



111-56-URM-010

TrueOrder™ KDS

API Specification

About this Specification

This specification presents the TrueOrder KDS API (Application Programming Interface), which is served over HTTP for customers looking for deeper integration with the KDS. The endpoint accepts HTTP POST requests to submit orders or to provide details on active orders; the client can either poll order status or register for callbacks from the KDS for actions such as item and order bumps and new order entry.

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1. Introduction

TrueOrder KDS traditionally parses incoming “print jobs” from a Point of Sale System (POS) to an Epson POS printer. Each POS system that the Epson KDS supports requires a “parser” module to understand the format of the print job. This parser module is configured using the KDS Configuration Utility and the format must be followed from then on.

This method has advantages in that it is very easy to have a working KDS system without any changes required on the POS – there is no integration with the POS required. And for a POS that is not yet supported Epson can develop a new parser module which can typically be accomplished within 1-2 weeks.

A potential disadvantage to using a parser is that you are restricted to what the POS is capable of printing. The POS may not have the ability to print certain information that would be good to display. Or the POS may not have the ability to send void orders or append to an existing order for example.

This document outlines a specification for an “API” or Application Programming Interface to the Epson KDS system. The API provides an alternative direct way of communicating with the Epson KDS that not only allows data to be sent to the Epson KDS but also for KDS data to be returned. This allows for better control and feedback from the Epson KDS system. Development is thus required to follow the API protocol which is outlined in this specification.

If using a parser, the API can still be used to get feedback from the KDS system as this feedback can go anywhere. It does not need to go back to the POS.

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2. API Interface

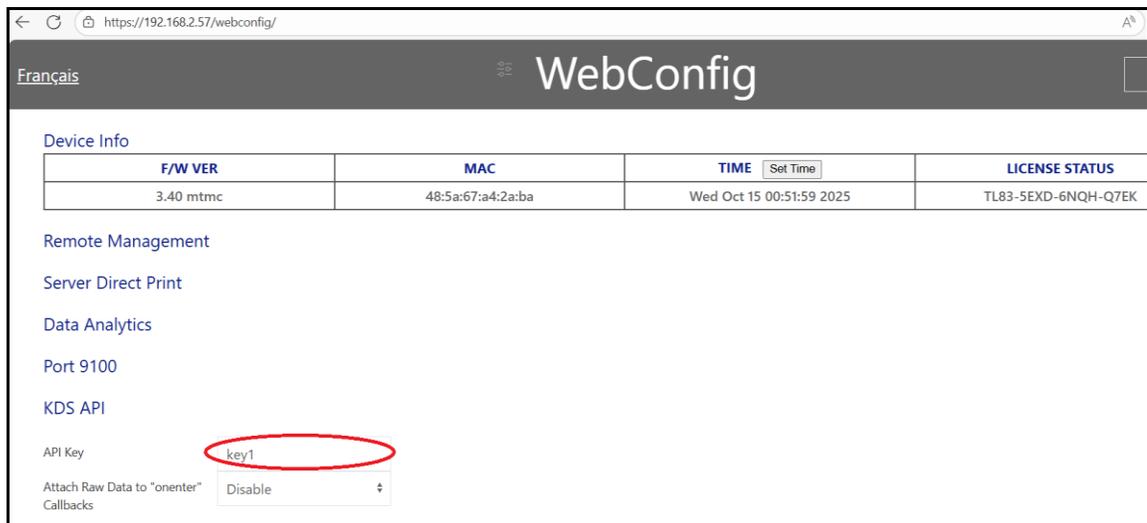
Data is exchanged between the POS and KDS using JSON format, which is described later in this document. The communication between POS and KDS is done using HTTP port 80 (and port 443 if SSL is enabled):

[http\(s\)://192.168.192.168/cgi-bin/kdsapi/service.cgi](http(s)://192.168.192.168/cgi-bin/kdsapi/service.cgi)

HTTP POST (MAIN DELIVERY OPTION) – JSON data will be the body of HTTP POST request and response using the following Content-Type:

Content-Type: application/json.

KDS devices can be configured to use an authorization key for KDS API requests. This can be set on the WebConfig page as shown in below picture:



In this case, an extra HTTP header "X-API-KEY" needs to be included in the request, and the value of this header field needs to match the key configured in target KDS device ("key1" as in above example). If KDS device configured to use a key but the KDS API request does not contain the "X-API-KEY" header or the value of the header does not match the key in KDS device, an error response {"errorcode": 106, "description": "Unauthorized - key mismatch"} will be generated. Response error codes are listed in Section 4.3.

Please refer to Appendix for examples of sending kdsapi requests to TrueOrder devices from Linux and Windows platform.

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3. API and POS Parsers

Traditionally, TrueOrder KDS allows a parser to be configured for the KDS to understand the POS data. A POS parser can still be selected and used in conjunction with the KDS API to provide flexibility for customers who wish to have multiple inputs to the POS system. Also the API can still be used to get feedback from the KDS.

The POS parser would still listen to the traditional inputs -> TCP port 9100 (or ePOS XML). The KDS API service is listening on TCP port 80 (and port 443 if SSL is enabled).

Out of box TrueOrder KDS device will function in a single station, parser-less mode of operation. In this unconfigured mode, the KDS accepts ASCII text-based data from the POS and displays it as-is on screen. This is a very basic mode of operation where the KDS allows full order bumps only, and consequently only full tile print-on-bump labels are supported. A special "Default Parser" is used here, which can also be selected from the web-based Configuration Utility for either multi-station setup or to restore this default mode. If a traditional POS parser is not required, one can remain in this default mode. However, to make full use of KDS features it is better to configure KDS with a parser for the used POS system.

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4. Typical Order Receipt

A sample of a typical order receipt or kitchen chit (printout):

```
Server William  
Table 7      CK# 0012  
-----  
1  Steak Burger  
1  Fries  
    No salt  
1  Coke  
    Regular  
    No ice
```

It can be broken down into the following basic fields:

- Server Name
- Table Number
- Check Number
- Item Qty
- Item Description
- Modifier(s)

TrueOrder KDS can show other miscellaneous information within the order such as course info, seat info, order types, customer name, customer phone number, customer email etc. This is described elsewhere within this specification.

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4.1. JSON Schema

The interface to the KDS API is based on the following JSON schema:

```
{
  "seq" : number,
  "type" : "string",
  "server" : "string",
  "table" : "string",
  "check" : "string",
  "cust_name" : "string",
  "cust_phone" : "string",
  "cust_email" : "string",
  "itemlist" :
  [
    {
      "itemid" : number,
      "item" : "string",
      "header" : "string",
      "label" : "string",
      "qty" : number,
      "modifierlist" :
      [
        {
          "modifier" : "string",
          "colour" : "string"
        }
      ]
    }
  ]
}
```

4.1.1. JSON Schema: Detailed Description

- "seq" – JSON payload sequence number. Should be incremented by 1 for every API call to the Epson KDS. Range 0 – 1048575. Once the upper limit is reached it should roll back to 0. This field is required to be unique for each request so that TrueOrder device can send correct responses to clients if there are multiple kdsapi requests being serviced simultaneously. If simultaneous kdsapi requests are not required and instead happen one at a time, the "seq" field can be left unchanged at "0" or other constant number.

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- "type" – Order type. Can be "new", "void", "append", "status", "callback". Each order type is described later.
- "server" – Server name as it would be displayed in the KDS order header. It could be replaced with other text such as "Pickup", or "Delivery". While 0-35 ASCII characters are accepted the server name should be kept small so as to be displayed fully in the order header.
- "table" – Table number as displayed in the KDS order header. 0-20 ASCII characters are accepted however the table number should be kept small to be displayed fully in the order header.
- "check" – Check number for the order as displayed in the KDS order header. This check number should be unique for every new order entered into the system. 0-20 ASCII characters are accepted however the check number should be kept small to be displayed fully in the order header.
- "cust_name" – Optional field indicating customer name. 0-35 ASCII characters are accepted.
- "cust_phone" – Optional field indicating customer phone number. Must be in one of the following formats:
 (555)555-5555
 555-555-5555
 5555555555
- "cust_email" – Optional field indicating customer e-mail address. 0-35 ASCII characters are accepted.

The "cust_name", "cust_phone", "cust_email" are all optional and can be included or omitted in any combination.

Only 1 of the following 3 fields (*item*, *header*, *label*) should be sent:

- "item" – Description of the item as displayed on the Epson KDS. E.g. "Hamburger". 0-35 ASCII characters.
- "header" – Any information that should be displayed at the top of the order (below the KDS Order Header). Eg. "Dine-In, Take-Out. There can be multiple header fields but each should correspond to its own itemid. 0-35 ASCII characters.

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- "label" – Any miscellaneous information to be displayed within the order. E.g. "Course 1", "Seat 2", or "Bar Seat 11". 0-35 ASCII characters.
- "itemid" – The unique identifier assigned to an item by the POS. The itemid needs to be unique within an order and is used by the KDS to easily associate to an item. The best practice is for the first item in the list to have an id of 1 and then increase for every item. Numbers 1-99 are supported.
- "modifier" – Description of the modifier as displayed on the Epson KDS. 0-35 ASCII characters.
- "colour" – can be "normal" (default) or "alert" to show the text in the alert color.

The qty (quantity) following field is optional:

- "qty" – Quantity of the item as displayed on the KDS. Numbers 1-99 are supported.

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4.2. Sample JSON Payload

```
{
  "seq" : 1,
  "type" : "new",
  "server" : "William",
  "table" : "7",
  "check" : "12",
  "cust_name" : "Robert",
  "cust_phone" : "5555555555",
  "cust_email" : "Robert@Robert.com",
  "itemlist" :
  [ {
    "itemid" : 1,
    "qty" : 1,
    "item" : "Steak Burger"
  },
  {
    "itemid" : 2,
    "qty" : 1,
    "item" : "Fries",
    "modifierlist" :
    [ {
      "modifier" : "No salt",
      "colour" : "alert"
    }
    ]
  },
  {
    "itemid" : 3,
    "qty" : 1,
    "item" : "Coke",
    "modifierlist" :
    [ {
      "modifier" : "Regular"
    },
    {
      "modifier" : "No ice"
    }
    ]
  }
  ]
}
```

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4.3. Response Error Codes

The KDS will send back a response indicating success or failure. Upon success the following is returned:

```
{
  "errorcode" : 0,
  "description" : "success"
}
```

Upon failure, an appropriate "errorcode" from the list below is returned:

- 1 – json syntax error
- 2 – callback entry does not exist
- 3 – no callbacks are registered
- 4 – order does not exist
- 5 – invalid 'callbackid'
- 6 – invalid callback 'trigger'
- 7 – invalid callback 'url'
- 8 – reached maximum order number
- 9 – invalid json parameter
- 10 – missing json parameter
- 101 – data format error
- 104 – timeout, no response from kds
- 105 – Unknown error
- 106 – Unauthorized – key mismatch

5. Order Types

5.1. “new” Order

5.1.1. Request to KDS

Request for a brand-new order to be sent to the KDS:

```
{
  "seq" : 1,
  "type" : "new",
  "server" : "William",
  "table" : "7",
  "check" : "12",
  "cust_name" : "Robert",
  "cust_phone" : "5555555555",
  "cust_email" : "Robert@Robert.com",
  "itemlist" :
  [
    {
      "itemid" : 1,
      "header" : "Dine-In"
    },
    {
      "itemid" : 2,
      "header" : "Address: 185 Renfrew Dr."
    },
    {
      "itemid" : 3,
      "label" : "--- Course 1 ---"
    },
    {
      "itemid" : 4,
      "qty" : 1,
      "item" : "Steak Burger"
    },
    {
      "itemid" : 5,
      "qty" : 1,
      "item" : "Fries",
      "modifierlist" :
      [
        { "modifier" : "No salt", "colour" : "alert" }
      ]
    },
    {
      "itemid" : 6,
      "label" : "--- Course 2 ---"
    },
    {
      "itemid" : 7,
      "qty" : 1,
      "item" : "Coke",
      "modifierlist" :
      [
        { "modifier" : "Regular" },
      ]
    }
  ]
}
```

Unique positive integer number within the order context
Will be displayed only once on screen ("header" type)

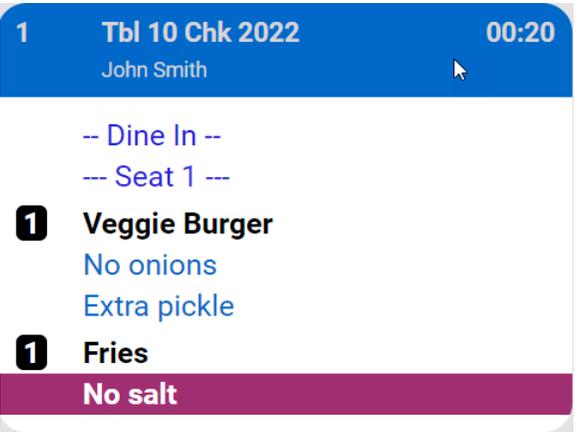
Will be displayed as a special not-selectable item on the screen multiple times ("label" type)

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5.1.2. Response from KDS

The KDS sends back a response indicating success or failure. Response error codes are listed in Section 4.3.

5.1.3. Example

JSON	On-Screen Order
<pre>{ "seq": 1, "type": "new", "server": "John Smith", "table": "Tbl 10", "check": "Chk 2022", "itemlist": [{ "itemid": 1, "header": "-- Dine In --" }, { "itemid": 2, "label": "--- Seat 1 ---" }, { "itemid": 3, "qty": 1, "item": "Veggie Burger", "modifierlist": [{ "modifier": "No onions" }, { "modifier": "Extra pickle" }] }, { "itemid": 4, "qty": 1, "item": "Fries", "modifierlist": [{ "modifier": "No salt", "colour": "alert" }] }] }</pre>	 <p>The On-Screen Order interface displays a blue header bar with the following information: '1 Tbl 10 Chk 2022' and a timer '00:20'. Below the header, the server name 'John Smith' is shown. The order items are listed as follows: 'Veggie Burger' with modifiers 'No onions' and 'Extra pickle', and 'Fries' with the modifier 'No salt'.</p>

5.2. “append” Order

5.2.1. Request to KDS

Request for an addition to be sent to an already existing order. The check number should match a previous order:

```
{
  "seq" : 2,
  "type" : "append",
  "server" : "William",
  "table" : "7",
  "check" : "12"
  "itemlist" :
  [
    {
      "itemid" : 8,      Unique positive number within an order
      "qty" : 1,
      "item" : "Classic Burger",
      "modifierlist" :
      [
        { "modifier" : "No pickle" }
      ]
    }
  ]
}
```

The difference between “new” and “append” order is that appended orders will show the quantity column in a different background color on the KDS display to indicate the order was appended.

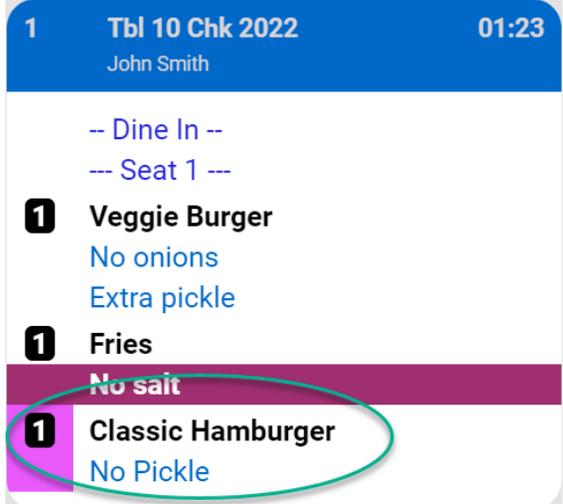
5.2.2. Response from KDS

The KDS sends back a response indicating success or failure. Response error codes are listed in Section 4.3.

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5.2.3. Example

Here we append to the same order sent in Example 5.1.3.

JSON	On-Screen Order
<pre>{ "seq": 2, "type": "append", "server": "John Smith", "table": "Tbl 10", "check": "Chk 2022", "itemlist": [{ "itemid": 4, "qty": 1, "item": "Classic Hamburger", "modifierlist": [{ "modifier": "No Pickle" }] }] }</pre>	 <p>The On-Screen Order interface displays the following items:</p> <ul style="list-style-type: none">1 Tbl 10 Chk 2022 01:23 John Smith-- Dine In ---- Seat 1 --1 Veggie Burger No onions Extra pickle1 Fries No salt1 Classic Hamburger No Pickle

5.3. “void” Order

5.3.1. Request to KDS

Voiding the order will be facilitated with ‘itemid’ field to un-ambiguously find the exact item within the order.

When voiding “Fries” and “Coke” from above order, POS will send

```
{
  "seq" : 3,
  "type" : "void",
  "server" : "William",
  "table" : "7",
  "check" : "12",
  "itemlist" :
  [
    { "itemid" : 5 },      Fries
    { "itemid" : 6 }      Coke
  ]
}
```

To void the whole order, POS will send request without item list.

```
{
  "seq" : 3,
  "type" : "void",
  "server" : "William",
  "table" : "7",
  "check" : "12"
}
```

5.3.2. Response from KDS

The KDS sends back a response indicating success or failure. Response error codes are listed in Section 4.3.

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5.3.3. Example

Here we void a single item, and then void the entire order from Section 5.1.3.

JSON	On-Screen Order
<pre>Single item void: { "seq": 1, "type": "void", "server": "John Smith", "table": "Tbl 10", "check": "Chk 2022", "itemlist": [{ "itemid": 3 }] }</pre>	
<pre>Full order void: { "seq": 1, "type": "void", "server": "John Smith", "table": "Tbl 10", "check": "Chk 2022" }</pre>	

5.4. "status" of Order(s)

5.4.1. Requests to KDS

5.4.1.1. Single Order Status Request

For a single order,

```
{
  "seq" : 4,
  "type" : "status",
  "statusof" : "ordersonly",
  "orderlist" :
  [
    {
      "table" : "7",
      "check" : "12"
    }
  ]
}
```

5.4.1.2. Multiple Orders Status Request

For multiple orders, orderlist will contain multiple check numbers:

```
{
  "seq" : 5,
  "type" : "status",
  "statusof" : "ordersonly",
  "orderlist" :
  [
    {
      "table" : "Table 7",
      "check" : "12"
    },
    {
      "table" : "Table 8",
      "check" : "14"
    },
    {
      "table" : "Table 9",
      "check" : "15"
    }
  ]
}
```

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If `orderslist` is missing from the request to the KDS, then it implies all active orders, in which case all active orders will indeed be returned.

Furthermore, the parameter `statusof` can be:

- `"ordersonly"` – for the status of orders, and the counts of active, bumped, voided items.
- `"ordersanditems"` – same as `"ordersonly"` (i.e. order status and item counts), plus the status of all their items.

5.4.2. "status" Response from KDS

There are some extra fields in the response in addition to "errorcode":

`state of order` can be:

- `"active"` – still cooking. This means, at least one item is `"active"`.
- `"bumped"` – the order has been completely bumped.
- `"voided"` – the order has been completely voided

Similarly, the `state of item` can be:

- `"active"` – still cooking
- `"bumped"` – the item has been bumped
- `"voided"` – the item has been voided

For `"active"` orders only, `timeout of order` will be one of:

- `"normal"` – normal timer
- `"priority"` – the timer reached Priority Time
- `"rush"` – the timer reached Rush Time

If the order is `"active"`, then `elapsedtime` is the number of second since the order was created, and it may have different values when the next POS request is made. If the order is `"bumped"` or `"voided"`, then the `elapsedtime` is the number of second it took for the order to be bumped or voided, and it would remain the same for subsequent POS requests.

There are 4 distinct item counts in the response:

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- "activeitemcount" – the number of active items
- "bumpeditemcount" – the number of bumped items
- "voideditemcount" – the number of voided items
- "totalitemcount" – the number of items in total, which is sum of above counts.

5.4.2.1. "ordersonly" Response Type

If the request was "ordersonly", then KDS will return order status and item counts.

```
{
  "errorcode" : 0,
  "description" : "success",
  "orderlist" :
  [
    {
      "check" : "15",
      "table" : "Table 9",
      "server" : "William",
      "cust_name" : "Robert",
      "cust_phone" : "5555555555",
      "cust_email" : "Robert@Robert.com",
      "state" : "active",
      "elapsedtime" : 120,
      "timeout" : "normal",
      "activeitemcount" : 2,
      "bumpeditemcount" : 1,
      "voideditemcount" : 1,
      "totalitemcount" : 4
    }
  ]
}
```

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5.4.2.2. "ordersanditems" Response Type

If the request was "ordersanditems", then KDS will return order status, item counts, and item status in further detail.

```
{
  "errorcode" : 0,
  "description" : "success",
  "orderlist" :
  [
    {
      "check" : "15",
      "table" : "Table 9",
      "server" : "William",
      "cust_name" : "Robert",
      "cust_phone" : "5555555555",
      "cust_email" : "Robert@Robert.com",
      "state" : "active",
      "elapsedtime" : 120,
      "timeout" : "normal",

      "activeitemcount" : 2,
      "bumpeditemcount" : 1,
      "voideditemcount" : 1,
      "totalitemcount" : 4

      "itemlist" :
      [
        {
          "itemid" : 2,
          "state" : "active",
          "qty" : 1,
          "item" : "Classic Burger",
          "modifierlist" :
          [
            { "modifier" : "No pickle" }
          ]
        },
        {
          "itemid" : 3,
          "state" : "bumped"
          "qty" : 1,
          "item" : "Fries",
        },
        {
          "itemid" : 4,
          "state" : "voided"
          "qty" : 1,
          "item" : "Coke",
        },
        {
          "itemid" : 5,
          "state" : "active"
          "qty" : 1,
          "item" : "Classic Burger",
        }
      ]
    }
  ]
}
```

5.4.2.3. “status” Error Response

If there is an error responding to a “status” request on the KDS side, the response will contain the appropriate error code as per Section 4.3.

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6. Callback Registration

Callbacks can be registered with a KDS device for the customer's own server to receive information for various events, such as new order entry, or an order or item bump.

6.1. "callback" Request to KDS

```
{
  "seq" : 11,
  "type" : "callback",
  "callbackid" : 1,
  "action" : "set",
  "url" :
  "http://192.168.1.100:8080/kdsapi/callback_listener.cgi",
  "trigger" : "onbump"
}
```

Where:

- url can be standard HTTP POST, like
 - "http://192.168.1.100:8080/kdsapi/callback_listener.cgi".
Please refer to Appendix for sample cgi file.
- callbackid is a unique identifier assigned to the callback entry. This identifier can be used to delete the entry later or to overwrite the existing callback. The value should start at 1 and increment by 1 for each new callback registered. When action is "set", if there was no callback registered using this callbackid before, a new callback with this ID will be registered, otherwise if there is an existing callback with this ID, it will be overwritten by the new one.

Note: Once a callback is registered or deleted, it takes immediate effect without requiring a reboot of the KDS device, and persists across power cycles until deleted using the relevant callbackid.

- action can be
 - "set" – to create or overwrite a callback entry,
 - "clear" – to delete the entry,
- trigger is the condition that causes KDS to call back. It can be
 - "onenter" – KDS will return both check, table and itemid(s) when an order is entered.

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- "onbump" – KDS will return both check, table and itemid(s) when a bump takes place.
- "onpriority" – when the timer of order reaches Priority Time, KDS will return check, table.
- "onrush" – when the timer of order reaches Rush Time, KDS will return check, table.
- "onunbump" – KDS will return both check, table and itemid when an item is unbumped.
- "onrecall" – KDS will return both check, table when an order recall takes place.

6.2. "callback" Response from KDS

The KDS sends back a response indicating success or failure. Response error codes are listed in Section 4.3.

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7. Callback Notifications from KDS

All the callback notifications will start with “site_name”, “station_name” and “station_type” fields. “station_type” can be “Kitchen”, “Expeditor” or “Customer Facing”.

7.1. “onenter” Callback

The “new”, “append”, “void” requests will all generate “onenter” callback, with type “new”, “append”, or “void” separately. If the trigger is “onenter” then the KDS will send the original print job to the registered callback URL in the following JSON format. Optional “cust_name”, “cust_phone” and “cust_email” will be included if these fields were included in “new” order request by the POS.

- **Callback for “new”**

```
{
  "site_name" : "Site1",
  "station_name" : "Station1",
  "station_type" : "Kitchen",
  "type" : "new",
  "check" : "0025",
  "table" : "Table 15",
  "server" : "Mark",
  "cust_name" : "Robert",
  "cust_phone" : "5555555555",
  "cust_email" : "Robert@Robert.com",
  "itemlist" :
  [ {
    "itemid" : 1,
    "qty" : 1,
    "item" : "Meat Lover",
    "modifierlist" :
    [ {
      "modifier" : "> Olives",
      "color" : "alert"
    },
    {
      "modifier" : "> NO Mushrooms"
    }
  ]
  },
  {
    "itemid" : 2,
    "label" : "- Also sent to:Station 1"
  },
  {
    "itemid" : 3,
```

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```

        "label" : "- Also sent to:Pizza Oven"
    }
]
}

```

- **Callback for “append”**

```

{
  "site_name" : "Site1",
  "station_name" : "Station1",
  "station_type" : "Kitchen",
  "type" : "append",
  "check" : "0025",
  "table" : "Table 15",
  "server" : "Mark",
  "cust_name" : "Robert",
  "cust_phone" : "5555555555",
  "cust_email" : "Robert@Robert.com",
  "itemlist" :
  [
    {
      "itemid" : 8,
      "qty" : 1,
      "item" : "Classic Burger",
      "modifierlist" :
      [
        { "modifier" : "No pickle" }
      ]
    }
  ]
}

```

- **Callback for “void”**

Callback generated by void item 1 of above example will be:

```
{
  "site_name" : "Site1",
  "station_name" : "Station1",
  "station_type" : "Kitchen",
  "type" : "void",
  "check" : "0025",
  "table" : "Table 15",
  "server" : "Mark",
  "cust_name" : "Robert",
  "cust_phone" : "5555555555",
  "cust_email" : "Robert@Robert.com",
  "itemlist" :
  [
    {
      "itemid" : 1,
      "qty" : 1,
      "item" : "Meat Lover",
      "modifierlist" :
      [
        {
          "modifier" : "> Olives",
          "color" : "alert"
        },
        {
          "modifier" : "> NO Mushrooms"
        }
      ]
    }
  ]
}
```

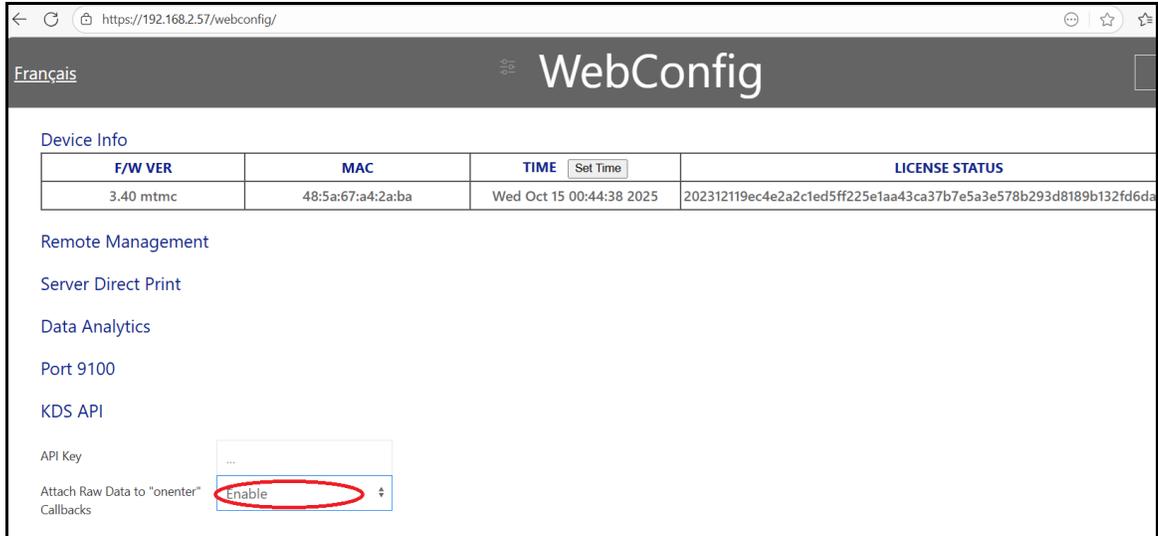
Note that a callback generated by full order void will not contain any item:

```
{
  "site_name" : "Site1",
  "station_name" : "Station1",
  "station_type" : "Kitchen",
  "type" : "void",
  "check" : "0025",
  "table" : "Table 15",
  "server" : "Mark",
  "cust_name" : "Robert",
  "cust_phone" : "5555555555",
  "cust_email" : Robert@Robert.com
}
```

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- **Raw Data for “onenter” Callbacks**

Users can configure “onenter” callbacks to include the raw chit data as received from the POS. This can be enabled/disabled through the WebConfig page as shown in image below:



If this feature is enabled, “onenter” callbacks generated by this device will include a “rawdata” field at the end, which is base64 encoded raw chit data, as below example:

"rawdata":

```
"MzIzMjIzNjA5OQo4CnsKICAgICJzZXEiIDogOCwKICAgICJ0eXBliA6ICJuZXciLAogICAgInNlcnZlciIlg
OiAiV2lsbGhbsSIsCiAgICAidGFibGUilDogIjM4liwKICAgICJjaGVjaylgOiAiMDg1liwKICAgICJjdXN0X25
hbWUilDogIiBhdWwgWmhmbmciLAogICAgImN1c3RfcGhvbmlUilDogIlg1NTUpNTU1LTU1NTUiLAogIC
AgImN1c3RfZW1haWwilDogIiJvYmVydEBSb2JlcnQuY29tliwKICAgICJpdGVtbGlzdCIGogogICAgWwo
JewoJCgkgICAgImI0ZW1pZCIgOiAxLAoJICAgICJxdHkiIDogMSwKCSAgICAic2VhdCIGoiAzLAoJICAg
ICJoZWFKZXliIDogIkhYWRlciIKCX0sCgl7CgkgICAgImI0ZW1pZCIgOiAyLAoJICAgICJxdHkiIDogMSw
KCSAgICAic2VhdCIGoiAzLAoJICAgICJpdGVtliA6ICJlb21lIEJ1cmdlciIKCX0sCgl7CgkgICAgImI0ZW1p
ZCIgOiAzLAoJICAgICJxdHkiIDogMSwKCSAgICAic2VhdCIGoiAzLAoJICAgICJpdGVtliA6ICJGcmllcyIs
CgkgICAgIm1vZGlmaWVybGlzdCIGoGoJICAgIFsKCQI7CgkKICAgICJtb2RpZmllciIlgOiAiUmVndWxhcilKCQI9L
AoJCsKsKCQkgICAgIm1vZGlmaWVylia6ICJObYBpY2UiCgkKfQoJICAgIF0KCX0sCgl7CgkgICAgImI0Z
W1pZCIgOiA1LAoJICAgICJzZWFOliA6IDMsCgkgICAgImxhYmVsIjogIiNwZWNPYWwgTGFiZWwiCgl9
LAoJewoJICAgICJpdGVtaWQiIDogNiwKCSAgICAicXR5liA6IDMsCgkgICAgInNlcnZlciIDogMywKCSAg
ICAiaXRlbnSgOiAiQmVlZiBCdXJnZXliLAoJICAgICJtb2RpZmllcmxpc3QiIDoKCSAgICBbCgkKewoJCS
AgICAibW9kaWZpZXliIDogIkh9uaW9uIgoJICX0sCgkKewoJCSAgICAibW9kaWZpZXliIDogIiRvbWF0b2V
zIgoJICX0KCSAgICBdCgl9CiAgICBdCn0K"
```

7.2. “onbump” Callback

If the trigger is “onbump” and an order is bumped, then KDS will send check, table of the bumped order. Optional “cust_name”, “cust_phone” and “cust_email” will be included if these fields were included in “new” order request.

```
{
  "site_name" : "Site1",
  "station_name" : "Station1",
  "station_type" : "Kitchen",
  "type" : "callback",
  "callbackid" : 1,
  "trigger" : "onbump",
  "check" : "12",
  "table" : "Table 7"
  "cust_name" : "Robert",
  "cust_phone" : "5555555555",
  "cust_email" : "Robert@Robert.com"
}
```

If the trigger is “onbump” and an item is bumped (on SCROLL mode), then KDS will send the same content as order bump, together with itemid, itemname and modifiers.

```
{
  "site_name" : "Site1",
  "station_name" : "Station1",
  "station_type" : "Kitchen",
  "type" : "callback",
  "callbackid" : 1,
  "trigger" : "onbump",
  "check" : "12",
  "table" : "Table 7",
  "cust_name" : "Robert",
  "cust_phone" : "5555555555",
  "cust_email" : "Robert@Robert.com",
  "itemid" : 8
  "item" : "Classic Burger",
  "modifierlist" :
  [
    { "modifier" : "No pickle" }
  ]
}
```

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7.3. “onpriority” Callback

If the trigger is “onpriority” or “onrush”, and an order becomes Priority or Rush, respectively, then KDS will send `check`, `table` of that order.

```
{
  "site_name" : "Site1",
  "station_name" : "Station1",
  "station_type" : "Kitchen",
  "type" : "callback",
  "callbackid" : 2,
  "trigger" : "onpriority",
  "check" : "12",
  "table" : "Table 7"
}
```

7.4. “onrush” Callback

```
{
  "site_name" : "Site1",
  "station_name" : "Station1",
  "station_type" : "Kitchen",
  "type" : "callback",
  "callbackid" : 3,
  "trigger" : "onrush",
  "check" : "12",
  "table" : "Table 7"
}
```

7.5. “onunbump” Callback

If the trigger is “onunbump” and an order item is unbumped (on SCROLL mode or directly unbump from touch screen), then KDS will send `check`, `table` of the bumped order and the bumped `itemid`, `itemname` and `modifierlist` for the item.

```
{
  "site_name" : "Site1",
  "station_name" : "Station1",
  "station_type" : "Kitchen",
  "type" : "callback",
  "callbackid" : 1,
  "trigger" : "onunbump",
  "check" : "12",
  "table" : "Table 7",
  "cust_name" : "Robert",
  "cust_phone" : "5555555555",
}
```

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```
"cust_email" : "Robert@Robert.com",
"itemid" : 8,
"item" : "Classic Burger",
"modifierlist" :
[
  { "modifier" : "No pickle" }
]
}
```

7.6. "onrecall" Callback

If the trigger is "onrecall" and an order is recalled, then KDS will send check, table of the bumped order.

```
{
  "site_name" : "Site1",
  "station_name" : "Station1",
  "station_type" : "Kitchen",
  "type" : "callback",
  "callbackid" : 1,
  "trigger" : "onrecall",
  "check" : "12",
  "table" : "Table 7",
  "cust_name" : "Robert",
  "cust_phone" : "5555555555",
  "cust_email" : "Robert@Robert.com"
}
```

7.7. POS/Server Response

The Epson KDS ignores any response from the POS or customer server.

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8. “status” of Callback

8.1. Request to KDS

```
{
  "type" : "status",
  "seg" : 12,
  "statusof" : "callback",
  "callbacklist" :
  [
    { "callbackid" : 1 },
    { "callbackid" : 2 },
    { "callbackid" : 3 }
  ]
}
```

If `callbacklist` is missing or empty, then it implies all existing callbacks.

8.2. Response from KDS

```
{
  "errorcode" : 0,
  "description" : "success",
  "callbacklist" :
  [
    {
      "callbackid" : 1,
      "url" :
      "http://192.168.1.100:8080/kdsapi/callback_listener.cgi",
      "trigger" : "onbump"
    },
    {
      "callbackid" : 2,
      "url" :
      "http://192.168.1.100:8080/kdsapi/callback_listener1.cgi",
      "trigger" : "onpriority"
    }
    {
      "callbackid" : 3,
      "url" : "",
      "trigger" : ""
    }
  ]
}
```

If there is an error, then `errorcode` will be non-zero with an appropriate description. List of error conditions are in Section 4.3.

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9. Callback Behavior in Multi-Station Mode

In single station mode the behavior is simple: when a certain action occurs, and if the corresponding callback is registered, then the KDS station sends the callback data to the registered server URL (endpoint).

For multi-station mode, each KDS device will generate callbacks for actions related to its own display. However, the Master device (the configured “POS Connected” device) can generate callbacks for itself, as well as certain callbacks on behalf of other displays too. This behavior is described in the table below:

Table 9.1: Multi-Station Callback Behaviour

	Display Device (Non-Master)	Master Device (POS Connected Device)	
		POS Routing	KDS Routing
onenter	<ul style="list-style-type: none"> - New order: Trigger “new” onenter callback on the device if this order is displayed on it - Append: Trigger “append” onenter callback on the device if this append occurs on it - Void: Trigger “void” onenter callback on the device if this void occurs on it 	Same as Display Device	<ul style="list-style-type: none"> - New order: All new order coming to the whole system trigger master “new” onenter callback - Append: All append action coming to the whole system trigger “append” onenter callback - Void: All void action coming to the whole system trigger “void” onenter callback
onpriority	Triggered by orders displayed on its screen hitting priority time	Same as Display Device	Same as Display Device
onrush	Triggered by orders displayed on its screen hitting rush time	Same as Display Device	Same as Display Device
onbump (order)	Triggered by order bumped from itself	Same as Display Device	Triggered by all order bump from all devices
onbump (item)	Triggered by item bumped from itself	Same as Display Device	Triggered by all item bump from all devices
onunbump (item)	Triggered by item unbumped from itself	Same as Display Device	Triggered by all item unbump from all devices
onrecall (order)	Triggered by item recalled from itself	Same as Display Device	Same as Display Device

Appendix

- **Sending KDS API requests to TrueOrder devices**

There are different ways to send JSON format kdsapi requests to TrueOrder devices. One simple approach is to use “curl” command line tool under Linux or Windows to send a JSON file. For example, if you have **neworder.json** file with a valid kdsapi request format as per Section 4.2, then send this request to KDS device 192.168.192.168:

1. Under Windows 11/10 (Built in Windows 11 and newer build of Windows 10)
Active “Command Prompt” and run below command:
**curl -sS --data "@neworder.json" -H "Content-Type:application/json"
http://192.168.192.168/cgi-bin/kdsapi/service.cgi**
2. Under Linux (Install “curl” command line tool)
From command terminal run command:
**curl -sS -H 'Content-Type: application/json' --data-binary "@neworder.json"
http://192.168.192.168/cgi-bin/kdsapi/service.cgi**

The kdsapi request will be sent to the KDS device. The device will display that order, and the Linux command line terminal will receive a valid JSON response:

```
{  
  "errorcode" : 0,  
  "description" : "success"  
}
```

- **Sample CGI to receive kdsapi callback from TrueOrder devices**

Assume a webserver is setup to receive HTTP POST at port 8080 under folder kdsapi, and a kdsapi callback has been registered to “callback_listener.cgi” as described in Section 6.2. The backend CGI can be written in different script languages to receive the callback content and process further. Below is a simple Linux shell (bash) CGI example to receive callback contents and save them to a file under path [/var/www/html/callbacks] using the receive timestamp as file name, and finally send a success response to the KDS device.

```
#!/bin/sh  
  
cat > "/var/www/html/callbacks/$(date +%F %H%M%S.%N)"  
  
cat << EOF  
Content-length: 56  
Connection: close  
Content-Type: application/json  
  
{  
  "errorcode" : 0,  
  "description" : "success"  
}
```

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