### **Tutorial on Lalamove Webhook**

Lalamove Developers
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## **Objectives**

This deck explains the details of Lalamove's webhook in Sandbox and Production



webhook.site to demonstrate the idea

- We will demonstrate 2 ways of setting up the webhook:
  - Through API, OR
  - Through Partner Portal



## **Setup Option 1: API**

- Call PATCH /v3/webhook:
  - Set the URL depending on the environment that you are currently configuring, i.e:
    - Sandbox: https://rest.sandbox.lalamove.com/v3/webhook
    - Production: <a href="https://rest.lalamove.com/v3/webhook">https://rest.lalamove.com/v3/webhook</a>
  - Include your Webhook URL in the body:

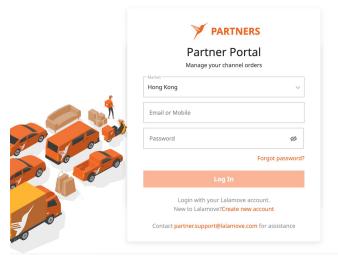
```
{
    "data": {
        "url": "YOUR_WEBHOOK_URL"
    }
}
```

Make sure your Webhook URL is sending '200' to our requests



## **Setup Option 2: Partner Portal**

- Navigate to <u>partnerportal.lalamove.com</u>
- 2. Select the market that you are granted access
- 3. Login with the provided credentials







## **Setup Option 2: Partner Portal**

- 1. API credentials, commonly known as key AND secret
- 2. Go to Lalamove' Partner Portal (partnerportal.lalamove.com)
  - Choose either environment (Sandbox or Production)



3. For demonstration, we will use the Sandbox environment



## **Setup Option 2: Partner Portal**

4. Click "Developers" at the header bar



- 5. Enter the Webhook URL, click "Save"(We use webhook.site for the demonstration)
- 6. Adjust the Webhook Version as preferred. For this demonstration, we will use 'Version 3)





## Receiving the webhooks

- 1. For initial connection, make sure to send status 200 even when Lalamove doesn't send anything in the body. It is recommended that you send 200 before any complex logic.
- Once the connection is successful, make sure to validate the receive Webhook update's signature. (Our Webhook fields are subject to change, so please don't hard code any fields)
- 3. Whenever there is a status update, our Webhook will try to send **the update 10 times within 24 hour day window**. We will try again with exponential delay in between. By the 10th status update, if we still don't receive any, we will disable the URL. At this point, the client is responsible for going back to Partner Portal to update their Webhook URL.
- 4. Our Webhooks may not be sent in the right chronological order, so please make sure to sort them in the right order based on the timestamp after you've received them
- 5. You can also check the Webhook Attempts through Webhook Tab in Partner Portal





Validating the webhooks

```
HTML ▼
      <script src="https://cdn.bootcdn.net/ajax/libs/crypto-js/4.0.0/crypto-js.min.js"></script>
JavaScript + No-Library (pure JS) ▼

    Tidy

    v const WEBHOOK_INFO =
         signature: "9e7fa131566805e8b37635745fb99c548970b4794ff6f087cfaddc83a0cdae91",
        eventId: "1E7FD34C-E699-C7A9-6534-98D215ZAEF04",
         eventType: "DRIVER_ASSIGNED",
         eventVersion: "v3".
            orderId: "151790302296"
             name: "TestDriver 88888",
             phone: "+85288888888",
            plateNumber: "VP7815702",
                                                                                                                   verifyResult: true
          location: {
             "lna": 114.0551593
           updatedAt: "2022-04-22T11:09.00Z"
       const HTTP_VERB = "POST"; // hard code
      const PATH = "/e44cc811-f4c2-40cd-8507-20d5eca234db"; // the path of you webhook url
      const BODY = JSON.stringify(WEBHOOK_INFO.data);
      const rawSignature = `${WEBHOOK_INFO.timestamp}\r\n${HTTP_VERB}\r\n${PATH}\r\n\r\n${BODY}`;
      const SIGNATURE = CryptoJS.HmacSHA256(rawSignature, API_SECRET).toString();
      const verifyResult = SIGNATURE === WEBHOOK_INFO.signature;
```

- 1 Check whether this apiKey is the same
- Insert your API Secret
- Insert your URL path after the root domain

  (ex:https://abc.com/lalamove/webbook)
- If two signatures are identical, then it's a valid Lalamove Webhook update

Link to the code



### When will Lalamove push message to your webhook?

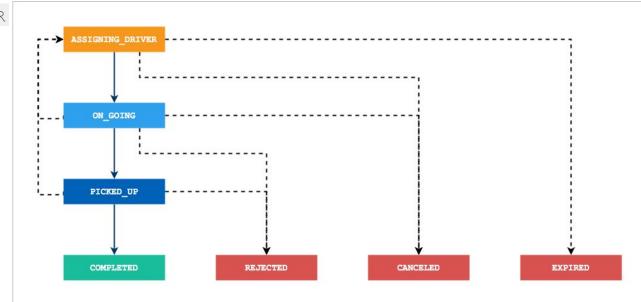
- 8. You will receive a webhook push if any of the followings happen to your orders:
  - a. Status Change (ORDER STATUS CHANGED)
  - b. Driver Assigned (DRIVER ASSIGNED)
  - c. Order Amount Changed (ORDER\_AMOUNT\_CHANGED) i.e: Priority fee added
  - d. Order Replaced (ORDER REPLACED)
  - e. Wallet Balance Changed (WALLET BALANCE CHANGED)
  - f. Order Edited (ORDER EDITED)



### Status Change (ORDER\_STATUS\_CHANGED)

ORDER STATUS CHANGED has 7 different statuses

- a. ASSIGNING\_DRIVER
- b. ON GOING
- c. PICKED UP
- d. COMPLETED
- e. EXPIRED
- f. CANCELED
- q. REJECTED





## **General Updates in V3**

- New eventType: Driver Assigned (DRIVER\_ASSIGNED) and Order Edited (ORDER EDITED) are added
- eventVersion field is populated based on the Webhook version in Partner Portal
- updatedAt is taken is placed right under data section
- For order\_status\_changed
  - o id is updated to become orderId to align with V3 API specification.
  - o city is updated to become market to align with V3 API specification.
  - o createdAt and scheduleAt are added to order.



# ORDER\_STATUS\_CHANGED



### ORDER\_STATUS\_CHANGED: ASSIGNING\_DRIVER (v3)

```
"apiKey": "pk_test_c98241026e7b9a0b14ca5d6c8c7b4b9b",
  "timestamp": 1650553157,
  "signature": "571f1aa89dd301c1ab78e2e26aefb3cb4e9767ba0b35c6d31b4704fbb1615f15",
  "eventId": "06F6465C-9E9D-630D-2138-4EDD1174CEAA",
 "eventType": "ORDER_STATUS_CHANGED",
 "eventVersion": "v3",
  "data": {
   "order": {
     "orderId": "153590306286",
     "market": "HK HKG",
     "driverId": "",
     "shareLink": "https://share.sandbox.lalamove.com/?HK100220421225917404910010098642208&lang=zh_HK&source=api_wrapper&sign=d195ceab8afa788ac
9d757c4edab22bc".
      "status": "ASSIGNING DRIVER",
     "previousStatus": "",
     "createdAt": "2022-04-21T22:59.00Z",
     "scheduleAt": "2022-04-21T22:58.00Z"
    "updatedAt": "2022-04-21T22:59.00Z"
```



### ORDER\_STATUS\_CHANGED: ON\_GOING (V3)

```
"apiKey": "pk_test_c98241026e7b9a0b14ca5d6c8c7b4b9b",
 "timestamp": 1650553235,
 "signature": "bae5523bfac2925ca8c02e66a08f9d8b333b5bedd5338479fc118d1e37447d4d".
 "eventId": "9F8CFF06-27D1-F6E8-49CA-8A54E4317EDD",
 "eventType": "ORDER_STATUS_CHANGED",
 "eventVersion": "v3",
 "data": {
   "order": {
     "orderId": "153590306286",
     "market": "HK_HKG",
     "driverId": "79973",
     "shareLink": "https://share.sandbox.lalamove.com/?HK100220421225917404910010098642208&lang=zh_HK&source=api_wrapper&sig
n=d195ceab8afa788ac9d757c4edab22bc".
     "status": "ON_GOING",
      "previousStatus": "ASSIGNING DRIVER",
     "createdAt": "2022-04-21T22:59.00Z".
     "scheduleAt": "2022-04-21T22:58.00Z"
    "updatedAt": "2022-04-21T23:00.00Z"
```



### ORDER\_STATUS\_CHANGED: PICKED\_UP (v3)

```
"apiKey": "pk test c98241026e7b9a0b14ca5d6c8c7b4b9b",
 "timestamp": 1650553585.
 "signature": "06accd20a4a37c9de499d5457c426f33e15df5952b0f3b6ecc50df9e924245ca",
 "eventId": "494AC431-23F0-3904-EAD7-7073BF6D5049",
 "eventType": "ORDER_STATUS_CHANGED",
 "eventVersion": "v3",
 "data": {
   "order": {
     "orderId": "153590306286",
     "market": "HK HKG",
     "driverId": "79973",
     "shareLink": "https://share.sandbox.lalamove.com/?HK100220421225917404910010098642208&lang=zh_HK&source=api_wrapper&sig
n=d195ceab8afa788ac9d757c4edab22bc",
      "status": "PICKED_UP",
      "previousStatus": "ON_GOING",
      "createdAt": "2022-04-21T22:59.00Z",
     "scheduleAt": "2022-04-21T22:58.00Z"
    "updatedAt": "2022-04-21T23:06.00Z"
```



### ORDER\_STATUS\_CHANGED: COMPLETED (v3)

```
"apiKey": "pk test c98241026e7b9a0b14ca5d6c8c7b4b9b",
 "timestamp": 1650553589.
 "signature": "2a424fc008c3aad5622b95ae4bceb2e5aeb6e81e6796563a0fc78ef86a4ee611",
 "eventId": "305B2D77-C4EA-FC74-9206-B1C1B5B0C5B8".
 "eventType": "ORDER_STATUS_CHANGED",
 "eventVersion": "v3",
 "data": {
   "order": {
     "orderId": "153590306286",
     "market": "HK HKG",
     "driverId": "79973",
      "shareLink": "https://share.sandbox.lalamove.com/?HK100220421225917404910010098642208&lang=zh HK&source=api wrapper&sig
n=d195ceab8afa788ac9d757c4edab22bc",
      "status": "COMPLETED",
      "previousStatus": "PICKED_UP",
     "createdAt": "2022-04-21T22:59.00Z",
     "scheduleAt": "2022-04-21T22:58.007"
    "updatedAt": "2022-04-21T23:06.00Z"
```



### ORDER\_STATUS\_CHANGED: EXPIRED (v3)

```
"apiKey": "pk test c98241026e7b9a0b14ca5d6c8c7b4b9b",
  "timestamp": 1650530949,
  "signature": "c7da879be1144055ad87d5f2598b1a919d48cab43d4a3cccefd9ad421fac61b6",
  "eventId": "ECB1D9E7-EAAF-925E-0757-748B0A14EDC1",
  "eventType": "ORDER STATUS CHANGED",
  "eventVersion": "v3".
  "data": {
    "order": {
      "orderId": "155490308236",
      "market": "HK_HKG",
      "driverId": "".
      "shareLink": "https://share.sandbox.lalamove.com/?HK100220421161458370910010087364673&lang=zh HK&source=api wrapper&sig
n=fbc49601a3bef89c7a50792adb772bc4",
      "status": "EXPIRED",
      "previousStatus": "ON_GOING",
      "createdAt": "1970-01-01T08:00.00Z".
      "scheduleAt": "2022-04-21T16:14.00Z"
    "updatedAt": "2022-04-21T16:49.00Z"
```



### ORDER\_STATUS\_CHANGED: CANCELED (v3)

```
"apiKey": "pk test c98241026e7b9a0b14ca5d6c8c7b4b9b",
 "timestamp": 1650560644,
 "signature": "12a65bc5232550213f824986ade7e537c7cc1e1c77f72e3767ff93001108f81d",
 "eventId": "B7C0FFBC-4AF0-2595-4564-F7AE0228AAE1",
 "eventType": "ORDER STATUS CHANGED",
 "eventVersion": "v3",
 "data": {
   "order": {
     "orderId": "159690308216",
     "market": "HK_HKG",
     "driverId": "",
     "shareLink": "https://share.sandbox.lalamove.com/?HK100220422010355309910010073062883&lang=zh_HK&source=api_wrapper&sig
n=2060f8858ff2665c829c842b0f820da7",
     "status": "CANCELED",
     "previousStatus": "ASSIGNING DRIVER",
     "createdAt": "2022-04-22T01:03.00Z",
     "scheduleAt": "2022-04-22T01:03.00Z",
     "cancelParty": "USER",
     "cancelReason": "other"
    "updatedAt": "2022-04-22T01:04.00Z"
```

cancelPartyare added to order.



### ORDER\_STATUS\_CHANGED: REJECTED (v3)

```
"apiKey": "pk_test_c98241026e7b9a0b14ca5d6c8c7b4b9b",
  "timestamp": 1650560079,
  "signature": "286cf3aaeaa89b7d11937d338ec98691cdbd9e4850ddeabcd57fc763ab766bd7",
  "eventId": "DB13842C-A769-9835-7D1B-AB13BCCA0538",
  "eventType": "ORDER_STATUS_CHANGED",
  "eventVersion": "v3".
  "data": {
   "order": {
     "orderId": "157690302216",
     "market": "HK_HKG",
     "driverId": "",
     "shareLink": "https://share.sandbox.lalamove.com/?HK100220422004154925910010088503903&lang=zh_HK&source=api_wrapper&sig
n=08d542efd02c5dcb4d2cfb272f4776c7",
     "status": "REJECTED",
     "previousStatus": "ON_GOING",
     "createdAt": "2022-04-22T00:41.00Z",
     "scheduleAt": "2022-04-22T00:41.00Z"
    "updatedAt": "2022-04-22T00:54.00Z"
```



# DRIVER\_ASSIGNED



### DRIVER\_ASSIGNED (v3)

```
"apiKey": "pk test c98241026e7b9a0b14ca5d6c8c7b4b9b",
"timestamp": 1650553235,
"signature": "e649f6f1a14084f7ac764fb7e916b9557bd31531dbf6721baf912b702defcc25",
"eventId": "9F8CFF06-27D1-F6E8-49CA-8A54E4317EDD",
"eventType": "DRIVER_ASSIGNED",
"eventVersion": "v3",
"data": {
  "order": {
    "orderId": "153590306286"
  "driver": {
   "driverId": "79973",
    "name": "TestDriver 88888",
    "phone": "+85288888888",
   "plateNumber": "VP7815702",
    "photo": ""
  },
  "location": {
    "lat": 22.5758304,
    "lng": 114.0551593
  "updatedAt": "2022-04-21T23:00.00Z"
```

- This is a new updated Type introduced in Webhook Version 3
- updatedAt is taken out from order object to be right under data section



## ORDER\_AMOUNT\_CHANGED



### ORDER\_AMOUNT\_CHANGED (v3)

```
"apiKey": "pk_test_c98241026e7b9a0b14ca5d6c8c7b4b9b",
"timestamp": 1650559334,
"signature": "3a046d7d7ef8bb6dd8e335f7d554580c3152ee8a400990ab563445ff3167f3e3",
"eventId": "CE12C111-FA53-3258-14D7-EAABC0DC4028",
"eventType": "ORDER_AMOUNT_CHANGED",
"eventVersion": "v3",
"data": {
  "order": {
   "orderId": "157690302216",
   "market": "HK HKG",
   "status": "ASSIGNING DRIVER",
   "price": {
     "currency": "HKD",
     "subTotal": "103",
     "priorityFee": "20",
      "totalPrice": "123"
  "balance": {
    "currency": "HKD",
   "amount": "721"
  "updatedAt": "2022-04-22T00:42.00Z"
```



## WALLET\_BALANCE\_CHANGED



### WALLET\_BALANCE\_CHANGED (v3)

```
{
   "apiKey": "pk_test_c98241026e7b9a0b14ca5d6c8c7b4b9b",
   "timestamp": 1650550936,
   "signature": "4bfa237c9cb7818b107cae9643ffd4f112555aeaa6ca4313d7277ae765705cf1",
   "eventId": "F938A456-83B2-7804-EB14-4B9DBB9E99D6",
   "eventType": "WALLET_BALANCE_CHANGED",
   "eventVersion": "v3",
   "data": {
        "balance": {
            "currency": "HKD",
            "amount": "844"
        },
        "updatedAt": "2022-04-21T22:22.00Z"
    }
}
```



## Cancel-and-Clone



#### **Cancel-and-Clone**

- Currently, Lalamove cancels an old order and creates a new order by cloning when **post-match adjustments** (ex: driver waiting fees) need to be made for API orders.
- Previously clients didn't have an effective way of tracking which new orders were cloned from what.
- To solve this, we have also created Webhook updates for Cancel-and-Clone orders.
   We will sequentially send updates of two order statuses (Canceled & Assigning) and ORDER\_REPLACED event to indicate the replacement

#### **Normal Cancellation**

This is what clients would see when they cancel the order themselves

```
"apiKey": "pk_test_c98241026e7b9a0b14ca5d6c8c7b4b9b",
 "timestamp": 1650560644,
 "signature": "12a65bc5232550213f824986ade7e537c7cc1e1c77f72e3767ff93001108f81d",
 "eventId": "B7C0FFBC-4AF0-2595-4564-F7AE0228AAE1",
 "eventType": "ORDER_STATUS_CHANGED",
 "eventVersion": "v3",
 "data": {
   "order": {
     "orderId": "159690308216",
     "market": "HK_HKG",
     "driverId": "".
     "shareLink": "https://share.sandbox.lalamove.com/?HK100220422010355309910010073062883&lang=zh HK&source=api wrapper&sig
n=2060f8858ff2665c829c842b0f820da7".
     "status": "CANCELED",
     "previousStatus": "ASSIGNING DRIVER",
     "createdAt": "2022-04-22T01:03.00Z",
     "scheduleAt": "2022-04-22T01:03.00Z",
     "cancelParty": "USER",
     "cancelReason": "other"
   "updatedAt": "2022-04-22T01:04.00Z"
```

1 Note that the "cancelReason" is "other" (and doesn't have "remark" field)



### **Step 1: Cancel existing order**

```
"apiKey": "pk_test_c98241026e7b9a0b14ca5d6c8c7b4b9b",
 "timestamp": 1650609923,
 "signature": "8f247e5ed1d8adde1e36d52ea4add0cfa3097bdad407862a96c3caab9d3e8428",
 "eventId": "989D7353-1E18-7D01-D2EA-4492335FB083",
  "eventType": "ORDER_STATUS_CHANGED",
  "eventVersion": "v3",
 "data": {
   "order": {
     "orderId": "151890303296",
     "market": "HK_HKG",
     "driverId": "",
     "shareLink": "https://share.sandbox.lalamove.com/?HK100220422144418750910010058995474&lang=zh_HK&source=api_wrapper&sign=4d0fc6ec06602a1
b4e7e2216b1b3cb5b".
     "status": "CANCELED",
     "previousStatus": "ON_GOING",
     "createdAt": "2022-04-22T14:44.00Z".
     "scheduleAt": "2022-04-22T14:45.00Z",
     "cancelParty": "LALAMOVE_CUSTOMER_SUPPORT",
     "cancelReason": "Driver was too far away"
    "updatedAt": "2022-04-22T14:45.00Z"
```

Note that it will include the "cancelledReason"



### Step 2: Create (Clone) new order

```
"apiKey": "pk test c98241026e7b9a0b14ca5d6c8c7b4b9b",
  "timestamp": 1650609968,
 "signature": "933e8aab70325f7117032ffccb57a6dfc0bf2cbab95a2ccc8ddc312eb6634b5b",
  "eventId": "A228619B-4A23-3BA1-E178-D3CD4B68219B",
  "eventType": "ORDER_STATUS_CHANGED",
  "eventVersion": "v3",
  "data": {
   "order": {
     "orderId": "154890304296",
     "market": "HK HKG",
     "driverId": "",
     "shareLink": "https://share.sandbox.lalamove.com/?HK100220422144607920910010069479855&lang=zh_HK&source=api_wrapper&sign=50940f2a65d07967e
96590a1bcbf8374",
     "status": "ASSIGNING_DRIVER",
     "previousStatus": "",
     "createdAt": "2022-04-22T14:46.00Z",
     "scheduleAt": "2022-04-22T14:55.00Z"
    "updatedAt": "2022-04-22T14:46.00Z"
```

1 Note that there may be several status updates of new order to match the previous order status (ASSINGING\_DRIVER, ON\_GOING, and etc.)



### **Step 3: Replacement**

```
{
    "apiKey": "pk_test_c98241026e7b9a0b14ca5d6c8c7b4b9b",
    "timestamp": 1650610078,
    "signature": "0165f4a507eca3370582da4c237a506dd14d831c915b9a42a7195e8cd66f7f93",
    "eventId": "A5BFA90E-4578-5028-CD33-28D5315885E0",
    "eventType": "ORDER_REPLACED",
    "eventVersion": "v3",
    "data": {
        "orderId": "154890304296"
        },
        "prevOrderId": "151890303296",
        "updatedAt": "2022-04-22T14:47.002"
    }
}
```



# ORDER\_EDITED



#### ORDER\_EDITED

- This type of webhook message will be sent once editing has been made to the API order.
- Changes can be made by calling order edit API endpoint or after changes made by our customer representative as requested by the user.
- Aside from the default fields, only the edited objects will be included in the webhook messages. Default fields are:
  - orderID, market, driverId, sharelink, status, previousStatus, createdAt, scheduledAt



#### ORDER\_EDITED

In this example, API user edited the drop-off address. Therefore, 'stops' object is included in the message aside from the default fields

```
"apiKey": "pk_test_c98241026e7b9a0b14ca5d6c8c7b4b9b",
"timestamp": 1685513363,
"signature": "0b93de3a8e7c4a2a68b313a643ca674c86a6937e5b331909f2be1c053be413b5",
"eventId": "D21B6511-15EF-033A-7D10-BA5FFA02526A",
"eventType": "ORDER_EDITED",
"eventVersion": "v3",
"data": {
 "order": {
   "orderId": "156000306664".
   "market": "HK_HKG",
   "driverId": "79973",
   "shareLink": "https://share.sandbox.lalamove.com?HK100230531140418385920010090210892&lang=en_HK&sign=a2c1dc5d7f0642d7904075da818dbe67&source=api_wrapper",
   "status": "ON GOING",
   "previousStatus": "ON_GOING",
   "createdAt": "2023-05-31T14:04.00Z".
   "scheduleAt": "2023-05-31T14:03.00Z",
    "stops": [
        "coordinates": {
         "lat": 22.3354735.
         "lon": 114.1761581
        "address": "Innocentre, 72 Tat Chee Ave, Kowloon Tong",
       "name": "Michal",
       "phone": "38485765"
       "coordinates": {
         "lat": 22.2630804,
         "lon": 114.1308179
        "address": "Microsoft, Cyberport Rd, 薄扶林 Cyberport 1",
       "name": "Michal",
        "phone": "12345679"
  "updatedAt": "2023-05-31T14:09.00Z"
```



# Thank you!

Documentation: <u>developers.lalamove.com</u>

Questions? Contact api-support@lalamove.com

