OPERATING INSTRUCTIONS FOR THE POSTI SMARTSHP REST INTERFACE

Table of Contents

1. General

It is possible to make Posti SmartShip communicate with other IT systems (integration). The shipment information needed by Posti SmartShip in the integration is transmitted to the application electronically. Posti SmartShip saves the information in the shipment register and returns address labels for the saved shipments to the sending system in PDF format.

The shipment information from other IT systems needed for printing address labels (usually an operative system, such as order processing) is transmitted to Posti SmartShip as a JSON file. The detailed data content and structure of the file is described later in this document. The information is saved in the application through the REST WebService interface.

2. Data transfer

The Posti SmartShip REST interface is found at the address:https://api.unifaun.com/rs-extapi/v1.

The interface requires an HTTPS protocol in order to work.

3. Authentication

Authentication in the Posti SmartShip REST interface is implemented using http Basic authentication. You need API keys in order to use the interface. The API key ID is used as the username and a Secret ID as the password. The combined ID contains both the username and the password separated with a hyphen (16 + 24 characters).

API-avaimen tiedot

Takaisin Muokkaa Poista

Perustiedot

Tunnus	E7RV43LYK4KUGQDK
Salainen tunnus	2YOC7CSV44LE6N5WT2NA2ZWG
Yhdistetty tunnus	E7RV43LYK4KUGQDK-2YOC7CSV44LE6N5WT2NA2ZWG
Tila	Käytössä
Tyyppi	Web Service-kutsu (REST)
Muistiinpano	
Voimassaolevat IP-osoitteet	
Sähköposti	lasse@firma.fi
Developer-Id	0020014319
Automaattisesti luotu	Ei

Instructions for opening a Developer account. The Developer account also contains the API keys.

Instructions for ordering API keys for the customer.

4. Saving shipment information

SHIPMENTS REQUEST (POST)

With the shipment functionality, it is possible to print transport documents directly in PDF format. The PDF format is provided through the interface either as a URL or a Base64-coded record. PDF files created through the interface are available for retrieval for one hour and can be retrieved several times, where necessary.

The shipment request message consists of three main elements: pdfConfig, shipment and parcels.

4.1. pdfConfig element

PDF documents are created based on the data of the pdfConfig element. PDF files created through the interface are available for retrieval for one hour and can be retrieved several times, where necessary.

By default, PDF documents are returned to users as a URL through the interface. The URL of created PDF documents is found in the href field in the return message. PDF documents are also available Base64-coded using the inlinePdf parameter.

```
1   {
2       "pdfConfig": {
3           "target1XOffset": 0,
4           "target1YOffset": 0,
5           "target1Media": "thermo-225",
6           "target2XOffset": 0,
7           "target2YOffset": 0,
8           "target2Media": "laser-a4",
9           "target3XOffset": 0,
10          "target3YOffset": 0,
11          "target3Media": null,
12          "target4XOffset": 0,
13          "target4YOffset": 0,
14          "target4Media": null
15      },
```

The alignment of the printout can be edited horizontally using the target1XOffset parameter, where necessary.

The alignment of the printout can be edited vertically using the target1YOffset parameter, where necessary.

Available target1Media – target4Media parameters:
- **laser-a5** (Single A5 label on A4 paper)
- **laser-2a5** (Two A5 labels on A4 paper)
- **laser-a4** (Normal A4 used for waybills, customs declaration documents etc.)
- **thermo-se** (107 x 251 mm thermo STE label)
- **thermo-225** (107 x 225 mm thermo label)

4.2. Shipment element

The shipment element describes party information, the contract information to be used, the service and supplementary service information and customs declaration information, where necessary. Obligatory elements are the sender, the receiver, the senderPartners and the service.

```
16    "shipment": {
17        "sender": {
18            "name": "Posti Oy",
19            "address1": "Postintaival 7",
20            "zipcode": "00230",
21            "city": "HELSINKI",
22            "country": "FI",
23            "phone": "+35820077000",
24            "email": "consumerservice@posti.com"
25        },
26        "senderPartners": [{
27            "id": "POSTI",
28            "custNo": "623465"
29        }],
30        "receiver": {
31            "name": "Firma Oy",
32            "address1": "Palmuntie 57",
33            "zipcode": "20100",
34            "city": "TURKU",
35            "country": "FI",
36            "phone": "024896500",
37            "mobile": "0405731538",
38            "email": "info@firma.fi"
39        },
40        "orderNo": "Express-paketti DNG+Suuri 001",
41        "senderReference": "A reference",
42        "service": {
43            "id": "PO2102",
44            "addons": [{
45                "id": "DNG",
46                "declarant": "Firma Oy"
47            },
48            {
49                "id": "SPTR"
50            }]
51        },
```

4.2.1. Party information

The Sender and the Receiver element contain identical fields, because it is similar party information in view of the system. As for freight, a separate pick-up address (dispatch), delivery address (delivery) and the payer's party information (freightPayer) can be entered as party information for freight. The payer's party information is obligatory when Paid by other than sender has been selected as the supplementary service.

```
30        "receiver": {
31            "name": "Firma Oy",
32            "address1": "Palmuntie 57",
33            "zipcode": "20100",
34            "city": "TURKU",
35            "country": "FI",
36            "phone": "024896500",
37            "mobile": "0405731538",
38            "email": "info@firma.fi"
39        },
```

Fields essential for Posti's shipments:

- **name** *(string)*   Obligatory
- **address1** *(string)*   Obligatory
- **address2** *(string)*
- **zipcode** *(string)*   Obligatory
- **city** *(string)*   Obligatory
- **state** *(string)*

- **country** *(string)*   Obligatory
- **phone** *(string)*
- **e-mail** *(string)*   Used as the parameter for supplementary services, such as an electronic notice of arrival.
- **mobile** *(string)*   Used as the parameter for supplementary services, such as an electronic notice of arrival.

In addition, the party information contains the parameter **quickId** (string), by means of which the party information can be retrieved using the quick search value of the party information saved in Posti SmartShip. In that case, other fields need not be forwarded to the interface.

For instance, the sender information in the picture uses the information of the sender saved on the quick search value "1" in Posti SmartShip. If contract information has been saved in Posti SmartShip for the sender information, the contract information in Section 4.3.2 need not be inserted when using the quick search value.

```
1  {
2      "sender": {
3          "quickId": "1"
4      },
```

4.2.2. Selected pickup point

The information for the pickup point selected by the receiver is entered in the agent party element below the Shipment element. Posti recommends that the quickId field be used for transferring the information of the selected pickup point through the interface. The PUPcode of the Pickup point register is entered in the QuickId field.

PLEASE NOTE! Pickup point register information is also available using Posti SmartShip's Pickup point search function, instructions for which are available in Section 6.

```
1          "agent": {
2              "quickId": "002003200"
3          },
```

- **quickId** *(string)*

4.2.3. Contract information (senderPartners)

The contract information to be used is entered in the senderPartners element. This element must be used if the sender is using several pieces of contract information and quick search values are not in use.

The "POSTI" value is used as the logistics contract ID for Posti SmartShip's parcel and letter products. The logistics contract number is entered in the custNo field.

```
26          "senderPartners": [{
27              "id": "POSTI",
28              "custNo": "623465"
29          }],
```

The "ITELLALOG" value is used as the freight ID for freight products. The freight contract number is entered in the custNo field.

- **id** *(string)*   POSTI or ITELLALOG
- **custNo** *(string)*   Logistics or freight contract ID

4.2.4. Services and supplementary services

Services and supplementary services are entered in the service element. The service selected for the shipment is entered in the id field. The service codes and attributes of the services and supplementary services available in Posti SmartShip are found in the service list at the end of the document.

```
42          "service": {
43              "id": "PO2102",
44              "addons": [{
45                  "id": "DNG",
46                  "declarant": "Firma Oy"
47              },
48              {
49                  "id": "SPTR"
50              }]
51          },
```

The selected supplementary services and their attributes are entered in the addons element. The addons element is in tabular form, so it can be repeated, where necessary.

PLEASE NOTE! Some supplementary service attributes, such as the mobile phone number required by an electronic notice of arrival, can be obtained from the receiver's mobile field. Some supplementary service attributes, such as information on dangerous goods and customs declaration information, require an element of their own.

4.2.5. Ordering a pickup

Posti SmartShip can order a separate pickup for the shipment. The pickup ordering information is entered in the service element. When making a pickup order, the pickup date and the pickup timeframe pickupTimeFrom - pickupTimeTo must be entered in the system. The minimum timeframe must be two hours.

- **pickupBooking** (boolean)
- **pickupDate** (string)   YYYY-MM-DD
- **pickupTimeFrom** (string)   HH:MM:ss
- **pickupTimeTo** (string)   HH:MM:ss
- **pickupText1** (string)   Pickup instructions Obligatory
- **pickupMisc** (string)   Pickup reference

```
42          "service": {
43              "id": "PO2102",
44              "pickupBooking": true,
45              "pickupDate": "2016-09-23",
46              "pickupTimeFrom": "09:00:00",
47              "pickupTimeTo": "14:00:00",
48              "pickupText1": "Instruction",
49              "pickupMisc": "Reference"
50          },
```

4.2.6. Customs declaration information

With Posti SmartShip, it is possible to produce all documentation required for shipment customs declaration (CN22, CN23, Proforma) in connection with printing shipment transport documents. The information needed for generating customs declaration documentation is entered in a specific customsDeclaration element in the Shipment element.

```
1          "customsDeclaration": {
2              "invoiceType": "STANDARD",
3              "invoiceNo": "2016-04-28",
4              "importExportType": "PERMANENT",
5              "printSet": ["proformaposti"],
6              "lines": [{
7                  "statNo": "12345678",
8                  "copies": "1",
9                  "value": "100",
10                 "contents": "Books",
11                 "sourceCountryCode": "FI",
12                 "valuesPerItem": true
13             }]
14         },
```

Obligatory fields in the customs declaration documents:

Attribute	Description	CN22	CN23	Pro forma
printSet (string)	Customs declaration document type	cn22	cn23	posti pro forma
Invoice type (string)	Document type			STANDARD
invoiceNo (string)	Invoice number		X	X
currencyCode (string)	Currency code	X	X	X
importExportType (string)	Export / import type	X	X	X
generalNote1 (string)	Comments (44)			
generalNote2 (string)	Comments (44)			
generalNote3 (string)	Comments (44)			
generalNote4 (string)	Comments (44)			
statNo (string)	Goods code (33)	X	X	X
subStatNo1 (string)	Additional goods codes			
copies (integer)	Quantity			X
value (number)	Customs value (46)	X	X	X
contents (string)	Contents	X	X	X
netWeight (number)	Net weight	X	X	
sourceCountryCode (string)	Source country	X	X	X

4.2.7. Additional shipment information and references

Additional shipment information and reference information, such as the sender and receiver reference, order number and supplementary information are part of the shipment element. The sender's and receiver's references are fields with 17 characters.

```
40         "orderNo": "Express-paketti DNG+Suuri 001",
41         "senderReference": "A reference",
```

- **orderNo** *(string)*
- **senderReference** *(string)*
- **receiverReference** *(string)*
- **infocode** *(string)*   The info code is not shown in the item ID in Posti SmartShip
- **freeText1** *(string)*   Other information / transport instructions 30 characters
- **freeText2** *(string)*   Other information / transport instructions 30 characters
- **freeText3** *(string)*   Other information / transport instructions 30 characters

- **freeText4** *(string)*   Other information / transport instructions 30 characters

4.2.8. Other parameters in the shipment element

It is possible to set predefined information for shipments through the Posti SmartShip user interface. These "Printing favorites" can also be controlled through the interface using the **favorite** *(string)* parameter. With the Favorite field, reference is made to the name of the printing favorite, in which case the predefined information set for the printing favorite is added for the shipment.

4.3. Parcels element

Package shipment information is reported using the parcels element. The parcels element also contains the data attributes for dangerous goods. The parcels element is in tabular form, so it can be repeated if there are dangerous goods in several different packages, for example.

Posti SmartShip allows the possibility to enter package information for individual items or packages using the **valuePerParcel** (boolean) parameter. If the valuePerParcel is "true", weight information, for example, has been entered for each package i.e. copies value. If the valuePerParcel is "false", the weight information is for the whole shipment, so the weight information for one package is indicated as weight/number of packages.

```
52          "parcels": [{
53              "copies": "1",
54              "weight": "20",
55              "contents": "Stuff",
56              "valuePerParcel": true,
57              "dangerousGoods": {
58                  "unCode": "1234",
59                  "hazardCode": "1.1",
60                  "packageCode": "I",
61                  "description": "Dangerous stuff",
62                  "adrClass": "1",
63                  "netWeight": "12",
64                  "trCode": "E"
65              }
66          }]
67      }
68  }
```

Fields essential for Posti's shipments:
- **copies** *(integer)*   Number of packages   Obligatory
- **weight** *(number)*   Weight   Obligatory for freight and letter services
- **volume** *(number)*   Volume   Obligatory for the freight service
- **packageCode** *(string)*   Package type
- **length** *(number)*   Length
- **width** *(number)*   Width
- **height** *(number)*   Height
- **contents** *(string)*   Contents

4.3.1. Dangerous goods

Dangerous goods are indicated specific to package in the dangerousGoods element below the Parcels element. Dangerous goods can be indicated specific to package.

```
57            "dangerousGoods": {
58                "unCode": "1234",
59                "hazardCode": "1.1",
60                "packageCode": "I",
61                "description": "Dangerous stuff",
62                "adrClass": "1",
63                "netWeight": "12",
64                "trCode": "E"
65            }
66        }]
67    }
68 }
```

- **declarant** *(string)*   Goods holder   Obligatory
- **unCode** *(string)*   UN number   Obligatory
- **hazardCode** *(string)*   Secondary hazard class
- **packageCode** *(string)*   Package group
- **packageType** *(string)*   Package type
- **description** *(string)*   Official transport name   Obligatory
- **technicalDescr** *(string)*   Technical name
- **adrClass** *(string)*   Main hazard class   Obligatory
- **mpCode** *(string)*   Dangerous to the environment
- **note** *(string)*   Note
- **netWeight** *(number)*   Net weight   Obligatory
- **netVolume** *(number)*   Net volume   Obligatory
- **trCode** *(string)*   Tunnel restriction code
- **quantity** *(integer)*   Quantity

5. Return message

The Posti SmartShip return message contains information sent to the interface. Packages created by Posti SmartShip, and their item IDs (parcels), and links to printouts (pdfs).

```
1   [
2     {
3       "href": "https://smartship.test.unifaun.com/rs-extapi/v1/shipments/139657",
4       "id": "139657",
5       "status": "PRINTED",
6       "shipmentNo": null,
7       "orderNo": "Express-paketti DNG+Suuri 001",
8       "reference": "A reference",
9       "serviceId": "PO2102",
10      "parcelCount": 1,
11      "sndName": "Posti Oy",
12      "sndZipcode": "00230",
13      "sndCity": "HELSINKI",
14      "sndCountry": "FI",
15      "rcvName": "Firma Oy",
16      "rcvZipcode": "20100",
17      "rcvCity": "TURKU",
18      "rcvCountry": "FI",
19      "created": "2016-10-25T06:32:34.680+0000",
20      "changed": "2016-10-25T06:32:34.680+0000",
21      "shipDate": "2016-10-25T06:32:34.645+0000",
22      "returnShipment": false,
23      "normalShipment": true,
24      "consolidated": false,
25      "parcels": [
26        {
27          "parcelNo": "JJFI623465100029442281",
28          "returnParcelNo": null,
29          "reference": null
30        }
31      ],
32      "pdfs": [
33        {
34          "href": "https://smartship.test.unifaun.com/rs-extapi/v1/shipments/139657/pdfs/12859674",
35          "id": "12859674",
36          "description": "Label",
37          "pdf": null
38        },
39        {
40          "href": "https://smartship.test.unifaun.com/rs-extapi/v1/shipments/139657/pdfs/12859675",
41          "id": "12859675",
42          "description": "Doc",
43          "pdf": null
44        }
45      ],
46      "previousPdfs": null
47    }
48  ]
```

5.1. Information sent to the interface

The shipments request's return message returns the information of the shipment's parameters to the interface, and information on when the system accepted the order, created item IDs for it and generated printouts.

5.2. Packages created by the interface

The parcels element includes the item IDs of the packages in the shipment.

5.3. Printouts

Address labels and other transport documents, such as customs declaration documents, created by Posti SmartShip are found in the return message's pdfs element. The type of printout is shown in the Description field.

The Href field contains a link to the printout. PLEASE NOTE! Opening the printout link requires authentication using the same API keys by means of which the shipment was created.

6. Pickup point search

Pickup points search can be implemented via Posti Location Service or Unifaun PickupLocator interface.

6.1. Posti Location Service (free of charge)

https://api.posti.fi/api-locationservice.html

6.2. Unifaun PickupLocator (subject to a charge)
AGENTS REQUEST (GET)

Posti SmartShip also includes Posti's pickup point information. The nearest pickup points are searched based on the postal code search criterion with the help of a geocoded central point.

URL:
https://api.unifaun.com/rs-extapi/v1/addresses/agents?

Search parameters:
- countryCode   Country code, FI
- type   ITELLA = Posti outlets and pickup points, ITELLASP = Parcel Points
- zip   Postal code on the basis of which the nearest pickup points are searched for.

In this example, the nearest Parcel Points have been searched for using postal code 00210:
https://api.unifaun.com/rs-extapi/v1/addresses/agents?countryCode=FI&type=ITELLASP&zip=00210

In this example, the nearest Posti outlets and pickup points have been searched for using postal code 00210:
https://api.unifaun.com/rs-extapi/v1/addresses/agents?countryCode=FI&type=ITELLA&zip=00210
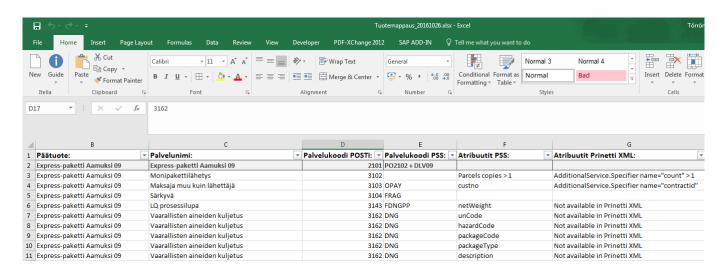
The id of the return message is used as the value of the quick quickId in Section 4.2.2.

7. Product codes and their mapping in Prinetti XML
The purpose of the product mapping document is to facilitate moving over from the use of the Prinetti XML interface to the Posti SmartShip interface. The document includes the service catalogue and supplementary services based on Posti's new service portfolio. In addition, the document describes the attributes required by services and supplementary services in Posti SmartShip and the Prinetti XML interface. Use the A column to filter services and their supplementary services.

Tuotemappaus_201
61026.xlsx

Päätuote:	Palvelunimi:	Palvelukoodi POSTI:	Palvelukoodi PSS:	Atribuutit PSS:	Atribuutit Prinetti XML:
Express-paketti Aamuksi 09	Express-paketti Aamuksi 09		2101 PO2102 + DLV09		
Express-paketti Aamuksi 09	Monipakettilähetys	3102		Parcels copies > 1	AdditionalService.Specifier name="count" > 1
Express-paketti Aamuksi 09	Maksaja muu kuin lähettäjä	3103	OPAY	custno	AdditionalService.Specifier name="contractid"
Express-paketti Aamuksi 09	Särkyvä	3104	FRAG		
Express-paketti Aamuksi 09	LQ prosessilupa	3143	FDNGPP	netWeight	Not available in Prinetti XML
Express-paketti Aamuksi 09	Vaarallisten aineiden kuljetus	3162	DNG	unCode	Not available in Prinetti XML
Express-paketti Aamuksi 09	Vaarallisten aineiden kuljetus	3162	DNG	hazardCode	Not available in Prinetti XML
Express-paketti Aamuksi 09	Vaarallisten aineiden kuljetus	3162	DNG	packageCode	Not available in Prinetti XML
Express-paketti Aamuksi 09	Vaarallisten aineiden kuljetus	3162	DNG	packageType	Not available in Prinetti XML
Express-paketti Aamuksi 09	Vaarallisten aineiden kuljetus	3162	DNG	description	Not available in Prinetti XML

8. Examples

The purpose of the examples is to illustrate the messages forwarded to the Posti SmartShip interface.

Posti_SmartShip_ex
amples.zip