



Royal Mail Group

Delivery Office Finder (REST) API Technical User Guide

This API specification details the requirements for integrating with the Delivery Office Finder (REST) API. It specifically covers how the Delivery Office Finder API can be used by business customers looking to locate Royal Mail delivery offices that serve UK postcodes, and provides the technical information to build this integration.

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Version 1.1

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1 Document Control

1.1 Terms and Abbreviations

Term	Meaning
HTTP	Hypertext Transfer Protocol
HTTPS	Hypertext Transfer Protocol over SSL
IP	Internet Protocol
JSON	JavaScript Object Notation
REST	Representational State Transfer
SWAGGER	Specification for defining RESTful web services

Table 1 – Terms and Abbreviations

1.2 Version History

Version	Date	Author	Notes
1.0	29/10/2015	Mark Cornforth	Document created and baselined
1.1	13/11/2015	Mark Cornforth	Document updated following review

Table 2 – Document Version History

2 Overview

The Royal Mail Delivery Office Finder API exposes a web service that allows customers to locate Delivery Offices that serve UK postcodes.

The API provides programmatic access to the Delivery Office information and provides the same results as the branch finder function on the Royal Mail website:

<http://www.royalmail.com/branch-finder>.

There are no costs to customers for using the Delivery Office Finder API, however customers' own development costs must be covered by the customer developing the solution. Royal Mail will not accept any responsibility for these development, implementation and testing costs.

3 Purpose

This document is to provide Royal Mail customers with guidelines and detailed specifications for integrating with the Delivery Office Finder RESTful web service.

The document details:

- The API specification for customers who want to locate the delivery offices that serve UK postcodes
- Description of errors the API can return
- Non-functional characteristics of the API including response times, service availability and security considerations

This document is primarily intended to be read by developers and other technical roles involved with integrating customer systems' with the Delivery Office Finder API.

4 Introduction to Delivery Office Finder API

4.1 Overview

The Delivery Office Finder API enables customers to obtain details of their nearest Royal Mail Delivery Office dedicated to the provided postcode with the name, address, facilities and business hours of the Delivery Office being returned.

This RESTful web service, using industry-standard JSON over HTTPS, has been designed to be simple and easy to integrate.

4.2 Interface Components

Please see Figure 1 below for a graphical representation of the interface between Royal Mail and customers for the Delivery Office Finder API. This document covers what information is to be exchanged, how this information is structured and the means by which it is transferred.

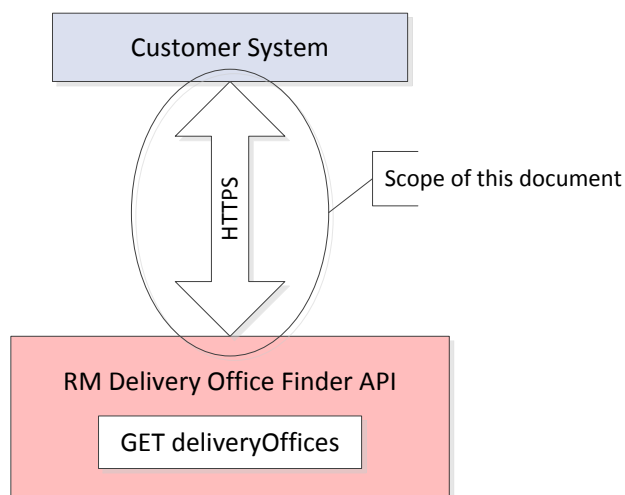


Figure 1 – Delivery Office Finder API

5 Integrating with the Delivery Office Finder API

The high-level process associated with integrating with the Delivery Office Finder API is represented and described in the diagram below.

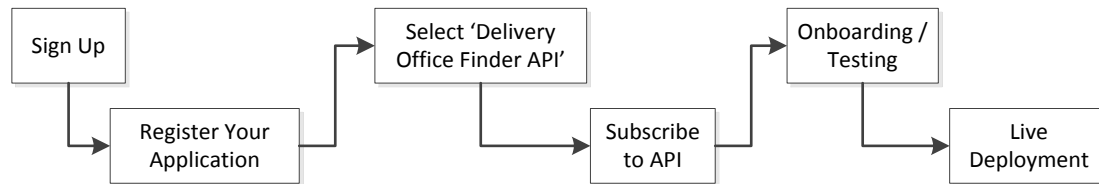


Figure 2 – Process for Integrating with the API

Access to the service is managed through RMG's API Management system.

New users of the system will need to:

1. Sign up for an account and accept the terms and conditions on the [Royal Mail Developer Portal](#).
2. Register the 'application' which will be calling the API. When the application is registered, it will be assigned a unique system-generated Client ID and Secret which is needed to securely access the API. It is important that these credentials are noted and securely stored.
3. Request to subscribe to the API. This will result in an e-mail being automatically generated and sent to the Royal Mail Customer Solutions team.
4. Once approved, testing can be performed against the API in a sandboxed onboarding environment that allows you to test the integration.
5. Once all required testing has completed in the onboarding environment, access to the Live production system will be provided at a mutually agreed date/time.

Existing users who already have an account with Royal Mail's API Management system will need to perform step 2 onwards if the application accessing the API is different to any currently registered applications. If the application accessing the API is already registered, existing customers will need to perform step 3 onwards.

5.1 Terms & Conditions

You must accept the Royal Mail Terms and Conditions when creating your customer account. These cover the ways in which the service may be used and any integration activities must abide by these.

Of particular note to developers:

- The onboarding environment may not be used for performance testing. This is a small scale system for functional testing only.
- The API imposes a cap on the number of transactions per second for each customer. Excessive volumes of traffic over the configured throttling limit will result in transactions being rejected until the rate drops below what is acceptable.

5.2 API Access

Both onboarding and live access to the API is obtained via the following URL:

<https://api.royalmail.net/deliveryOffices/?postcode={postcode}>

The API only supports a HTTP GET operation against the resource and doesn't support HTTP operations to POST, PUT, DELETE etc.

Please note:

- Response formats supported: application/json
- If anything is appended to the path (e.g. .../deliveryOffice/EC2M2QS/something), then an HTTP 404 (Not Found) response will be returned.
- All HTTP operations (e.g. POST, PUT, DELETE etc) other than GET are not supported and a HTTP 405 (Method Not Allowed) response will be returned.
- The Client ID and Secret must be provided in the HTTP header of all API requests otherwise access to the API will be rejected and a HTTP 401 (Unauthorised) will be returned. The Client ID and Secret are obtained by registering an application on the RMG API Management site.
- The HTTP request URL parameter of {postcode} is a mandatory parameter. Only full (and not partial) postcodes are accepted by this API.
- Please see section 7 for a full list of technical and business error codes which are returned from this API.

6 Delivery Office Finder Services

6.1 Business Services

The Delivery Office Finder API is a service offered by RM to allow customers to obtain details of their nearest Royal Mail Delivery Office.

The table below provides an overview of the business services that are supported by this interface.

Business Service	Description	Technology	Conversation Style
Get Delivery Office	Allows consumers to obtain details of their dedicated Royal Mail Delivery Office based on a supplied postcode. The response provides a single Delivery Office location and opening time data.	JSON over HTTPS	Synchronous Request / Response

Table 3 – Business Services

6.2 HTTP Header Information

6.2.1 Description

The purpose of the HTTP header is to support security and logging functionally within the Royal Mail systems and it is mandatory that it is provided in the request message.

6.2.2 Request Message

All service requests to this API will be authorised in accordance with the Client ID and Secret passed in the HTTP headers. Please see table below for the elements which need to be populated in the HTTP header.

Parameter	Optional	Description
Accept	No	This attribute accepts requests in application/json format.
X-IBM-Client-Id	No	Similar to a client username. Required to access the API.
X-IBM-Client-Secret	No	Similar to a client password. Required to access the API.

Table 4 – HTTP Header Information in the API Request

Example Request Data for the HTTP Header:

Parameter	Value
Accept	application/json
X-IBM-Client-Id	f0e4f151-2041-4df2-b31d
X-IBM-Client-Secret	kT0lB2dK0wF6mK0rD8sD7oE7vP2mG7l

Table 5 – Example HTTP Header Information for API Request

6.3 GET deliveryOffices

6.3.1 Description

The behaviour of the GET deliveryOffices operation is to return the details (the name, the address and the business hours) of the Delivery Office dedicated to the Postcode provided as part of the request parameters.

6.3.2 Request Message

URL Path: <https://api.royalmail.net/deliveryOffices/?postcode={postcode}>

Parameter	Optional	Description
postcode	No	UK Postcode supplied in uppercase without any spaces. Please note that partial postcodes are not supported.

Table 6 – API Request Parameters

6.3.3 Response Message

The body of the JSON response message contains all the delivery office details as well as any errors that may have occurred. A successful business response will be returned as a standard HTTP response code of 200 (Ok).

Field	Type	Description	Optional
header	Object	Header information associated with the response	N
header.statusCode	String	HTTP response code (e.g. 200, 404 etc)	N
header.responseDate	String	Date and time associated with the response.	N
header.apiVersion	String	Version of the API.	N
searchedPostcode	String	The postcode for which the Delivery Office query has been performed	N
deliveryOffice	Object	Object representing a Delivery Office	N
deliveryOffice.id	Integer	The unique identifier for the Delivery Office	N
deliveryOffice.officeDetails	Object	An object representing the location and contact details of the Delivery Office	N
deliveryOffice.officeDetails.name	String	Name of the Delivery Office	N
deliveryOffice.officeDetails.address1	String	First line of the Delivery Office address	N
deliveryOffice.officeDetails.address2	String	Second Line of the Delivery Office address	N
deliveryOffice.officeDetails.address3	String	Third Line of the Delivery Office address	N
deliveryOffice.officeDetails.address4	String	Fourth Line of the Delivery	N

Field	Type	Description	Optional
		Office address	
deliveryOffice.officeDetails.address5	String	Fifth Line of the Delivery Office address	N
deliveryOffice.officeDetails.address6	String	Sixth Line of the Delivery Office address	N
deliveryOffice.officeDetails.address7	String	Seventh Line of the Delivery Office address	N
deliveryOffice.officeDetails.address8	String	Eighth Line of the Delivery Office address	N
deliveryOffice.officeDetails.postcode	String	Postcode of the Delivery Office	N
deliveryOffice.businessDays	Array [businessDay]	An array of objects representing days the Delivery Office is open along with their opening times	Y
deliveryOffice.businessDays[index].businessDay	String	The weekday (one of Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday) OR specific business day (e.g. Christmas Eve, New Year's Eve)	N
deliveryOffice.businessDay[index].openingTimes	Array [openingTimes]	An array of objects representing the times the Delivery Office is open	N
deliveryOffice.businessDay[index].openingTimes[index].opensAt	String	Time the Delivery office opens	N
deliveryOffice.businessDay[index].openingTimes[index].closesAt	String	Time the Delivery office closes	N
deliveryOffice.locationDetails	Object	An object representing the location of the Delivery Office. This will not appear if there is no geolocation information.	Y
deliveryOffice.locationDetails.longitude	Double	The WGS84 longitude of the Delivery Office. This will not appear if there is no geolocation information.	Y
deliveryOffice.locationDetails.latitude	Double	The WGS84 latitude of the Delivery Office. This will not appear if there is no geolocation information.	Y
deliveryOffice.locationDetails.distance	Double	The 'as-the-crow-flies' distance in meters between the Customer Postcode and the Delivery Office	Y
deliveryOffice.facilities	Array	Array of facilities available at the Delivery Office (may be	N

Field	Type	Description	Optional
		empty)	
deliveryOffice.facilities[index]	String	A facility available at the Delivery Offices, may be “disabledAccess” or “carParking”	N

Table 7 – API Response Parameters

6.3.4 Example Data

Example Request Data

Parameter	Value
postcode	EC2M2QS

Table 8 – Example API Request Data

<p>GET https://api.royalmail.net/deliveryOffices/EC2M2QS Accept: application/json</p> <p>X-IBM-Client-Secret: kT0IB2dK0wF6mK0rD8sD7oE7vP2m X-IBM-Client-Id : f0e4f151-2041-4df2-b31d</p>
--

Example Response Data

Field	Value
header.statusCode	200
header.responseDate	2015-11-10 08:17:30
header.apiVersion	1
searchedPostcode	EC2M2QS
deliveryOffice	
deliveryOffice.id	22720
deliveryOffice.officeDetails	
deliveryOffice.officeDetails.name	Mount Pleasant Mail Centre
deliveryOffice.officeDetails.address1	Royal Mail
deliveryOffice.officeDetails.address2	Mount Pleasant Mail Centre
deliveryOffice.officeDetails.address3	Farringdon Road
deliveryOffice.officeDetails.address4	London
deliveryOffice.officeDetails.address5	
deliveryOffice.officeDetails.address6	
deliveryOffice.officeDetails.address7	
deliveryOffice.officeDetails.address8	
deliveryOffice.officeDetails.postcode	EC1A 1BB
deliveryOffice.businessDays	
deliveryOffice.businessDays[index].businessDay	Monday
deliveryOffice.businessDay[index].openingTimes	
deliveryOffice.businessDay[index].openingTimes[index].opensAt	07:00

Field	Value
deliveryOffice.businessDay[index].openingTimes[index].closesAt	20:00
deliveryOffice.businessDays[index].businessDay	Tuesday
deliveryOffice.businessDay[index].openingTimes	
deliveryOffice.businessDay[index].openingTimes[index].opensAt	07:00
deliveryOffice.businessDay[index].openingTimes[index].closesAt	20:00
deliveryOffice.businessDays[index].businessDay	Wednesday
deliveryOffice.businessDay[index].openingTimes	
deliveryOffice.businessDay[index].openingTimes[index].opensAt	07:00
deliveryOffice.businessDay[index].openingTimes[index].closesAt	20:00
deliveryOffice.businessDays[index].businessDay	Thursday
deliveryOffice.businessDay[index].openingTimes	
deliveryOffice.businessDay[index].openingTimes[index].opensAt	07:00
deliveryOffice.businessDay[index].openingTimes[index].closesAt	20:00
deliveryOffice.businessDays[index].businessDay	Friday
deliveryOffice.businessDay[index].openingTimes	
deliveryOffice.businessDay[index].openingTimes[index].opensAt	07:00
deliveryOffice.businessDay[index].openingTimes[index].closesAt	20:00
deliveryOffice.businessDays[index].businessDay	Saturday
deliveryOffice.businessDay[index].openingTimes	
deliveryOffice.businessDay[index].openingTimes[index].opensAt	07:00
deliveryOffice.businessDay[index].openingTimes[index].closesAt	14:00
deliveryOffice.businessDays[index].businessDay	Christmas Eve
deliveryOffice.businessDay[index].openingTimes	
deliveryOffice.businessDay[index].openingTimes[index].opensAt	09:00
deliveryOffice.businessDay[index].openingTimes[index].closesAt	13:00
deliveryOffice.businessDays[index].businessDay	New Years Eve
deliveryOffice.businessDay[index].openingTimes	
deliveryOffice.businessDay[index].openingTimes[index].opensAt	09:00
deliveryOffice.businessDay[index].openingTimes[index].closesAt	13:00
deliveryOffice.facilities[index]	disabledAccess
deliveryOffice.locationDetails	
deliveryOffice.locationDetails.longitude	-0.1121
deliveryOffice.locationDetails.latitude	51.5244
deliveryOffice.locationDetails.distance	2068

Table 9 – Example API Response Data

```
{
  "header": {
    "statusCode": "200",
    "responseDate": "2015-11-10 08:17:30",
    "apiVersion": "1"
  },
  "searchedPostcode": "EC2M2QS",
  "deliveryOffice": {
    "id": 22720,
    "officeDetails": {
      "name": "Mount Pleasant Mail Centre",

```

```

    "address1": "Royal Mail",
    "address2": "Mount Pleasant Mail Centre",
    "address3": "Farringdon Road",
    "address4": "London",
    "address5": "",
    "address6": "",
    "address7": "",
    "address8": "",
    "postcode": "EC1A 1BB"
  },
  "businessDays": [
    {
      "businessDay": "Monday",
      "openingTimes": [
        {
          "opensAt": "07:00",
          "closesAt": "20:00"
        }
      ]
    },
    {
      "businessDay": "Tuesday",
      "openingTimes": [
        {
          "opensAt": "07:00",
          "closesAt": "20:00"
        }
      ]
    },
    {
      "businessDay": "Wednesday",
      "openingTimes": [
        {
          "opensAt": "07:00",
          "closesAt": "20:00"
        }
      ]
    },
    {
      "businessDay": "Thursday",
      "openingTimes": [
        {
          "opensAt": "07:00",
          "closesAt": "20:00"
        }
      ]
    },
    {
      "businessDay": "Friday",
      "openingTimes": [
        {
          "opensAt": "07:00",
          "closesAt": "20:00"
        }
      ]
    },
    {
      "businessDay": "Saturday",
      "openingTimes": [
        {
          "opensAt": "07:00",

```

```
        "closesAt": "14:00"
      }
    },
    {
      "businessDay": "Christmas Eve",
      "openingTimes": [
        {
          "opensAt": "09:00",
          "closesAt": "13:00"
        }
      ]
    },
    {
      "businessDay": "New Years Eve ",
      "openingTimes": [
        {
          "opensAt": "09:00",
          "closesAt": "13:00"
        }
      ]
    }
  ],
  "locationDetails": {
    "latitude": 51.5244,
    "longitude": -0.1121,
    "distance": 2068
  },
  "facilities": ["disabledAccess"]
}
```

7 Error Handling

7.1 Overview

There are two types of errors produced by the Delivery Office Finder API, namely:

- **Business Errors** (e.g. invalid postcode etc)
- **Technical Errors / Exceptions** (e.g. invalid security credentials supplied in request etc)

Both sets of errors should be appropriately handled by your systems, and technical details of the error should not be displayed directly to end-consumers.

When internal service errors are detected, an appropriate non-200 HTTP response code will be returned.

7.2 Business Errors

The Table below lists the causes of Business errors which may be returned, and their corresponding HTTP response codes and error messages.

Error Cause	Error Response Message	HTTP Response Status Code
A delivery office could not be found for the postcode	{ "httpCode": "404", "httpMessage": "Not Found", "moreInformation": "The requested URL was not found on this server" }	HTTP 404 (Not found)
The postcode was of an invalid format	{ "httpCode": "400", "httpMessage": "Bad Request", "moreInformation": "" }	HTTP 400 (Bad Request)

Table 10 – API Business Errors

7.3 Technical Errors

The following technical exceptions / error scenarios will be caught and handled as described below:

Error Cause	Error Response Message	HTTP Response Status Code
No Client ID supplied in API request.	{ "httpCode": "401", "httpMessage": "Unauthorized", "moreInformation": "Client id missing." }	HTTP 401 (Unauthorised)
Client ID not subscribed / registered to API.	{ "httpCode": "401", "httpMessage": "Unauthorized", "moreInformation": "Client id not registered." }	HTTP 401 (Unauthorised)

	}	
Incorrect Client Secret provided.	{ "httpCode": "401", "httpMessage": "Unauthorized", "moreInformation": "Invalid client id or secret." }	HTTP 401 (Unauthorised)
Incorrect URL.	{ "httpCode": "404", "httpMessage": "Not Found", "moreInformation": "No resources match requested URI" }	HTTP 404 (Not Found)
Incorrect HTTP operation.	{ "httpCode": "405", "httpMessage": "Method Not Allowed", "moreInformation": "The method is not allowed for the requested URL" }	HTTP 405 (Method Not Allowed)
Rate limit exceeded for API.	{ "httpCode": "429", "httpMessage": "Too Many Requests", "moreInformation": "Rate Limit exceeded" }	HTTP 429 (Too Many Requests)

Table 11 – API Technical Errors

If you experience 'rate limit exceeded' (HTTP 429) errors as a result of calling this API please ensure that you are not exceeding the configured rate limit.

For all other technical issues please contact a Royal Mail Support representative by visiting the [Developer Portal Support](#) pages.

8 Non-Functional Characteristics

8.1 Availability

8.1.1 Service Hours

The Delivery Office Finder API is available 24 hours per day x 365 days per year.

8.1.2 Maintenance Windows

Royal Mail Online Services Terms and Conditions define the maintenance for this service.

8.1.3 Unavailability

In the unlikely event of the Delivery Office Finder API being unavailable, customer systems should be able to handle this appropriately. Royal Mail will endeavour to proactively contact customers in the event of an outage to this API.

If you experience issues with the availability of this API please contact a Royal Mail Support representative by visiting the [Developer Portal Support](#) pages.

8.2 Security

The REST API will only accept requests and return responses over HTTPS. All service requests via the API Management solution will be authorised in accordance with the Client ID and Secret passed in the HTTP headers. This will ensure that any external service requests are authorised and authenticated in line with RMG Security Policies and Standards.

9 Frequently Asked Questions

Please see the [FAQ page](#) on the Developer Portal for a general list of frequently asked questions with responses.

All FAQs specific to the API described in this document are listed below.

9.1 Application Compatibility

Question: What Software Development Kits or tools have been proven to work with the Delivery Office Finder API?

Answer: No guarantees can be provided for compatibility with any given library or product. This API is expected to be compatible with most RESTful libraries that support JSON and Swagger.

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