field to identify the product, and a nested product_configuration object with updated fields. product_configuration object fields are the same as in create merchant

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
active	[true | false]	(4,5)	Specifies whether a merchant product is being added, updated (**active=true**), or deactivated (**active=false**)	M	-
is_update	[true | false]	(4,5)	Specifies whether to create a new object of this type (**is_update=false**), or deactivate / edit an existing object (**is_update=true**). The existing object is identified by its **product**. To create a new object of this type, send all the fields you would send in the merchant_product object of a **Create merchant** call	M	-

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
product	[A-Z a-z 0-9 -=':?_%,()&+.<>;/*]	(3,80)	The type of product. See Appendix B: Product for the list of all possible products. Note that the partner must have the product in order for the merchant to have it.	M	-
product_configuration	Object		Object that holds the product_configuration details (also referred to as *technical setup*). In case product configuration for the mertchant is similar to the partner's- no need to send this Object (configuration will be inherited from the partner to the merchant)	O	-

merchant_requirement object

Using this object in the Update merchant API call, you can add, update or cancel a merchant requirement, i.e., a payment channel:

- To add a payment channel, specify **active=true**, **is_update=false**, and all the fields you would send in the merchant_requirement object of a **Create merchant** call
- To update a payment channel, specify **active=true**, **is_update=true**, the **merchant_requirement_id** to identify the payment channel. If the update is for a CP payment channel send also a nested **pos_device** object with updated fields (you can change the number of POS devices and their address).
- To cancel a payment channel, specify **active=false**, **is_update=true**, as well as the **merchant_requirement_id** to identify the payment channel.

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
active	[true | false]	(4,5)	Specifies whether a merchant requirement is being added or updated (**active=true**), or whether a merchant requirement is being cancelled (**active=false**).	M	M

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
is_update	[true | false]	(4,5)	Specifies whether to create a new object of this type (**is_update=false**), overwrite the values of an existing object (**is_update=true**), or cancel an existing object (**is_update=true**). The existing object is identified by its **merchant_requirement_id**	M	M
merchant_requirement_id	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(1,85)	The partner assigned ID for this merchant_requirement object	M	M
pos_device	Object	-	Object that holds the pos_device details. Must be sent if the payment channel is CP.	C	C

pricing_object

- Using this object in the Update merchant API call, you can add or update a merchant pricing for these attributes: discount fee, settlement frequency and maximum transaction value.
- Linking new pricing to existing merchant requirement will be done through creation of new merchant requirement with the required pricing identifier.

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
fee_list	object	-	A list object that holds the fee name and value the partner wants to have in this merchant pricing. Send this object in merchant update in order to update fee value in existing pricing, or to create a pricing with new fee value	O	-
is_update	[true | false]	(4,5)	Specifies whether to create a new pricing (**is_update=false**), or overwrite the values of an existing pricing (**is_update=true**)	M	

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
max_trx_value	[0-9.] Decimal: Max 10 digits + 2 decimal places	(1,13)	The maximum transaction value which is allowed for the merchants in this merchant pricing. Send this parameter to override the maximum transaction value of the fixed pricing. Sending a value different from your fixed pricing requires Shift4's approval, and therefore prolongs the onboarding process. Note: We recommend not to pre-populate this field with a generic number for all your merchants, as an inaccurate number can cause issues in the underwriting process.	O	-
merchant_terms_identifier	[A-Z a-z 0-9 -]	(1,10)	Identifier assigned by the partner, and used to link between merchant requirements, merchant pricing and merchant bank accounts.	M	-
partner_terms_identifier	[A-Z a-z 0-9 -]	(9, 10)	The ID of the fixed merchant pricing terms you are using to assign pricing to this merchant. The ID always begins with a leading 'MPS-' and continues with max 6 digits. For example: MPS-660832 NOTE: you receive these IDs as part of your connectivity details before go-live	M	-
settlement_frequency	Value from the list: • Monthly • Weekly • Daily • Twice a week	(5,12)	The frequency in which the settlement is paid for the merchant in this merchant pricing	O	-

registered_address object

Using this object in the Update merchant API call, you can update a registered address.

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
apartment_number	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(0,255)	The merchant's apartment number	O	O
city	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(1,80)	The merchant's city	M	M
country	[A-Z]	(3,3)	The merchant's country ISO alpha 3 Code. For example: GBR	M	M
house_number	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(1,255)	The merchant's house number	M	M
is_update	[true | false]	(4,5)	Specifies to update the values of an existing object (**is_update**=**true**).	M	both
postcode	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(1,11)	The merchant's postal code	M	M
state	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(0,5)	The merchant's state	O	O
street	[A-Z a-z 0-9 - =':?_%,()&+.<>;/*]	(1,255)	The merchant's street	M	M

related_corporate object

Using this object in the Update merchant API call, you can add or update an existing related corporate. The existing object is identified by its **company_registration_number**.

- To add a *related corporate*, specify **active=true**, **is_update=false**, and all the fields you would send in the *related_corporate* object of a **Create merchant** call.
- To update a *related_corporate*, specify **active=true**, **is_update=true**, the **company_registration_number** to identify the related corporate, and the fields you wish to update from among those listed below.

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
active	[true|false]	(4,5)	Specifies whether this corporate is active. For merchant creation send ‘true’.	M	-
address_line_1	[A-Z a-z 0-9 -=':?_%,()&+.<>;/*]	(1,255)	The corporate's address line 1	M	-
city	[A-Z a-z 0-9 -=':?_%,()&+.<>;/*]	(1,80)	The corporate's city	M	-
company_registration_number	[A-Z a-z 0-9 -]	(1,80)	The corporate's registration number	M	-
country	[A-Z]	(3,3)	The corporate's country ISO alpha 3 Code. For example: GBR	M	-
house_number	[0-9]	(1,3)	The corporate's house number	M	-
is_update	[true | false]	(4,5)	Specifies whether to create a new object of this type (**is_update**=**false**), or overwrite the values of an existing object (**is_update**=**true**).	M	-
postal_code	[A-Z a-z 0-9 -=':?_%,()&+.<>;/*]	(1,11)	The corporate's postal code	M	-
related_corporate	[A-Z a-z 0-9]	(1,255)	**company_registration_number**of the merchant.	M	-
State	[A-Z a-z 0-9 -=':?_%,()&+.<>;/*]	(0,5)	The corporate's state	O	-

Merchant Update: Code Examples (Body)

Adding object- individual

```
{   "is_update": true,
   "merchant_individual": [
      {   "first_name": "Spiritual",
         "last_name": "Individual",
         "nationality": "USA",
         "date_of_birth": "1988-07-02",
         "place_of_birth": "DNK",
         "official_id_type": "Passport",
         "official_id_number": "122999",
         "individual_type": "director",
         "city": "Esbjerg",
         "state": "IL",
         "postcode": "6710",
         "country": "DNK",
         "address_line_1": "Sandbakken",
         "address_line_2": "10",
         "holding_percent": "0",
         "passport_place_of_issue": "DNK",
         "active": true,
         "house_number": "412",
         "official_id_expiry_date": "2028-06-19"
      }  ]}
```

Modifying MR object (changing number of devices)

```
{   "is_update": true,
    "merchant_requirement": [
      {  "is_update": true,
        "active": true,
        "merchant_requirement_id": "5",
        "pos_device": {
          "address_line_1": "tes_upd",
          "city": "NEW",
          "country": "ITA",
          "number_of_devices": "15",
          "postcode": "new",
          "state": "CA"
        }     }  ]}
```

Merchant Update: Response Examples

Update succeeded

Sync response (immediate):

```
{"merchant_id": "CEID-0000251426","crx_request_id": "1af81ad2cab74fc08e248de34e1c9720",
  "original_request_time": "2022-12-20T17:51:28.318","result": { "response_code": "000",
    "response_description": "Request is successful" }}
```

ASync response (Up to 4 hours), via webhook notification:

```
{"type": "Merchant onboarding API","event_id": "1af81ad2cab74fc08e248de34e1c9720",
 "event_status_code": "04","event_status_description": "Merchant was updated successfully for merchant CEID-
0000008335","event_additional_fields": {"operation_type": "Merchant Update"  }}
```

Update failed

Sync response (immediate):

```
{"merchant_id": "CEID-0000251426","crx_request_id": "62b17a987afa4500bebe030d60d3388a",
  "original_request_time": "2022-12-20T17:58:17.646", "result": {"response_code": "012",
    "response_description": "At least one of input parameters is malformed.",     "response_details":
["merchant_individual[0].first_name parameter is not allowed to update."
    ]  }}
```

ASync response (Up to 4 hours), via webhook notification:

```
{ "type": "Merchant onboarding API","event_id": "82b58722fcd647f6a7d51f5e392f7204",
"event_status_code": "06","event_status_description": "Merchant was not updated successfully for merchant
CEID-0000008335","event_additional_fields": {"operation_type": "Merchant Update",
"failure_message": "Related company not exist 33061103,The record you wanted to update does not exist
123456"  }}
```

Upload document

Integration URL	https://onboarding.int.sourcepayments.com/rest/setup/merchant/upload/<merchant id>?related=<related>&file_type=<file type>&submitMerchant=<boolean>
Production URL	https://onboarding.sourcepayments.com/rest/setup/merchant/upload/<merchant id>?related=<related>&file_type=<file type>&submitMerchant =<boolean>

Supported files type: PDF, JPEG, JPG, PNG, TIFF

Maximum size: 8MB

URL Parameters

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
merchant_id	[A-Z a-z 0-9 -]	(15,15)	The merchant ID, as provided in the notification returned to the partner once the merchant creation process is complete. For example: CEID-0000190628	M	-
file_type	[0-9]	(1,2)	A code specifying the type of file being uploaded. See Appendix F: Onboarding Documents for a list of file types	M	-
related	[A-Z a-z 0-9 -]	(1,80)	This parameter relates the uploaded document either to an individual or a corporate that was sent in the merchant create In case the uploaded document is related to an individual, specify here the **official_id_number** from the relevant the merchant_individual object In case the uploaded document is related to a corporate, specify here the **company_registration_number** of the relevant corporate from the related_corporate object	M	-

Parameter Name	Type	Length (min,max)	Description	PSP/SMB	PF
submitMerchant	[true | false]	(4,5)	This parameter indicates the partner is submitting the mercahnt and the files to start onboarding process in Shift4. This indication can be sent more than once if additional files for the merchant is required. Optional parameter- the partner will send 'true' indication only when the merchant is ready to start onboarding and needed files were provided (see Appendix F – Onboarding Documents for needed onboarding files). Else, the parameted will have 'false' or not sent at all.	O	-

File Upload: Response Examples

file upload succeeded

Sync response (immediate):

```
{"merchant_id": "CEID-0000221963","upload_id":
"85b9e347ef0048fe927b4121eabe58c6","original_request_time": "2022-10-28T13:43:38.812", "result":
{"response_code": "000","response_description": "File received"}
```

*Sync response (immediate)- with **submitMerchant**=true:*

```
{"merchant_id": "CEID-0000221963","upload_id":
"85b9e347ef0048fe927b4121eabe58c6","original_request_time": "2022-10-28T13:43:38.812", "result":
{"response_code": "000","response_description": "File received and merchant is submitted"}}
```

ASync response (Up to 4 hours), via webhook notification

```
{"type":"File upload
result","event_id":"aba90de07e414966b3d258f5d5a8a5b8","event_status_code":"00","event_status_description":
"File uploaded successfully for merchant CEID-0000200332.","event_additional_fields":null}
```

file upload Failed

Sync response (immediate):

```
{"merchant_id": "CEID-0000221963111","upload_id": "2d7748ae7b3847b1959be5c963192eaa",
"original_request_time": "2022-11-08T09:26:27.193","result": {"response_code": "012",
"response_description": "File type is not supported"}}
```

ASync response (Up to 4 hours), via webhook notification:

```
merchantId=null, partnerId=CEID-0000008335, partnerRequestId=c892cb1e274c4c5caba7a03267d669ea,
responseCode=01, responseCodeDescription=File upload failed for merchant CEID-0000221960.The record
you wanted to update does not exist 256178., eventType=File upload result, messageForCustomer=null,
credonoteRequest=null, credonoteResponse=null
```

Get merchant status

PROD: https://onboarding.sourcepayments.com/rest/setup/merchant/ <merchant id>

INT: https://onboarding.int.sourcepayments.com/rest/setup/merchant/ <merchant id>

Response fields

The possible merchant statuses include:

Status	Description
Qualification	Merchant is created (First onboarding status for MOB)
In Pre Approval	Merchant is submitted and pending for review and approval
Qualified	Merchant internal approval process in Shift4 is done
Underwriting	Underwriting phase has started
Contract Management	Contract phase has started
Pending Operation Setup	Setup phase has started
Processing	Merchant’s onboarding is completed and ready to process
Disqualified	Merchant is disqualified due to business considurations
Disconnected	The merchant is no longer processing with Shift4
Closed Lost	The merchant is no longer relevant

Response example

```
{   "result": {
      "response_code": "000",
      "response_description": "Request is successful",
      "response_details": [
        {
          "merchant_id": "CEID-0000250867",
          "merchant_status": "Pending Operation Setup"
        }
      ]
   }
}
```

Get Connectivity details

PROD	https://onboarding.sourcepayments.com/rest/setup/merchant/merchant_connectivity/<merchantId>

Response fields

The following information for connectivity details will be retrieved for each merchant:

Field name	Description
merchant ID	The merchant ID connectivity details are retrieved for
gateway_mid	The gateway MID this merchant has. If the merchant has several gateway_mid all will be retrieved
channel	Specifies weather this GWMID is card present / card not present
descriptor	The descriptor assigned to the merchant by the partner in merchat create call
last_modified_date	Last modification date of the gateway MID or the terminal
secret_key	The secret key of the gateway MID in order to send transactions via the payment API
target_mid	The terminal ID of this gateway MID. If the gateway MID has several terminals all will be retrieved
max_transaction_value	Max transaction value allowed for this terminal as was set in onboarding underwriting phase
min_transaction_value	Min transaction value allowed for this terminal as was set in onboarding underwriting phase
mcc_mc	Approved MC MCC for this GW MID or terminal
mcc_visa	Approved VISA MCC for this GW MID or terminal
Processor	The processor of this terminal transactions
device_type	The device type of this termainal. Relevat only for card present
device_street	The device street of this termainal. Relevat only for card present
device_city	The device city of this termainal. Relevat only for card present
device_country	The device country of this termainal. Relevat only for card present
transaction_currencies	Allowed transaction currencies as were set int the fixed MPS
allowed_card_schemes	Allowed card schemes currencies as were set int the fixed MPS
allowed_operations	Allowed operations as were set in product configuration
skin_id	The selected Skin of the payment pahe for HPP code product

Field name	Description
static_key	HPP Static key provided during onboarding for HPP code product

Response example

```
{ "crx_request_id": "489d8dd0d4064a7cb7e42ca4089cc43a",
  "original_request_time": "2023-01-25T07:45:50.739",
  "result": {
    "response_code": "000",
    "response_description": "Request is successful",
    "response_details": [
      {
        "merchant_id": "CEID-0000251508",
        "details": [
          {
            "gateway_mid": "10029503",
            "channel": "Card Present",
            "descriptor": "Faustino Lviv",
            "last_modified_date": "2022-12-26 12:40:17",
            "secret_key": "1672058313251atc8ojj",
            "Terminals": [
              {
                "target_mid": "R0000052",
                "card_present": true,
                "last_modified_date": "2022-12-26 12:40:17",
                "max_transaction_value": 2500,
                "min_transaction_value": 0,
                "mcc_mc": "5999",
                "mcc_visa": "5999",
                "processor": "CREDORAX",
                "device_type": "Ingenico iCT250",
                "device_street": "Ruska street",
                "device_city": "Lviv",
                "device_country": "United States",
                "transaction_currencies": [
                  "EUR",
                  "DKK",
                  "CZK",
                  "SEK",
                  "NOK"
                ],
                "allowed_card_schemes": [
                  "MasterCard",
                  "Visa"
                ]
              },
              {
```

```
              "target_mid": "R0000053",
              "card_present": true,
              "last_modified_date": "2022-12-26 12:40:17",
              "max_transaction_value": 2500,
              "min_transaction_value": 0,
              "mcc_mc": "5999",
              "mcc_visa": "5999",
              "processor": "CREDORAX",
              "device_type": "Ingenico iCT250",
              "device_street": "Ruska street",
              "device_city": "Lviv",
              "device_country": "United States",
              "transaction_currencies": [
                "EUR",
                "DKK",
                "CZK",
                "SEK",
                "NOK"
              ],
              "allowed_card_schemes": [
                "MasterCard",
                "Visa"
              ]
            },
        }
      ]
    }
  ]
}
```

Appendix A: HMAC-SHA512 Request Signature

Every API request is associated with a package signature sent as an authorization header in order to ensure the authenticity of data transfer. This package signature, in turn, is calculated on a newline separated list of values using HMAC-SHA512 with the requestor's unique secret key.

The header template is:

Authorization: HMAC-SHA512 Credential=<clientId>, Signature=<HMAC SHA-512 in hex>

Calculating the Signature

1. Apply the HMAC-SHA512 hashing algorithm to the JSON body of the request and the merchant’s secret key.
2. Append the result of step 1 to the request’s authentication header according to the above header template.

Signature Calculation Example

- In order for a MOB request to successfully pass authorization,You need to supply two headers with the request: date and authorization

  Date

  Fri, 26 Aug 2022 12:14:30 GMT (the format is important)

  Authorization

  In order to compose an auth header, you are going to need the following information:

  - Request type: for create or update it’s POST, for get_status it’s GET
  - Link where the request will be sent
  - Date - the same that you add to the Date header
  - JSON of the request. **Make sure to remove spaces and newlines in JSON.**
- All these elements are to be combined into a single string, with each component written from the next line, for example:

```
POST
https://onboarding.sourcepayments.com/setup/merchant/Fri, 26 Aug 2022 12:14:30 GMT
{
        "json" : true
}
```

- Then you need to get a hash of this content. You can use a web too, for example: https://codebeautify.org/hmac-generator.

- The result of applying HMAC-SHA512 to the request body and secret should look like this:
  3464b92a69578ece8fd422cc355c7e4cf3948770065e19dc517c97b51f1f5192f180c920b02449e1ad4734420dea9eac8f51952a880f53e18a453db6308ad50f
- Once you have the hashed value, add it to the request header in the following format:
  Authorization: HMAC-SHA512 Credential=YOURPARTNER, Signature=long_hashed_string
  YOURPARTNER - partner id in format CEID-0000000000
  long_hashed_string - long string we received when transformed our request data

Appendix B: Products

This appendix lists all the possible products that can be specified in the "product" field of the merchant_product object:

Product name
3D Secure
3DS Adviser
Account Updater on Demand
Acquiring services
Amex (via Cybersource)
APM Enabler
Apple Pay
Astropay direct
Banorte bank (via Cybersource)
BNP (Via Computop)
Cal (Via Yaad Sarig)
Card present package
Chargeback prevention -Ethoca
Chargeback prevention -RDR
Credorax acquiring
Credorax on behalf
ECP
FirstData
Gateway Services
Google Pay
HPP Code
HPP Form
Isracard (Via Yaad Sarig)
Israeli acquiring - Leumi Card
Israeli Acquiring Processor (Via Yaad Sarig)
LPM Services

Product name
Nuvei
PayByLink
PayPal
Raiffeisen bank (via Cybersource)
Retry optimization
Smart guard
Spanish connectivity (Redsys)
Token
Token Account Updater
TSYS (via Cybersource)
UATP (via Cybersource)
Worldpay

Appendix C: Result Codes

This appendix lists all the possible result codes that can be returned in the “result” object and their corresponding descriptions:

Note: The result description is used for reference and may change from time to time.

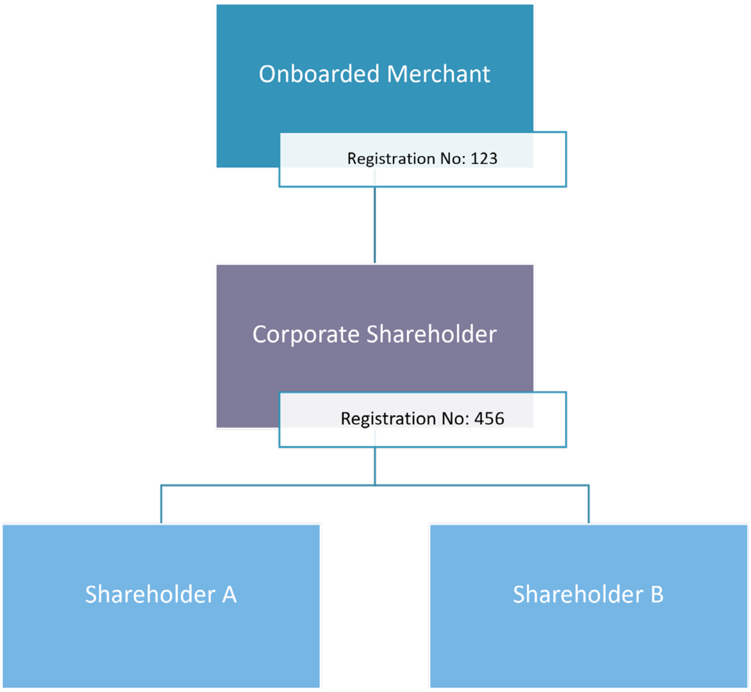
Result Code	Description
000	Request is successful
003	Merchant was created successfully for merchant “CEID-XXX”
004	Merchant was updated successfully for merchant “CEID-XXX”
005	Merchant was not created successfully for merchant “CEID-XXX”
006	Merchant was not updated successfully for merchant “CEID-XXX”
012	At least one of the following input parameters is malformed
014	At least one of the following input parameters is missing
016	Authentication failed due to invalid authentication credentials
020	Operation not allowed
009	Too many requests. We recommend an exponential backoff of your requests.
001	Failure due to a technical reason
007	Credorax request timeout
099	Request is being processed. A full response will be returned in a separate notification with the final response data

Appendix D: Related Corporate and Merchant Individual Scenarios

The following figures illustrates scenarios in which both a related_corporate object and a merchant_individual object are sent.

Scenario 1

In this scenario, the onboarded merchant has a corporate shareholder, which has two natural persons shareholders.



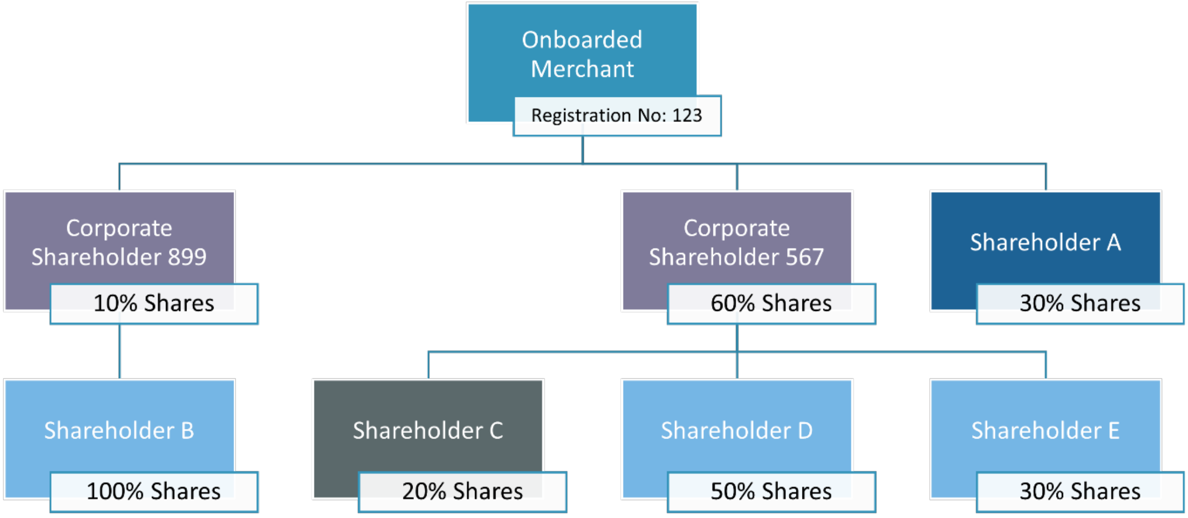
To depict this business structure through the API, send the following:

A related_corporate object for company 123	• company_registration_number: 123 • related_corporate: null
A related_corporate object for company 456	• company_registration_number : 456 • related_corporate: 123
A merchant_individual object for shareholder A	• related_corporate: 456
A merchant_individual object for shareholder B	• related_corporate:456

Scenario 2

In this scenario, the onboarded merchant has two corporate shareholders, and one natural person shareholder.

- Shareholder 1 is a natural person identified as beneficial owner, as he has more than 25% of the share.
- Corporate shareholder 899 has only 10% of the shares but needs to be recognized as an owner as it is a legal entity.
- Corporate shareholder 567 has 3 Shareholders:
  - Two (D+E) that are natural persons that are identified as beneficial owners.
  - One (C) who is a natural person that is not a beneficial owner as he has less than 25% of the shares.



To depict this business structure through the API, send the following:

A related_corporate object for company 123	• company_registration_number: 123 • related_corporate: null
A related_corporate object for company 899	• company_registration_number : 899 • related_corporate: 123
A related_corporate object for company 567	• company_registration_number : 456 • related_corporate: 123

A merchant_individual object for shareholder A	related_corporate: 123
A merchant_individual object for shareholder B	related_corporate: 899
A merchant_individual object for shareholder D	related_corporate: 567
A merchant_individual object for shareholder E	related_corporate: 567
No need to send an object for shareholder C, as he has less than 25% percent of the shares.	---

Appendix E: Operation codes

This appendix lists all the possible operation codes values that can be specified in the "allowed_operations " field of the product_configuration object

Operation code
[12] - Use Token - Auth
[13] - Use Token - Capture
[14] - Token Auth Void
[15] - Token Referral Credit
[16] - Block Token
[2] - Authorization
[23] - Create Token with Sale
[24] - Use Token – Recurring Sale
[28] - Create Token - Auth
[29] - Create Token – Capt
[3] – Capture
[301] - Fraud transaction update
[32] - Use Token - Recurring Auth
[33] - Use Token – Recurring Capt
[34] Referral CFT
[35] - Independent CFT
[37] - Create Token independent CFT
[38] - Use token independent CFT
[4] - Authorization Void
[46] - Use Token - Independent Credit
[5] - Referral Credit
[55] - ATC update
[6] - Independent Credit
[7] - Sale Void
[8] - Refund Void
[88] - 3DS only create token

Operation code
[89] - 3DS only use token
[9] - Capture Void
[92] - 3D Secure completion
[96] - versioning
[97] - Use token versioning
[98] - 3D Secure authentication Only

Appendix F: Onboarding Documents

This chapter lists the details for adding onboarding documents as part of the **upload document API request**.

Possible Values for the file_type Parameter

Category	Document Name	Code
Proof of ID	ID	1
Proof of ID	Passport	2
Proof of ID	Shareholder passport	36
Proof of Residency	Utility bill	3
Proof of Residency	Proof of address	13
Financial Documents	Bank statement	4
Financial Information	Processing history	7
Financial Information	Processing history (including chargebacks)	31
Financial Information	Financial Statements	99
Business Information	Certificate of registration	5
Business Information	Certificate of incorporation	12
Business Information	Register of shareholders	6
Business Information	Register of directors	14
Business Information	License to carry out the business	20
Business Information	License passporting	11
Business Information	Local gaming license	21
Business Information	Partnership agreement	24
Business Information	Parent company agreement	23
Business Information	Deed of trust	10
Business Information	Merchant declaration - Settlement to partner	35
Business Information	Board resolution confirming the settlement account	40
Business Information	Company Guarantee	26
Business Information	Power of attorney	29
Compliance Documents	PCI SAQ	9

Category	Document Name	Code
Compliance Documents	PCI AOC	16
Compliance Documents	Partnership PCI SAQ	27
Compliance Documents	Sole Trader PCI SAQ	28
Compliance Documents	Industry related questionnaire	18
Compliance Documents	Credorax Staged Digital Wallet Questionnaire	19
Compliance Documents	Declaration for merchants offering free trials/samples	33
Compliance Documents	Adult Compliance Assessment	43
Compliance Documents	Compliance assessment questionnaire for website's content	38
Compliance Documents	Enhanced due diligence	15
Compliance Documents	Enhanced due diligence – corporate shareholder	32
Compliance Documents	Certificate of good standing	30
Compliance Documents	Company AML policy	39
Financial Information	Split by MCC	37
Business Information	Business plan	25
Financial Information	Schematic transaction flow diagram	34

Required Documents

The list below consists of the preliminary list of KYC documents required from the merchant. Additional documents may be needed upon Shift4's review of the merchants.

Authorized Signatory

- Valid Proof of Identity- file code 1 or 2
- Proof of Residential Address (not older than 6 months)- file code 13
- Power of Attorney / Authorization to sign- file code 29

Majority Shareholder / UBO

- Valid Proof of Identity- file code 1 or 2
- Proof of Residential Address (not older than 6 months)- file code 13

Business Activity Documents

- Recent financials- file code 99
- PCI Documents- file code 9

- Business license (if relevant) - file code 20
- Processing history (last 6 months) - file code 7

Settlement

- Bank Statement in the name of the merchant- file code 4

Appendix G: Primary Sector Codes List

Numeric Code	Sector Name
001	Amusement Park or Circus
002	Bowling Alley
003	Café
004	Cleaner
005	Clothing Alterations & Repair
006	Cloud-based software (not games)
007	Computer Repair
008	Courier Services
009	Cruise Line
010	Cyberlockers
011	Dating Services
012	Dentist
013	Digital Goods (general)
014	Doctor (Chiropodist/Podiatrist)
015	Doctor (Cosmetic Surgeon)
016	Doctor (General Practitioner)
017	Doctor (Other)
018	Doctors (Chiroptractor)
019	Domain-Registration
020	Dry Cleaners
021	Electrician
022	Electronic Vehicle Charging
023	Electronics Repair (No Sales) - Not Small Appliances
024	Electronics Repair (No Sales) - Small Appliances
025	Estate Agent/Letting Agent
026	Fortune Tellers or Psychics
027	Garage (Body Repair)
028	Garage (Car Repairs/Servicing)

Numeric Code	Sector Name
029	Gardener
030	Golf Club (Private Members)
031	Golf Course (Public)
032	Health and Fitness Clubs
033	Hotel
034	Insurance Sales/Broker (face-to-face)
035	Insurance Sales/Broker (non face-to-face)
036	Insurance Underwriting
037	Laundry Services
038	Limousine Hire
039	Money Transfer
040	Nightclub
041	Nursing Services
042	Online or Streaming Games
043	Online or Streaming Media
044	Optician
045	Other
046	Painter/Decorator/General Contractor
047	Petrol Station
048	Plumber
049	Professional Sports Club
050	Pub
051	Public Transport - Bus
052	Public Transport - Ferry
053	Public Transport - Railway
054	Restaurant (Sit-down)
055	Restaurant (Takeaway)
056	Retail - Books
057	Retail - Building Materials
058	Retail - Department Store

Numeric Code	Sector Name
059	Retail - Florist
060	Retail - Garden Supplies
061	Retail - Hardware
062	Retail - Jewelry
063	Retail - Newsagent
064	Retail - Paint/Wallpaper
065	Retail - Pharmacy
066	Retail - Alcohol/Off-License
067	Retail - Antique Shops
068	Retail - Bakery
069	Retail - Bridal Wear
070	Retail - Butcher/Sales of Meat Products
071	Retail - Charity Shop
072	Retail - Children and Infant's Clothing & Accessories
073	Retail - Clock and Watch Sales and Repair
074	Retail - Clothing (Men's and Women's but not Children)
075	Retail - Clothing (Men's and Women's including Children)
076	Retail - Computer Peripheries and Software
077	Retail - Computer Software and Games
078	Retail - Dairy Products
079	Retail - Delicatessens
080	Retail - Discount Stores
081	Retail - Electronics Sales & Repair
082	Retail - Fishmonger
083	Retail - Fruit & Vegetables
084	Retail - Furniture
085	Retail - Game, Toy and Hobby Shops
086	Retail - General Store/Supermarket
087	Retail - Health Food/Vitamins and Supplements
088	Retail - Ice Cream/Yoghurt Sales

Numeric Code	Sector Name
089	Retail - Lingerie
090	Retail - Men's and Boy's Clothing & Accessories
091	Retail - Music/DVD store
092	Retail - Office Supplies and Stationery
093	Retail - Other
094	Retail - Other Clothing
095	Retail - Pushchairs, strollers, prams, etc
096	Retail - Riding Apparel (Horses or Motorcycle)
097	Retail - Secondhand Goods (General)
098	Retail - Shoes
099	Retail - Sportswear
100	Retail - Sweets/Snacks/Dried Fruit
101	Retail - Swimwear
102	Retail - Tailors
103	Retail - Tea and Coffee
104	Retail - T-shirts
105	Retail - Wigs, Toupees & Hair Extensions
106	Retail - Women's Accessories
107	Retail - Women's and Girl's Clothing
108	Subscriptions - Magazines etc
109	Subscriptions - Media/Video etc
110	Subscriptions - Other
111	Taxi
112	Travel Agent/Tour Operator
113	Tyre repair
114	Tyre sales
115	Utilities Payments
116	Vehicle respray/paint
117	Vehicle Sales (New and Used)
118	Vehicle Sales (Used only)

Numeric Code	Sector Name
119	Veterinarian
120	Web-hosting
121	Window Cleaner
122	Retail - Bicycle Shop
123	Health and Beauty Spas
124	Retail - Vehicle Parts
125	Retail - Vehicle Accessories & Equipment
126	Retail - Art Dealers and Galleries
127	Retail - Art and Craft Supplies
128	Retail - Fabric and Sewing
129	Caterers
130	Campsites
131	Shoe Repair and Cleaning
132	Hairdresser/Barber

Appendix H – Implementation Guidelines

This chapter lists best practices and guidelines for smooth onboarding and underwriting processes. It outlines what to pay attention to when sending values through the API, and answers some of the most common questions and faults partners come across. Following these guidelines will help make your merchant onboarding process frictionless as possible.

Data Alignment

Ensuring alignment between the information transmitted via the API and the accompanying proofing documents is crucial, as it mitigates underwriting complications and expedites the onboarding process significantly. When submitting the Bank account details, merchant individuals' details and business registration information, make sure that the details sent through the API match the supporting documents.

E.g.: The full name of the UBO should be transmitted exactly how it appears in the proof of ID.

Bank Account Guidelines

When sending the bank account for different types of merchants, follow the below guidelines:

Corporate	• Must be a business account. • The beneficiary's name must match the registered name of the merchant.
Sole Traders	• The bank account can be either business or private account. • The name of the entity registered with us must match the one in the bank account. *E.g.: If the merchant individual name is the one that appears on the bank statement, this name should appear in the beneficiary details.*

Merchant Individuals

When sending the merchant individuals for different types of merchants, follow the below guidelines:

Corporate	Fill in the details for all the individuals who are the owners and directors of that this business, to accurately depict the business structure.
Sole Traders	Only one individual is applicable. Refer to the Glossary for more information.

Related Corporate

It is important to send the related_corporate object to accurately depict the merchant's business structure. Shift4's underwriting process is based on the information sent through the API and includes examination of the merchant's business structure. Thus, not sending this object with all the necessary information will cause complications in the underwriting process and will prolong the onboarding process. For more information and examples on this object, refer to Appendix D – Related Corporate and Merchant Individuals Scenarios.

Merchant Unique Values

As part of the underwriting process, we ask for Maximum transaction value (max_trx_value) and for the expected monthly turnover (expected_monthly_turnover). These numbers should be accurate and reflect the merchant’s business genuinely. We recommend to not pre-populate these fields with generic number for all the merchants you onboard, as inaccurate numbers impact our assessment and can cause frictions in the Underwriting and Risk checks.

Change History

Version	Subject/Date	Description
1.4	February 2024	• Addition of SMB Audience and designated fields (tagged SMB) • New object: top_4_countries, on root level of 'create merchant' flow • Addition of Glossary of common terms • Addition of Appendix H – Implementation Guidelines • New fields on 'Create Merchant' flow: o On the root level: • avg_delivery_days • average_transaction_value • primary_payment_channel • purchase_charge_timing • primary_sector • New appendix (G) listing the sector and codes. o On merchant individual: • email_address • Updated the Onboarding documents list. • The code example of 'create merchant' is updated with the new objects and fields. • Change of requirement: Fee list object becomes optional.
1.3 rev 3	November 2023	Rebrand to Shift4
1.3 rev 2	August 2023	Minor changes to merchant_terms_identifier description
1.3 rev 1	August 2023	Added a missing parameter to the merchant_bank_accont object: merchant_terms_identifier
1.3	July 2023	Added pricing management functionality **merchant_bank_account object:** Change of parameter name from acquiring_pricing_id to partner_terms_identifier **merchant_requirement object:** Change of parameter name from acquiring_pricing_id to partner_terms_identifier New mandatory **pricing object**
1.2	April 2023	Submit merchant function

Version	Subject/Date	Description
1.1	March 2023	Get connectivity API Appendix F: onboarding documents list URL field type Apartment number field type
1.0	January 2023	First Release

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