

Bulk Order REST API

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1. Purpose

Provide Nest's external partners with a process submitting bulk orders for direct fulfillment on behalf of their customers via an API.

2. User story

1. User completes purchase flow on the partner website or acquires privilege to receive Nest device thru some other meanings.
2. Partner submits orders in bulk to the Nest store integration URL. Basic information to be provided: partner_order_number, sku, quantity, address (first, last, line1, line2, city, state, zip), language (ISO code), partner_order_date, signature required (yes/no, on/off, true/false are all accept values). No billing information required.
3. Nest processes orders, sends order confirmation/shipment emails and publishes processing reports.
4. Batch will be processed in 5 business days.
5. Nest invoices partner on the periodical basis.
6. Report data for batches and orders will be available indefinitely.

3. Prerequisites

Nest Labs sells devices in different markets (US, CA, UK, FR). Each market sells different set of devices.

Partner is not required to split files per country, however validation for the country/SKU pair will be performed by the Nest API. For ex., "order lines" that are trying to ship US product to Canada will be rejected.

4. Authentication

Digest auth to be used. See RFC 2617 for details.

5. Charset encoding

UTF-8 to be used for both requests and response.

6. CSV File Format

Field Name	Type	Length	Mandatory	Description
FIRST_NAME	text	255	Yes	
LAST_NAME	text	255	Yes	
ADDRESS1	text	255	Yes	
ADDRESS2	text	255	No	
CITY	text	255	Yes	
STATE	text	255	Yes	Accept values: ISO 3166-2:US , ISO 3166-2:CA , ISO 3166-2:GB i.e.: <i>US-CA</i> , <i>US-TX</i> , <i>CA-QC</i> (Quebec in Canada) and short iso (i.e. 2 symbols) codes supported: <i>CA</i> , <i>TX</i> , <i>QC</i>
POSTAL_CODE	text	255	Yes	ZIP code (for US) or POSTAL CODE (for Canada)
COUNTRY	text	255	No	Default value: <i>US</i> ; Accept values: ISO 3166-1 alpha-2
EMAIL	text	255	Yes	i.e.: <i>john@doe.com</i>
PHONE	text	255	Yes	i.e.: <i>650 000 000 ex. 123</i>
LANGUAGE_PREFERENCE	text	255	No	In case of empty or unparseable field value will be changed to store default value. Available options: <ul style="list-style-type: none"> • <i>US: EN</i> • <i>CA: EN/FR</i> • <i>UK: EN</i> Default values for stores: <ul style="list-style-type: none"> • <i>US: EN</i> • <i>CA: EN</i> • <i>UK: EN</i>
ORDER_NUMBER	text	255	Yes	Partner's generated order number used to identify an entry in the partner's Database. This data is not used by Nest batch process.
ORDER_DATE	text	255	Yes	Preferable format: ISO 8601 This data is not used by Nest batch process.
SKU	text	255	Yes	i.e. : The US store sells: <ul style="list-style-type: none"> • T3007ES (Nest Learning Thermostat) • S3000BWES (Nest Protect, Battery-powered, White) • S3000BBES (Nest Protect, Battery-powered, Black) • S3003LWES (Nest Protect, Line-powered, White) • S3003LBES (Nest Protect, Line-powered, black) • NC1102ES (Nest Cam) The CA store sells: <ul style="list-style-type: none"> • T3007EF (Nest Learning Thermostat) • S3000BWEF (Nest Protect, Battery-powered, White) • S3000BBEF (Nest Protect, Battery-powered, Black) • S3003LWEF (Nest Protect, Line-powered, White) • S3003LBEF (Nest Protect, Line-powered, black) • NC1102EF (Nest Cam) Field is mandatory and has to be aligned with the shipping address. Energy partners to use T3007ES in US and T3007EF in CA
QUANTITY	number	1 - 2147483647	Yes	Each product has own max quantity per order restriction

SIGNATURE_REQUIRED	text	255	No	<p>This is an optional field, to be used only in the case of resh Shipments when the initial package was unable to be delivered/returned to sender.</p> <p>The extra cost for a signature required shipment will be billed to partner.</p> <p>Default: <empty> -- standard ground shipping will be used</p> <p>false/no -- standard ground shipping will be used</p> <p>true/yes/on (case insensitive) -- cheapest delivery option WITH signature required will be used</p>
PDD1..PDD5	text	255	No	Partner defined data (PDD) fields that can be used to store up to 255 characters of data.

Example:

```
FIRST_NAME , LAST_NAME , ADDRESS1 , ADDRESS2 , CITY , STATE , POSTAL_CODE , COUNTRY , EMAIL , PHONE , LANGUAGE_PREFERENCE , ORDER_NUMBER , ORDER_DATE , SKU , QUANTITY , SIGNATURE_REQUIRED
John,Doe,20 Test Dr, ,Palo
Alto,US-CA,94301,US, john1@doe1.com,4085551234,EN-US,1234567890,2013-12-05,T200577,1,false
```

7. Field mapping

It's possible to override default field names. For example, if some legacy system is used and output CSV documents can't be modified. E.g.:

FNAME instead of FIRST_NAME

LNAME instead of LAST_NAME

Contact Nest support to add such field mapping. All further requests and responses will use specified names and will be internally mapped to fields from the table above.

8. Partner defined data (PDD) fields

It's possible to have up to 5 (five) custom fields that can contain any information passed from the partner(up to 255 characters). To add custom field corresponding mapping should be created via Nest support.

Field names to create mappings are PDD1..PDD5. If there is no explicit mapping defined it's not possible to save value in PDD field.

9. Collections

A `Collection Resource` is a resource containing other resources. It is known as a *Collection Resource* because it is itself a first class resource – it has its own attributes similar to any other resource in addition to the instances it contains.

Pagination

If a `Collection Resource` represents a large enough number of resource instances, it will not include them all in a single response. Instead a technique known as *pagination* is used to break up the results into one or more pages of data. You can request additional pages as separate requests. Each collection response is going to have **total_items** property indicating total number of entries in the collection.

Query Parameters

There are two optional query parameters that may be specified to control pagination:

- offset: The zero-based starting index in the entire collection of the first item to return. Default is 0.

- limit: The maximum number of collection items to return for a single request. Minimum value is 1. Maximum value is 100. Default is 25.

10. APIs

10.1 - GET /health

Used by ELB to determine online status of server.

Request:

body: empty

Response:

status code: 200

content type: "text/plain"

body: "ok"

Error Response:

status code: non-200

Notes:

10.2 - POST

/v1/bulk/<partner_name>/orders/<unique_alphanumeric_batch_id>

Request:

content-type: application/json // This is the preferred content type

or

content-type: text/csv // This content type supported only for legacy clients.

body (POST only)

json content-type:

JSON request

```
{
  "orders":[
    {
      "FIRST_NAME" : "John",
      "LAST_NAME": "Doe",
      "ADDRESS1": "123 Main St",
      "ADDRESS2": "apt 25",
      "CITY": "Palo Alto",
      "STATE": "CA", // both long (ISO_3166-2): US-CA, US-TX, US-NY, CA-QC (Quebec in
Canada) and short iso (i.e. 2 symbols) codes supported: CA, TX, QC.
      "COUNTRY": "US", // optional, "US" will be used if not provided, see ISO_3166-1
for the details
      "POSTAL_CODE": "94304", // for US ZIP+4 can be used
      "EMAIL": "john@doe.com",
      "PHONE": "650 000 000 ex. 123", // free format
      "LANGUAGE_PREFERENCE": "en-us", // available options for US are: en-us. "en",
"english" and any unrecognized values will be treated as "en-us". Canadian store
supports "en-ca", "fr-ca"
      "ORDER_NUMBER": "ENERGY_1234567", // random alpha_numeric value limited to 200
characters, free format, has to be unique per partner
      "ORDER_DATE": "2013-12-05T18:13:27+00:00", // ISO8601 date
      "SKU": "T200577", //US store sells: T200577 (thermostat), S1001BB, S1001BW,
S1001LB, S1001LW . CA store sells: T200477 (thermostat), S1002BB, S1002BW, S1002LB,
S1002LW
      "QUANTITY": 25, // store.nest.com qty limits apply
      "SIGNATURE_REQUIRED" : false
    }
  ]
}
```

text/csv: pre-negotiated CSV format

CSV request

```
FIRST_NAME, LAST_NAME, ADDRESS1, ADDRESS2, CITY, STATE, ZIP, EMAIL, PHONE, LANGUAGE_PREFERENCE,
ORDER_NUMBER, ORDER_DATE, SKU, QUANTITY, SIGNATURE_REQUIRED
John,Doe,20 Test Dr,,Palo
Alto,CA,94301,john1@doe1.com,4085551234,en-us,1234567890,2013-12-05,T200577,1,true
John2,Doe2,20 Test Dr,,Palo
Alto,CA,94301,john1@doe1.com,5085551234,en-us,1234567890,2013-12-05,T200577,1,false
John3,Doe3,20 Test Dr,,Palo
Alto,CA,94301,john1@doe1.com,6085551234,en-us,1234567890,2013-12-05,T200577,1,no
```

Response:

status code: 200

content type: "application/json"

body:

JSON response

```
{
  "batch_id": "orders_12_04_2013",
  "status": "PROCESSING",
  "href": "https://integration.store.nest.com/v1/bulk/energy/orders?batch_id=orders_12_04_2013", // partner always get freshest report by accesing provided URL, paging to be used
  "offset": 0,
  "limit": 100,
  "total_items": 300,
  "validation_result": {
    "message": "One or more entry has validation error",
    "status": "BATCH_VALIDATION_FAILED"
  },
  "items": [
    {
      "original_index" : "0",
      "order_number": ENERGY_123456,
      "status": "VALIDATION_ERROR",
      "comments" : "Validation failed and following error codes were returned:
NON_UNIQUE_ORDER_NUMBER",
      "validation_errors" : "NON_UNIQUE_ORDER_NUMBER"
    },
    {
      "original_index" : "1",
      "order_number": ENERGY_123457,
      "status": "VALIDATION_ERROR",
      "comments" : "Validation failed and following error codes were
returned:INVALID_ADDRESS",
      "validation_errors" : "INVALID_ADDRESS"
    },
    {
      "original_index" : "2",
      "order_number": ENERGY_323456,
      "nest_order_number": NG12336565, // will be available after internal
"ENTRY_ORDER_CREATED" step
      "status": "ENTRY_CREATED", //available values
[/ENTRY_VALIDATED/ENTRY_ORDER_CREATED/ENTRY_COMPLETED/ENTRY_VALIDATION_ERROR/ENTRY_MAX
_RETRY_EXCEEDED]
      "tracking_number": "", // will be available after shipment
      "carrier" : "UPS" // will be available after shipment
    }
  ]
}
```

CSV response

```
ORIGINAL_INDEX,ORDER_NUMBER,NEST_ORDER_NUMBER,TRACKING_NUMBER,STATUS,COMMENTS,VALIDATION_ERRORS
0,ENERGY_123456,,VALIDATION_ERROR,, "Validation failed and following error codes were returned: NON_UNIQUE_ORDER_NUMBER",NON_UNIQUE_ORDER_NUMBER
1,ENERGY_123457,NG236,VALIDATION_ERROR,, "Validation failed and following error codes were returned:INVALID_ADDRESS",INVALID_ADDRESS
2,ENERGY_323456,NG234,PROCESSING,,,
```

Error Response

duplicate batch_id failure:

status code: 400

content type: "application/json"

body: "{"error":"duplicate_request_id","error_description":"Duplicate request id"}"

wrong format failure:

status code: 400

content type: "application/json"

body: "{"error":"wrong_format","error_description":"Request has wrong format"}"

authentication failure:

status code: 400

content type: "application/json"

body: "{"error":"access_denied","error_description":"invalid user credentials"}"

unknown content type:

status code: 500

Notes: Orders will be processed line by line. Batch can be in either of two states : PROCESSING and COMPLETED. Batch will remain in PROCESSING state until there is at least one order in PROCESSING state. Once all orders COMPLETED/REJECTED/ERRORED_OUT batch will move into COMPLETED state.

In case if request contains more than 100 entries then only first 100 will be displayed. In order to get the rest of entries use paging mechanism described above.

CSV file has to have header.

10.3 – GET

/v1/bulk/<partner_name>/batches.csv?batch_id=orders_12_05_2013&status=<batch status>

Orders placed by partners to Nest's bulk store go through a progression of **statuses** during their lifecycle. These statuses, and the expected transition time between each state are described below.

Batch Status	Time to transition	Comments
BATCH_CREATED	Initial state	This is the initial status, which is assigned to a batch as soon as the batch is submitted to Nest by the partner.
BATCH_INVALID	Initial/final state	This status will be assigned if the batch_id parameter was used previously. A batch will also be assigned this status if all orders in the batch were invalid.
BATCH_PARTIALLY_VALIDATED	1-2 minutes after batch submission	This status will be assigned when there is at least one valid and invalid entry.
BATCH_VALIDATED	1-2 minutes after batch submission	This status will be assigned when all batch entries are validated. NOTE: invalid entries are skipped, so partner are responsible for checking batches to resubmit invalidated orders with corrected information.
BATCH_ORDERS_CREATED	1-2 minutes after batch validation	All batch entries are being assigned internal Nest order number. Orders will be scheduled for the fulfillment dispatch.
BATCH_COMPLETED	Typical case: <1 day Worst case: not more than 5 business days	Valid batch entries are shipped, tracking numbers assigned.

Value	Returned batches
Empty or parameter is absent	Batches are not filtered by status
BATCH_CREATED	Newly created not parsed batches
BATCH_INVALID	Batches in which all entries can't be parsed - Brendan what does this mean?
BATCH_PARTIALLY_INVALID	Batches with at least 1 valid and invalid entry - Brendan which "partially" status is correct?
BATCH_VALIDATED	Batches with validated entries (both valid and invalid. i.e. this status means that validation was performed on all entries)
BATCH_ORDERS_CREATED	Batches with orders created for valid entries. Note that if there are no valid entries batch still will be in BATCH_ORDERS_CREATED state
BATCH_COMPLETED	Batches with entries that have ENTRY_COMPLETED, ENTRY_VALIDATION_ERROR or ENTRY_MAX_RETRY_EXCEEDED status

Request:

Accepts: `application/json` // This is the preferred content type

or

Accepts: `text/csv` // This content type supported only for legacy clients.

Response:

status code: 200

content type: `"application/json"`

body:

JSON response

```
{
  "href": "https://integration.store.nest.com/v1/bulk/energy/batches?batch_id=orders_12_04_2013&status=COMPLETED&limit=100&offset=0",
  "offset": 0,
  "limit": 100,
  "total_items": 2000,
  "items": [
    {
      "batch_id": orders_12_05_2013,
      "status": "PROCESSING",
      "created_date": "ISO8601 date",
    },
  ]
}
```

Error Response

authentication failure:

status code: 400

content type: "application/json"

body: "{\"error\":\"access_denied\",\"error_description\":\"invalid user credentials\"}"

unknown error type:

status code: 500

Notes: Orders will be processed line by line. Batch can be in either of two states : PROCESSING and COMPLETED. Batch will remain in PROCESSING state until there is at least one order in PROCESSING state. Once all orders COMPLETED/REJECTED/FAILED batch will move into COMPLETED state.

batch_id and **status** are optional, i.e. <https://integration.store.nest.com/v1/bulk/energy/batches> will return all lifetime batches.

10.4 - GET `/v1/bulk/<partner_name>/orders.csv?from_date=<created from>&to_date=<created to>&status=<PROCESSING|COMPLETED|VALIDATION_ERROR|FAILED>&batch_id=<batch_id>&fields=batch_id,status,order_number,nest_order_number&order_number=<order_number>&partner_defined_field1=<value>...`

Possible values for **status** are:

Value	Returned batch entries
ENTRY_CREATED	Newly created not parsed entries
ENTRY_VALIDATED	The batch_entry is validated

ENTRY_ORDER_CREATED	The batch_entry is valid and an order is created
ENTRY_COMPLETED	The batch_entry is shipped and consignment email is sent at the customer's email in the entry
ENTRY_VALIDATION_ERROR	The batch_entry could not be parsed
ENTRY_MAX_RETRY_EXCEEDED	Maximum retries exceeded for trying to place the order for entry

Request:

Accepts: `application/json` // This is the preferred content type

or

Accepts: `text/csv` // This content type supported only for legacy clients.

Filters:

It's possible to filter results by order number or partner defined data(PDD) fields. In case if filtering is needed then corresponding parameter should be passed. In case if such parameter is present only matching entries will be returned.

For example if **order_number=SOME_VALUE** is passed in request URI, then only orders with order_number = SOME_VALUE will be returned. It's possible to filter results by several fields. All filters will be applied at the same time with "AND" operator, so entries

matching all restrictions will be returned. For example, if request URI will contain **custom_field1=valueA&custom_field_2=valueB** only those entries will be returned which have custom_field1=valueA **and** custom_field_2=valueB **at the same time**.

NOTE: If non-existing field name is passed as a filter it will result in 400 Bad Request Error, i.e. *request URI for this endpoint can't contain parameters other than order_number and custom field names defined by partner.*

Response:

status code: 200

content type: "application/json"

body:

response

```
{
  "batch_id": "orders_12_04_2013",
  "status": "PROCESSING",
  "href": "https://integration.store.nest.com/v1/bulk/energy/orders",
  "offset": 0,
  "limit": 100,
  "total_items": 300,
  "items":
  [
    {
      "batch_id": "orders_123"
      "order_number": ENERGY_123456,
      "status": "VALIDATION_ERROR",
      "comments" : "Duplicate order number, resubmit with different order number."
    },
    {
      "batch_id": "orders_234"
      "order_number": ENERGY_123457,
      "status": "VALIDATION_ERROR",
      "comments" : "Address is invalid"
    },
    {
      "batch_id": "energy_234",
      "order_number": ENERGY_323456,
      "status": "VALIDATION_ERROR" // as you note there is duplicate of the
order_number for orders that failed validation at first place, but were fixed
subsequently
    },
    {
      "batch_id": "energy_123",
      "order_number": ENERGY_323456,
      "nest_order_number": NG12336565,
      "status": "PROCESSING",
      "tracking_number": "", // will be available after shipment
      "carrier" : "UPS", // will be available after shipment
    }
  ]
}
```

CSV response

```
ORDER_NUMBER,NEST_ORDER_NUMBER,STATUS,TRACKING_NUMBER,COMMENTS
ENERGY_123,NG234,PROCESSING,,
ENERGY_124,NG235,COMPLETED,1Z95869586095,
ENERGY_125,NG236,VALIDATION_ERROR,,WRONG ADDRESS
ENERGY_125,,VALIDATION_ERROR,,DUPLICATE ORDER NUMBER
```

Error Response

authentication failure:

status code: 400

content type: "application/json"

body: "{ \"error\": \"access_denied\", \"error_description\": \"invalid user credentials\" }"

unknown content type:

status code: 500

Notes: Partner can re-submit orders with **VALIDATION_ERROR** state. **FAILED** orders can't be reprocessed and have to be resubmitted with new order #. There is a commitment that all batches will be processed within 5 business days.

status request parameter can have multiple comma separated statuses

fields request parameter is optional and can have ordered list of fields to be returned (applicable for both CSV and JSON). By default: "BATCH_ID,ORDER_NUMBER,NEST_ORDER_NUMBER,STATUS,TRACKING_NUMBER,COMMENTS" will be used.

from_date request parameter is optional. **Inclusive.**

to_date request parameter is optional. **Exclusive.**

status request parameter is optional

Filter parameters are optional and all lifetime orders will be returned (subject to paging limitations, see above)

.json or **.csv** can be appended to the end of the endpoint path to force corresponding content-type in the response.

11. Batch processing transition

Batch state	Time to transition	Comments
BATCH_CREATED	Initial state	As soon as batch submitted BATCH_CREATED state assigned.
BATCH_INVALID	Initial/final state	Batch is invalid if the batch_id was used previously
BATCH_PARTIALLY_VALIDATED	1-2 minutes after batch submission	Batch has at least one valid and invalid entry.
BATCH_VALIDATED	1-2 minutes after batch submission	All batch entries are being validated, the invalid entries are skipped.
BATCH_ORDERS_CREATED	1-2 minutes after batch validation	All batch entries are being assigned internal Nest order number. Orders will be scheduled for the fulfillment dispatch.
BATCH_COMPLETED	not more than 5 business days	Valid batch entries are shipped, tracking numbers assigned. Future release: serial numbers are available for the partners.

12. E-mail reporting

Email/sftp reports will be pushed to the partners on each batch state transition. Partner is requested to provide an e-mail alias for recipient of state transition reports (i.e. nest-orders@partnername.com)

13. Multi-product / Multi-SKU Orders

Nest's bulk store allows Nest partners to submit multi-product / multi-SKU orders, in which a single customer receives multiple Nest products (a specific Nest product is referenced by its unique SKU). An example of a multi-product order is a customer who is receiving multiple Nest products

(i.e. one Nest Thermostat and one Nest Protect) as part of a bundled offer. To submit a multi-product order, the following procedure can be used:

1. Submit two orders in a single batch with an identical 'ORDER_NUMBER' field, as shown below. **ORDER_NUMBER in this example is 1234567.**

```
FIRST_NAME, LAST_NAME, ADDRESS1, ADDRESS2, CITY, STATE, POSTAL_CODE, COUNTRY, EMAIL, PHONE  
, LANGUAGE_PREFERENCE, ORDER_NUMBER, ORDER_DATE, SKU, QUANTITY, SIGNATURE_REQUIRED  
JOHN, DOE, 123 MAIN ST, APT  
3400, HOUSTON, TX, US, 77054-3230, johndoe@nestlabs.com, 5555555555, EN, 1234567, 01/02/20  
15, NestProductSKU0, 1, false  
JOHN, DOE, 123 MAIN ST, APT  
3400, HOUSTON, TX, US, 77054-3230, johndoe@nestlabs.com, 5555555555, EN, 1234567, 01/02/20  
15, NestProductSKU1, 1, false
```

2. Multi-SKU orders must have same customer name, shipping address, contact info, order date, language preference and signature requirement. If any field is mismatched, all entries are invalidated and not processed.
3. Multi-SKU orders must be uploaded in the same, single batch. If they exist in multiple batches, SKUs in first batch will be processed and SKUs in other batches will be invalidated.