



Postcode.nl Data API

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Subject: A webservice to retrieve updates to Postcode.nl database products.

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1 Version history

Version	Date	Changes
0.9	2015-07-10	Initial document creation. Added technical draft for API JSON-RPC methods.
1.0	2015-10-23	Updated "Subscription" service name, "data.postcode.nl" domain name. Added nullable field column. Expanded JSON-REST protocol description, adding error handling.
1.1	2016-12-16	Added download service description.

2 Subscription service

Postcode.nl database customers have subscriptions to one or more database products, called accounts, and get deliveries for these accounts at set intervals. The Data API allows customers to query which subscription accounts and deliveries are available to them, and where to download these deliveries.

2.1 Accounts

Each subscription is linked to an account. An account links to a specific product to a specific customer, and has a list of deliveries.

Fieldname	Type	Nullable	Description
accountId	int		Identifier for this specific account.
productCode	string		Unique string defining the product.
productName	string		Short description of the product.
periodBegin	string (YYYYMMDD)		Starting reference date of the subscription.
periodEnd	string (YYYYMMDD)		Ending reference date of the subscription.
lastDeliveryComplete	string (YYYYMMDD)	Yes	Last created 'complete' delivery, or null if none.
lastDeliveryMutation	string (YYYYMMDD)	Yes	Last created 'mutation' delivery, or null if none.
nextDeliveryComplete	string (YYYYMMDD)	Yes	Next scheduled 'complete' delivery, or null if none.
nextDeliveryMutation	string (YYYYMMDD)	Yes	Next scheduled 'mutation' delivery, or null if none.

2.2 Deliveries

Deliveries can come in the form of a complete (new) database delivery, or a mutation (update) to a previous database delivery. Complete deliveries have a target reference date, which denotes the date at which the data was measured. Mutation deliveries have both a source and a target reference date, and provide data to update an existing database from the source reference date to the target reference date.

Fieldname	Type	Nullable	Description
deliveryId	string		Identifier for this specific delivery.
accountId	int		Identifier for the account this delivery belongs to.
deliveryType	string		Either 'complete' or 'mutation'.
productCode	string		Unique string defining the product.
productName	string		Short description of the product.
deliverySource	string (YYYYMMDD)	Yes	Source reference date, or null if a complete delivery.
deliveryTarget	string (YYYYMMDD)		Target reference date.
downloadUrl	string		Url from which the delivery can be downloaded. (See section 5)
downloads	int		Number of times this delivery has been downloaded.

3 JSON-REST Protocol

The Data API is a RESTful API that uses the JSON-REST protocol over HTTPS to provide access to information to an authenticated remote client. REST is a stateless architecture which uses URIs to identify resources such as a list of accounts or a single delivery, and uses HTTP verbs such as GET and POST to retrieve and modify these resources. JSON is a language-independent data format used to structure data in both request and response bodies.

3.1 Authentication

HTTP Basic authentication is used, using client credentials (a key and a secret) as username and password. An authenticated client will have authorization to access subscriptions it is subscribed to, and deliveries of those subscriptions.

3.2 Error handling

JSON-REST uses HTTP status codes to signify success or failure. A "200 OK" status will contain the result of a successful request.

A "4xx Client Error" or "5xx Server Error" status code response *may* return a JSON response as its body, and will do so using Content-Type "application/json". The response body will contain an Exception object:

Fieldname	Type	Nullable	Description
exception	string		Human readable error message.
exceptionId	string		Exception identifier to categorize the error.
requestId	string	Yes	Identifier used to describe the request the error occurred in.

Example Path:

```
/rest/subscription/accounts/{nonExistingAccountId}
```

Example REST Request:

```
GET /rest/subscription/accounts/1234567 HTTP/1.1
Host: data.postcode.nl
Authorization: Basic 2eTpkU*****...
Content-Type: application/json
```

Example REST response:

```
HTTP/1.1 404 Not Found
Content-Type: application/json; charset=utf-8
Content-Length: ...

{
  "exception": "Cannot find subscription with id #1234567.",
  "exceptionId": "PostcodeNl_Controller_Subscription_UnknownSubscriptionException",
  "requestId": "EQJKVW"
}
```

4 JSON-REST Resource methods

JSON-REST protocol uses HTTP GET requests to retrieve information, which can be categorized into several categories of resource URIs, which we will call methods. Each method can be identified by its path template, and may have one or more optional query parameters.

The Data API production environment can be reached on the following domain:

```
https://data.postcode.nl
```

All paths mentioned in this section are relative to this domain name. The production environment can only be reached using HTTPS.

4.1 Subscription.accounts

This method returns a list of all subscriptions accounts available to the client, with filtering options.

Method resource template:

```
/rest/subscription/accounts
```

Parameter	Type	Location	Description
productCode	string	query	Show only accounts with this productCode.

Example REST Request:

```
GET /rest/subscription/accounts HTTP/1.1
Host: data.postcode.nl
Authorization: Basic 2eTpkU*****...
Content-Type: application/json
```

Example REST response:

```
HTTP/1.1 200 OK
Content-Type: application/json; charset=utf-8
Content-Length: ...

[
  {
    "accountId": 12646,
    "productCode": "GEO-4PP-Y",
    "productName": "Geographical wijkcode yearly updates.",
    "periodBegin": "20140101",
    "periodEnd": "20160101",
    "lastDeliveryComplete": "20140101",
    "lastDeliveryMutation": null,
    "nextDeliveryComplete": "20150101",
    "nextDeliveryMutation": null
  },
  {
    "accountId": 12647,
    "productCode": "PCTP-ACU-W",
    "productName": "PCTP-BAG \"ASCII-compatibel\" standard choice.",
    "periodBegin": "20140303",
    "periodEnd": "20140302",
    "lastDeliveryComplete": "20140303",
    "lastDeliveryMutation": "20150119",
    "nextDeliveryComplete": null,
    "nextDeliveryMutation": "20150126"
  }
]
```

4.2 Subscription.account

This method returns a single subscription account given an account identifier.

Method resource template:

```
/rest/subscription/accounts/{accountId}
```

Parameter	Type	Location	Description
accountId	string	path	Identifier of account to return

Example REST Request:

```
GET /rest/subscription/accounts/12647 HTTP/1.1
Host: data.postcode.nl
Authorization: Basic 2eTpkU*****...
Content-Type: application/json
```

Example REST response:

```
HTTP/1.1 200 OK
Content-Type: application/json; charset=utf-8
Content-Length: ...

{
  "accountId": 12647,
  "productCode": "PCTP-ACU-W",
  "productName": "PCTP-BAG "ASCII-compatibel" standard choice.",
  "periodBegin": "20140303",
  "periodEnd": "20140302",
  "lastDeliveryComplete": "20140303",
  "lastDeliveryMutation": "20150119",
  "nextDeliveryComplete": null,
  "nextDeliveryMutation": "20150126"
}
```


4.3 Subscription.deliveries

This method returns a list of all subscription deliveries, with filtering options.

Method resource template:

```
/rest/subscription/deliveries
```

Parameter	Type	Location	Description
accountId	int	query	Show deliveries for this account.
deliveryType	string	query	Show deliveries of this deliveryType.
from	string (YYYYMMDD)	query	Show deliveries with target date greater than or equal to this date.
to	string (YYYYMMDD)	query	Show deliveries with target date smaller than or equal to this date.
after	string (YYYYMMDD)	query	Show deliveries with target date greater than this date.

Example REST Request:

```
GET /rest/subscription/deliveries?deliveryType=mutation&after=20141229 HTTP/1.1
Host: data.postcode.nl
Authorization: Basic 2eTpkU*****...
Content-Type: application/json
```

Example REST response:

```
HTTP/1.1 200 OK
Content-Type: application/json; charset=utf-8
Content-Length: ...

[
  {
    "deliveryId": "aca76d844cbd999358475d9fe164d346",
    "accountId": 12647,
    "productCode": "PCTP-ACU-W",
    "productName": "PCTP-BAG \"ASCII-compatibel\" standard choice.",
    "deliveryType": "mutation",
    "deliverySource": "20150112",
    "deliveryTarget": "20150119",
    "downloadUrl": "https://retrieve.postcode.nl/aca76d844cbd999...",
    "downloads": 0
  },
  {
    "deliveryId": "80e5b3f23d20fc0e237e61b644d1e891",
    "accountId": 12647,
    "productCode": "PCTP-ACU-W",
    "productName": "PCTP-BAG \"ASCII-compatibel\" standard choice.",
    "deliveryType": "mutation",
    "deliverySource": "20150105",
    "deliveryTarget": "20150112",
    "downloadUrl": "https://retrieve.postcode.nl/80e5b3f23d20f...",
    "downloads": 1
  }
]
```

4.4 Subscription.delivery

This method returns a single delivery, given a delivery identifier.

Method resource template:

```
/rest/subscription/deliveries/{deliveryId}
```

Parameter	Type	Location	Description
deliveryId	string	path	Identifier of delivery to return.

Example REST Request:

```
GET /rest/subscription/deliveries/a4ddb036f28f232b40be469bb692cc88 HTTP/1.1
Host: data.postcode.nl
Authorization: Basic 2eTpkU*****...
Content-Type: application/json
```

Example REST response:

```
HTTP/1.1 200 OK
Content-Type: application/json; charset=utf-8
Content-Length: ...

{
  "deliveryId": "a4ddb036f28f232b40be469bb692cc88",
  "accountId": 12647,
  "productCode": "GEO-4PP-Y",
  "productName": "Geographical wijkcode yearly updates.",
  "deliveryType": "complete",
  "deliverySource": null,
  "deliveryTarget": "20150101",
  "downloadUrl": "https://retrieve.postcode.nl/a4ddb036f28f2...",
  "downloads": 5
}
```

5 Download service

Deliveries have a `downloadUrl` field, which provides a url to the download service where the delivery can be downloaded. This service does not require authentication, to allow for easy retrieval. Instead each account and each delivery has their own unique download url.

The download service production environment can be reached on the following domain:

```
https://retrieve.postcode.nl
```

5.1 Availability

The download service allows at least 50 downloads for each url, for at least 6 months. Beyond this amount it is possible that the download may be denied (Status code 403), and after this period is it possible the download may fail (Status code 500).

It is therefore recommended to not make repetitive downloading of the same delivery be part of client functionality, including unit and integration testing.

5.2 Error handling

The download service uses HTTP status codes to signify success or failure. A "200 OK" status will contain the result of a successful request. The body will contain a file, using Content-Type "application/octet-stream".

A "4xx Client Error" or "5xx Server Error" status code response *may* return a HTML response as its body, and will do so using Content-Type "text/html". The response body will describe the error further.

HTTP Code	Possible error description
403 Forbidden	Download denied.
404 Not Found	No download identifier given.
404 Not Found	Given download identifier is unknown.
500 Internal Server Error	A server error occurred.
500 Internal Server Error	Could not find file.
500 Internal Server Error	Could not send file.