



Chrilan Smart API

The Easiest Way to Smart Invoice

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Chrilan Smart Invoice API

Version 1.0.8

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1 Introduction to Chrilan Smart Invoice API Documentation

Generated from the canonical OpenAPI spec (api.yaml). Production base URL:
<https://server.zra.co.zm/smartinv>

All endpoints require the Api-Key header unless marked open in the per-endpoint table.

1.1 Audience

POS / ERP integrators, support engineers, QA engineers.

1.2 Specification

OpenAPI 3.0.3 at <https://server.zra.co.zm/smartinv/docs/api.yaml>. Total endpoints in spec: 49. Document covers every path/method.

2 How to use the API

Every authenticated endpoint requires the Api-Key header. Mutation endpoints require a localid for idempotent retry.

2.1 Headers

Name	Type	Required	Description
Api-Key	string	Yes	Tenant API key issued at device initialization. String, case-sensitive.
X-API-Key	string	No	Fallback header accepted as an alias for `Api-Key` (legacy clients).

2.2 Media Types

application/json for both requests and responses

2.3 Idempotency (localid)

Server caches response keyed on (Api-Key, localid). Safe retries on transient failures.

Core Concepts & Behavioural Contracts

These rules describe how the runtime interprets inputs and what integrators must know to avoid silent failures. Read this section before integrating against any POST endpoint that creates a transaction.

1. Idempotency — the localid contract

Every POST that mutates state requires **localid**. The runtime caches responses keyed on **(Api-Key, localid)**. **Retrying with the same localid returns the cached original response — no duplicate invoice is sent to ZRA.**

- **First request → server saves response, returns 200 with receipt data.**

- Retry with same localid (any time, even days later) → server returns the **cached** response — ZRA is NOT contacted again.
- A new mutation **MUST** use a new localid.
- Cache TTL: indefinite for the tenant —; clear via re-issue with the same localid only **if** the cached payload is in error.

2. TPIN constraints & customer-name overwrite

Behavioural surprise — documented because it surprised integrators in production:

tpin format:

- Exactly 10 characters. Server returns 400 if tpin length is wrong.
- Blank or missing tpin defaults to walk-in **1000000000**. Use this for anonymous / over-the-counter sales.

customerName overwrite:

- For a real (non-walk-in) tpin, the server **verifies the tpin against ZRA** and then **overwrites customerName** with the **registered taxpayer name from ZRA**. The value you sent in customerName is treated as a **fallback** used only if ZRA lookup fails.
- The receipt **always** prints the ZRA-registered name — not whatever you sent.

3. Currency & FX rate

Allowed currency codes (request bodies):

ZMW, USD, ZAR, GBP, CNY, EUR. Anything else returns 400.

rate semantics:

- **rate** = exchange rate from **currency** to the tenant's **base currency**. Example: currency=USD, rate=27.5 means 1 USD = 27.5 ZMW.
- **When currency equals the base currency (usually ZMW)** → rate is **ignored**. Use rate=1.0 for base-currency sales.
- **Line totals are computed in the request currency first, then converted to base** — the receipt shows the base currency total.

4. VAT category silent overrides (isLpo / isExport / isDebit)

Major fiscal surprise: setting either flag overrides vatCat on every line at the ZRA wire (Transaction.validate() lines 395-451). The line-level vatCat you sent is overridden.

isExport: true → **all** lines forced to **C1** (zero-rated export) regardless of the vatCat you sent. **destinationCode** required.

isLpo: true → **all** lines forced to **C2** (zero-rated Local Purchase Order); LPO number printed on receipt. **lpo** required, exactly 10 characters.

isDebit: true → debit note issued (NOT an invoice). **debitReason** required (one of the 4 enum values).

⚠ Audit tip: before declaring a sale as LPO or export, verify with the customer. A wrong flag flips every line to zero-rated — a real fiscal event.

5. Bare transaction-level flags

These flags appear in transaction bodies without a typed value in the schema; here is what each one actually does.

Quick reference:

autoCreate (*boolean*) — default **false (default)**. When true, the server auto-creates a product on the fly if it does not exist. When false and the product is missing on a stock-handling topology → 400.

cell (*string*) — default **n/a**. POS terminal / branch cell identifier (free text). Echoed back in the response for reconciliation.

refundNumber (*string*) — default **required when refund: true**. Accepts raw receipt strings like "INV01/12345\n". Server extracts digits after the last "/" and uses them as the original receipt reference. Coerce strings with non-digit prefixes are tolerated.

6. refundResCode — the silent default trap

Codes.java:194 silently defaults invalid or missing refundResCode to "06" (Refund). Integrators with typos get the wrong refund reason filed with ZRA, silently.

Valid codes (when refund: true):

- 01** — Missing Quantity
- 02** — Missing Price
- 03** — Wrong Item
- 04** — Wrong Price
- 05** — Wrong Quantity
- 06** — Refund (DEFAULT when refundResCode is missing or invalid)
- 07** — Damaged Goods
- 08** — Expired Goods
- 09** — Customer Return
- 10** — Pricing Error
- 11** — Duplicate Sale
- 12** — Operator Error
- 13** — Other reason (use debitReason-style note on credit notes)

7. debitReason (when isDebit: true)

Required when **isDebit: true**. Must be exactly one of:

WRONG_QUANTITY_INVOICED — Quantity on the invoice was wrong

WRONG_INVOICE_AMOUNT — Total amount was wrong

OMITTED_ITEM — An item was missed on the original invoice

OTHER — any other reason; the **note** field in the same payload becomes the adjustment reason.

8. Endpoint-level validation rules (the 400 list)

The runtime returns **400 Bad Request** for any of the following conditions. The error envelope always carries the **code** and **message** fields explaining which rule fired.

- 400** — refund: true → refundNumber, refundResCode, refundReceiptSDC all required
- 400** — isExport: true → destinationCode required (ISO 3166-1 alpha-2)
- 400** — isLpo: true → lpo required, exactly 10 characters
- 400** — tpin ≠ 10 characters → 400
- 400** — Unregistered product on a stock-handling topology with autoCreate: false → 400
- 400** — Missing vatCat on a non-stock topology → 400
- 400** — Invalid paymentType → 400
- 400** — Invalid currency (not in ZMW/USD/ZAR/GBP/CNY/EUR) → 400
- 400** — isDebit: true → missing debitReason → 400
- 400** — Bad / missing Api-Key → 401
- 401** — bad / missing Api-Key

3 Authentication (7 endpoints)

This section covers 7 endpoints in the Authentication category.

3.1 GET DISPLAY LOGIN PAGE

This endpoint is part of the Authentication category.

Endpoint Description

Data	Value
Endpoint	/auth/login
Full URL	https://server.zra.co.zm/smartinv/auth/login
HTTP Method	GET
Produces	application/json
Authorization	Required (Api-Key header)

Successful Response

Status Code: 200 OK

Login page displayed successfully

```
<html><body><h1>Login</h1></body></html>
```

Notes

- Authenticate with the Api-Key header.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Authentication category and follows the standard Api-Key authentication pattern.

3.2 POST PROCESS LOGIN REQUEST

This endpoint is part of the Authentication category.

Endpoint Description

Data	Value
Endpoint	/auth/login
Full URL	https://server.zra.co.zm/smartinv/auth/login
HTTP Method	POST
Produces	application/json
Authorization	Required (Api-Key header)

Payload Variables

Variable	Type	Required	Example
tpin	string	Yes	1000000000
password	string	Yes	*****
browserToken	string	Yes	session_xyz

```
{ "tpin": "1000000000", "password": "*****", "browserToken": "session_xyz" }
```

Required fields: **localid (string), tpin (string), password (string), browserToken (string)**

Successful Response

Status Code: 200 OK

Login successful or error page

Example (success):

```
<html><body><h1>OTP Verification</h1></body></html>
```

Example (error):

```
<html><body><h1>Login</h1><p>Invalid credentials</p></body></html>
```

Notes

- Authenticate with the Api-Key header.
- Include a unique localid in the request body for idempotent retries.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Authentication category and follows the standard Api-Key authentication pattern.

3.3 GET GET CURRENT BRANCH INFO (VIEW)

This endpoint is part of the Authentication category.

Endpoint Description

Data	Value
Endpoint	/auth/info
Full URL	https://server.zra.co.zm/smartinv/auth/info
HTTP Method	GET
Produces	application/json
Authorization	Required (Api-Key header)

Successful Response

Status Code: 200 OK

Home page if logged in, or login page otherwise

```
<html><body><h1>Home</h1></body></html>
```

Notes

- Authenticate with the Api-Key header.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Authentication category and follows the standard Api-Key authentication pattern.

3.4 POST SELECT A BRANCH AFTER OTP VERIFICATION

This endpoint is part of the Authentication category.

Endpoint Description

Data	Value
Endpoint	/auth/select-branch
Full URL	https://server.zra.co.zm/smartinv/auth/select-branch
HTTP Method	POST
Produces	application/json
Authorization	Required (Api-Key header)

Payload Variables

Variable	Type	Required	Example
localid	string	Yes	loc-abc-123
branchId	string	Yes	BHF01

```
{  "localid": "loc-abc-123",  "branchId": "BHF01"}
```

Required fields: **localid (string), branchId (string)**

Successful Response

Status Code: 200 OK

Branch selection page with errors

```
<html><body><h1>Select Branch</h1><p>Error selecting branch</p></body></html>
```

Error Response 302: Redirect to /home after successful selection

Notes

- Authenticate with the Api-Key header.
- Include a unique localid in the request body for idempotent retries.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Authentication category and follows the standard Api-Key authentication pattern.

3.5 POST VERIFY OTP CODE

This endpoint is part of the Authentication category.

Endpoint Description

Data	Value
Endpoint	/auth/otp
Full URL	https://server.zra.co.zm/smartinv/auth/otp
HTTP Method	POST
Produces	application/json
Authorization	Required (Api-Key header)

Payload Variables

Variable	Type	Required	Example
localid	string	Yes	loc-abc-123
otp	string	Yes	123456

```
{  "localid": "loc-abc-123",  "otp": "123456"}
```

Required fields: **localid (string), otp (string)**

Successful Response

Status Code: 200 OK

Branch selection page or OTP page on error

Example (success):

```
<html><body><h1>Select Branch</h1></body></html>
```

Example (error):

```
<html><body><h1>OTP Verification</h1><p>Invalid OTP</p></body></html>
```

Notes

- Authenticate with the Api-Key header.
- Include a unique localid in the request body for idempotent retries.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Authentication category and follows the standard Api-Key authentication pattern.

3.6 GET GET API VERSION

Returns the current version of the API

Endpoint Description

Data	Value
Endpoint	/auth/version
Full URL	https://server.zra.co.zm/smartinv/auth/version
HTTP Method	GET
Produces	application/json
Authorization	Required (Api-Key header)

Successful Response

Status Code: 200 OK

Version retrieved successfully

```
{  "version": "1.01"}
```

Notes

- Authenticate with the Api-Key header.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Authentication category and follows the standard Api-Key authentication pattern.

3.7 GET VERIFY API KEY

Validates an API key provided in the request header. Primary header name is "Api-Key"; "X-API-Key" is accepted as a fallback.

Endpoint Description

Data	Value
Endpoint	/auth/verifyApiKey
Full URL	https://server.zra.co.zm/smartinv/auth/verifyApiKey
HTTP Method	GET
Produces	application/json
Authorization	Required (Api-Key header)

Request Parameters

Name	In	Type	Required	Description
Api-Key	header	string	Yes	Tenant API key issued at device initialization. String, case-sensitive (`Api-Key`, not `api-key`).
X-API-Key	header	string	No	Fallback header accepted as an alias for `Api-Key` (legacy clients). Same credential value as the primary `Api-Key` header.

Successful Response

Status Code: 200 OK

API key is valid

```
{  "valid": true,  "message": "Api-Key is valid"}
```

Error Response 400: Missing or invalid header

```
{  "valid": false,  "message": "Missing Api-Key header"}
```

Error Response 401: Invalid API key

```
{  "valid": false,  "message": "Api-Key is invalid"}
```

Error Response 500: Unexpected server error

Unexpected error: (details)

Notes

- Authenticate with the Api-Key header.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Authentication category and follows the standard Api-Key authentication pattern.

4 Category (1 endpoint)

This section covers 1 endpoint in the Category category.

4.1 GET SEARCH ZRA CATEGORIES

This endpoint is part of the Category category.

Endpoint Description

Data	Value
Endpoint	/category/search
Full URL	https://server.zra.co.zm/smartinv/category/search
HTTP Method	GET
Produces	application/json
Authorization	Required (Api-Key header)

Request Parameters

Name	In	Type	Required	Description
Api-Key	header	string	Yes	API key associated with the branch/company
search	query	string	Yes	Free-text search; spaces are treated as wildcards. NOTE: `search` is the only accepted query parameter; `keyword` is NOT accepted (legacy name, returns 400).

Successful Response

Status Code: 200 OK

A list of matching commodity categories

```
[ { "commodity": "1010", "commodity_Title": "Sugar", "commodity_Definition": "Refined white sugar"
}, { "commodity": "1011", "commodity_Title": "Sugar Cubes", "commodity_Definition": "Cube-shaped
refined sugar" }]
```

Error Response 400: Bad request

Error Response 401: Missing or invalid Api-Key

Error Response 500: Server error

Notes

- Authenticate with the Api-Key header.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Category category and follows the standard Api-Key authentication pattern.

5 Codes (7 endpoints)

This section covers 7 endpoints in the Codes category.

5.1 GET LIST ALL CURRENCIES

This endpoint is part of the Codes category.

Endpoint Description

Data	Value
Endpoint	/codes/currency/all
Full URL	https://server.zra.co.zm/smartinv/codes/currency/all
HTTP Method	GET
Produces	application/json
Authorization	Required (Api-Key header)

Request Parameters

Name	In	Type	Required	Description
Api-Key	header	string	Yes	Tenant API key issued at device initialization. String, case-sensitive.

Successful Response

Status Code: 200 OK

Array of currency code-name pairs

```
[ { "code": "ZMW", "name": "Zambian Kwacha" }, { "code": "USD", "name": "US Dollar" } ]
```

Error Response 401: Missing or invalid Api-Key

Error Response 500: Server error

Notes

- Authenticate with the Api-Key header.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Codes category and follows the standard Api-Key authentication pattern.

5.2 GET LIST ALL REFUND REASONS

This endpoint is part of the Codes category.

Endpoint Description

Data	Value
Endpoint	/codes/refundReason/all
Full URL	https://server.zra.co.zm/smartinv/codes/refundReason/all
HTTP Method	GET
Produces	application/json
Authorization	Required (Api-Key header)

Request Parameters

Name	In	Type	Required	Description
Api-Key	header	string	Yes	Tenant API key issued at device initialization. String, case-sensitive.

Successful Response

Status Code: 200 OK

Array of refund reasons

```
[ { "code": "01", "name": "Customer Return" }, { "code": "02", "name": "Price Adjustment" } ]
```

Error Response 401: Missing or invalid Api-Key

Error Response 500: Server error

Notes

- Authenticate with the Api-Key header.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Codes category and follows the standard Api-Key authentication pattern.

5.3 GET LIST ALL COUNTRIES OF ORIGIN

This endpoint is part of the Codes category.

Endpoint Description

Data	Value
Endpoint	/codes/countries/all
Full URL	https://server.zra.co.zm/smartinv/codes/countries/all
HTTP Method	GET
Produces	application/json
Authorization	Required (Api-Key header)

Request Parameters

Name	In	Type	Required	Description
Api-Key	header	string	Yes	Tenant API key issued at device initialization. String, case-sensitive.

Successful Response

Status Code: 200 OK

Array of countries

```
[ { "code": "ZM", "name": "Zambia" }, { "code": "US", "name": "United States" } ]
```

Error Response 401: Missing or invalid Api-Key

Error Response 500: Server error

Notes

- Authenticate with the Api-Key header.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Codes category and follows the standard Api-Key authentication pattern.

5.4 GET LIST ALL UNITS OF MEASURE

This endpoint is part of the Codes category.

Endpoint Description

Data	Value
------	-------

Endpoint	/codes/uom/all
Full URL	https://server.zra.co.zm/smartinv/codes/uom/all
HTTP Method	GET
Produces	application/json
Authorization	Required (Api-Key header)

Request Parameters

Name	In	Type	Required	Description
Api-Key	header	string	Yes	Tenant API key issued at device initialization. String, case-sensitive.

Successful Response

Status Code: 200 OK

Array of units of measure

```
[ { "code": "EA", "name": "Each" }, { "code": "KG", "name": "Kilogram" } ]
```

Error Response 401: Missing or invalid Api-Key

Error Response 500: Server error

Notes

- Authenticate with the Api-Key header.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Codes category and follows the standard Api-Key authentication pattern.

5.5 GET LIST ALL PACKING UNITS

This endpoint is part of the Codes category.

Endpoint Description

Data	Value
Endpoint	/codes/pack/all
Full URL	https://server.zra.co.zm/smartinv/codes/pack/all
HTTP Method	GET
Produces	application/json

Authorization	Required (Api-Key header)
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Request Parameters

Name	In	Type	Required	Description
Api-Key	header	string	Yes	Tenant API key issued at device initialization. String, case-sensitive.

Successful Response

Status Code: 200 OK

Array of packing units

```
[ { "code": "BOX", "name": "Box" }, { "code": "BAG", "name": "Bag" } ]
```

Error Response 401: Missing or invalid Api-Key

Error Response 500: Server error

Notes

- Authenticate with the Api-Key header.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Codes category and follows the standard Api-Key authentication pattern.

5.6 GET LIST ALL PRODUCT TYPES

This endpoint is part of the Codes category.

Endpoint Description

Data	Value
Endpoint	/codes/productType/all
Full URL	https://server.zra.co.zm/smartinv/codes/productType/all
HTTP Method	GET
Produces	application/json
Authorization	Required (Api-Key header)

Request Parameters

Name	In	Type	Required	Description
Api-Key	header	string	Yes	Tenant API key issued at device initialization.

				String, case-sensitive.
--	--	--	--	-------------------------

Successful Response

Status Code: 200 OK

Array of product type names

```
[ "GOODS", "SERVICE"]
```

Error Response 401: Missing or invalid Api-Key

Error Response 500: Server error

Notes

- Authenticate with the Api-Key header.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Codes category and follows the standard Api-Key authentication pattern.

5.7 GET LIST ALL TAX TYPES

This endpoint is part of the Codes category.

Endpoint Description

Data	Value
Endpoint	/codes/taxTypes/all
Full URL	https://server.zra.co.zm/smartinv/codes/taxTypes/all
HTTP Method	GET
Produces	application/json
Authorization	Required (Api-Key header)

Request Parameters

Name	In	Type	Required	Description
Api-Key	header	string	Yes	Tenant API key issued at device initialization. String, case-sensitive.

Successful Response

Status Code: 200 OK

Array of tax types

```
[ { "code": "STANDARD_RATED", "name": "VAT Standard" }, { "code": "MINIMUM_TAXABLE_VALUE", "name": "Minimum Taxable Value" } ]
```

Error Response 401: Missing or invalid Api-Key

Error Response 500: Server error

Notes

- Authenticate with the Api-Key header.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Codes category and follows the standard Api-Key authentication pattern.

6 Product (8 endpoints)

This section covers 8 endpoints in the Product category.

6.1 POST CREATE OR UPDATE A PRODUCT

This endpoint is part of the Product category.

Endpoint Description

Data	Value
Endpoint	/product/create
Full URL	https://server.zra.co.zm/smartinv/product/create
HTTP Method	POST
Produces	application/json
Authorization	Required (Api-Key header)

Request Parameters

Name	In	Type	Required	Description
Api-Key	header	string	Yes	Tenant API key issued at device initialization. String, case-sensitive.

Payload Variables

Variable	Type	Required	Example
localid	string	Yes	loc-123
manageStock	boolean	No	true
plu	string	Yes	PLU123
department	string	No	50203301
type	string	Yes	singleItem

name	string	Yes	Sugar 1kg
vatCat	string	Yes	STANDARD_RATED
sellingIncl	number	Yes	60.0
user	string	No	admin
qty	integer	No	10
uom	string	No	NO
pack	string	No	EACH
countryOfOrigin	string	No	ZM

```
{ "localid": "loc-123", "manageStock": true, "plu": "PLU123", "department": "50203301", "type": "singleItem", "name": "Sugar 1kg", "vatCat": "STANDARD_RATED", "sellingIncl": 60.0, "user": "admin", "qty": 10, "uom": "NO", "pack": "EACH", "countryOfOrigin": "ZM"}
```

Required fields: localid (string), plu (string), name (string), type (string), vatCat (string), sellingIncl (number). Optional: qty (number), uom (string), pack (string), department (string), user (string), manageStock (boolean), countryOfOrigin (string)

Successful Response

Status Code: 200 OK

Product record saved

```
{ "plu": "PLU123", "itemNm": "Sugar 1kg", "dftPrc": 60.0}
```

Error Response 400: Bad request

Error Response 500: Server error

Notes

- Authenticate with the Api-Key header.
- Include a unique localid in the request body for idempotent retries.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Product category and follows the standard Api-Key authentication pattern.

6.2 POST CREATE MULTIPLE PRODUCTS IN BULK

This endpoint is part of the Product category.

Endpoint Description

Data	Value
Endpoint	/product/createBulk
Full URL	https://server.zra.co.zm/smartinv/product/createBulk
HTTP Method	POST
Produces	application/json

Authorization	Required (Api-Key header)
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Request Parameters

Name	In	Type	Required	Description
Api-Key	header	string	Yes	Tenant API key issued at device initialization. String, case-sensitive.

Payload Variables

Variable	Type	Required	Example
localid	string	Yes	
manageStock	boolean	No	
data	array<object>	Yes	
data[].plu	string	Yes	
data[].department	string	No	50203301
data[].type	string	No	serviceItem
data[].name	string	Yes	
data[].vatCat	string	Yes	STANDARD_RATED
data[].sellingIncl	number	Yes	
data[].archive	boolean	No	
data[].user	string	Yes	
data[].qty	number	Yes	
data[].uom	string	No	
data[].pack	string	No	
data[].countryOfOrigin	string	No	ZM
data[].declined	boolean	No	
data[].imported	boolean	No	
data[].autoCreate	boolean	No	

```
{
  "localid": "loc-123",
  "manageStock": true,
  "data": [
    {
      "plu": "PLU100",
      "department": "50203301",
      "type": "singleItem",
      "name": "Flour 2kg",
      "vatCat": "STANDARD_RATED",
      "sellingIncl": 120.0,
      "user": "admin",
      "qty": 30,
      "uom": "NO",
      "pack": "EACH"
    }
  ],
  {
```

```
"plu": "PLU101", "department": "50203301", "type": "singleItem", "name": "Cooking Oil 1L",  
"vatCat": "STANDARD_RATED", "sellingIncl": 85.0, "user": "admin", "qty": 50, "uom": "NO",  
"pack": "EACH" } ]}
```

Successful Response

Status Code: 200 OK

Acknowledge bulk creation started

```
{ "Message": "Still Processing"}
```

Error Response 500: Server error

Notes

- Authenticate with the Api-Key header.
- Include a unique localid in the request body for idempotent retries.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Product category and follows the standard Api-Key authentication pattern.

6.3 GET LIST ALL PRODUCTS

This endpoint is part of the Product category.

Endpoint Description

Data	Value
Endpoint	/product/all
Full URL	https://server.zra.co.zm/smartinv/product/all
HTTP Method	GET
Produces	application/json
Authorization	Required (Api-Key header)

Request Parameters

Name	In	Type	Required	Description
Api-Key	header	string	Yes	Tenant API key issued at device initialization. String, case-sensitive.

Successful Response

Status Code: 200 OK

Array of product records

```
[ { "plu": "PLU123", "itemNm": "Sugar 1kg", "dftPrc": 60.0 }, { "plu": "PLU124", "itemNm":  
"Flour 2kg", "dftPrc": 120.0 } ]
```

Error Response 418: No Items Found

Error Response 500: Server error

Notes

- Authenticate with the Api-Key header.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Product category and follows the standard Api-Key authentication pattern.

6.4 GET VALIDATE A PRODUCT BY PLU

This endpoint is part of the Product category.

Endpoint Description

Data	Value
Endpoint	/product/validate
Full URL	https://server.zra.co.zm/smartinv/product/validate
HTTP Method	GET
Produces	application/json
Authorization	Required (Api-Key header)

Request Parameters

Name	In	Type	Required	Description
Api-Key	header	string	Yes	Tenant API key issued at device initialization. String, case-sensitive.
plu	query	string	Yes	

Successful Response

Status Code: 200 OK

Product exists

Error Response 406: This Item is not found

Error Response 500: Server error

Notes

- Authenticate with the Api-Key header.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Product category and follows the standard Api-Key authentication pattern.

6.5 POST ADJUST PRODUCT STOCK

This endpoint is part of the Product category.

Endpoint Description

Data	Value
Endpoint	/product/adjust
Full URL	https://server.zra.co.zm/smartinv/product/adjust
HTTP Method	POST
Produces	application/json
Authorization	Required (Api-Key header)

Request Parameters

Name	In	Type	Required	Description
Api-Key	header	string	Yes	Tenant API key issued at device initialization. String, case-sensitive.

Payload Variables

Variable	Type	Required	Example
localid	string	Yes	
manageStock	boolean	No	
plu	string	Yes	
newQty	number	Yes	
moveQty	number	Yes	
user	string	Yes	
moveType	string	Yes	IMPORT

```
{ "localid": "loc-123", "manageStock": true, "plu": "PLU123", "newQty": 50, "moveQty": 10, "user": "manager", "moveType": "ADJUSTMENT"}
```

Successful Response

Status Code: 200 OK

Adjustment processed

```
{ "Message": "Item Updated"}
```

Error Response 406: Item not found

Error Response 500: Server error

Notes

- Authenticate with the Api-Key header.
- Include a unique localid in the request body for idempotent retries.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Product category and follows the standard Api-Key authentication pattern.

6.6 POST CREATE PRODUCT RECIPE (COMPOSITION)

This endpoint is part of the Product category.

Endpoint Description

Data	Value
Endpoint	/product/createRecipe
Full URL	https://server.zra.co.zm/smartinv/product/createRecipe
HTTP Method	POST
Produces	application/json
Authorization	Required (Api-Key header)

Request Parameters

Name	In	Type	Required	Description
Api-Key	header	string	Yes	Tenant API key issued at device initialization. String, case-sensitive.

Payload Variables

Variable	Type	Required	Example
localid	string	Yes	
manageStock	boolean	No	
madePlu	string	Yes	
ingredientPlu	string	Yes	

qty	number	Yes	
user	string	Yes	

```
{  "localid": "loc-123",  "manageStock": true,  "madePlu": "PLU900",  "ingredientPlu": "PLU123",  "qty": 2,  "user": "chef"}
```

Successful Response

Status Code: 200 OK

Recipe created

```
{  "Message": "Recipe Created"}
```

Error Response 500: Server error

Notes

- Authenticate with the Api-Key header.
- Include a unique localid in the request body for idempotent retries.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Product category and follows the standard Api-Key authentication pattern.

6.7 POST MOVE STOCK BASED ON MOVEMENT MODEL

This endpoint is part of the Product category.

Endpoint Description

Data	Value
Endpoint	/product/moveStock
Full URL	https://server.zra.co.zm/smartinv/product/moveStock
HTTP Method	POST
Produces	application/json
Authorization	Required (Api-Key header)

Request Parameters

Name	In	Type	Required	Description
Api-Key	header	string	Yes	Tenant API key issued at device initialization. String, case-sensitive.

Payload Variables

Variable	Type	Required	Example
localid	string	Yes	loc-123
manageStock	boolean	No	true
user	string	Yes	manager
moveType	string	Yes	SALE
auditNumber	string	No	A-00002
lines	array<object>	Yes	[{...}]
lines[].plu	string	Yes	PLU123
lines[].description	string	Yes	Sugar 1kg
lines[].lineTotal	number	Yes	60.0
lines[].qty	integer	Yes	1

```
{  "localid": "loc-123",  "manageStock": true,  "user": "manager",  "moveType": "SALE",  "auditNumber": "A-00002",  "lines": [    {      "plu": "PLU123",      "description": "Sugar 1kg",      "lineTotal": 60.0,      "qty": 1    }  ]}
```

Required fields: **localid (string), moveType (string), lines (array), user (string)**. Optional: manageStock (boolean), auditNumber (string)

Successful Response

Status Code: 200 OK

Stock movement recorded

Error Response 500: Server error

Notes

- Authenticate with the Api-Key header.
- Include a unique localid in the request body for idempotent retries.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Product category and follows the standard Api-Key authentication pattern.

6.8 POST VALIDATE MULTIPLE PRODUCT CODES

This endpoint is part of the Product category.

Endpoint Description

Data	Value
Endpoint	/product/validateAll
Full URL	https://server.zra.co.zm/smartinv/product/validateAll
HTTP Method	POST
Produces	application/json

Authorization	Required (Api-Key header)
---------------	---------------------------

Request Parameters

Name	In	Type	Required	Description
Api-Key	header	string	Yes	Tenant API key issued at device initialization. String, case-sensitive.

Payload Variables

Variable	Type	Required	Example
localid	string	Yes	
manageStock	boolean	No	
codes	array<string>	Yes	

```
{ "localid": "loc-123", "manageStock": true, "codes": [ "PLU123", "PLU124", "PLU999" ]}
```

Successful Response

Status Code: 200 OK

Validation results

```
[ { "code": "PLU123", "isValid": true }, { "code": "PLU999", "isValid": false }]
```

Error Response 500: Server error

Notes

- Authenticate with the Api-Key header.
- Include a unique localid in the request body for idempotent retries.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Product category and follows the standard Api-Key authentication pattern.

7 Purchase (8 endpoints)

This section covers 8 endpoints in the Purchase category.

7.1 POST CREATE A GRV (PURCHASE) TRANSACTION

This endpoint is part of the Purchase category.

Endpoint Description

Data	Value
Endpoint	/purchase/create

Full URL	https://server.zra.co.zm/smartinv/purchase/create
HTTP Method	POST
Produces	application/json
Authorization	Required (Api-Key header)

Request Parameters

Name	In	Type	Required	Description
Api-Key	header	string	Yes	Tenant API key issued at device initialization. String, case-sensitive.

Payload Variables

Variable	Type	Required	Example
localid	string	Yes	loc-grv-001
user	string	Yes	operator1
auditNumber	string	Yes	GRV-2026-001
invoiceNumber	string	Yes	SUP-INV-001
lines	array<object>	Yes	[{...}]
lines[].plu	string	Yes	PLU100
lines[].qty	integer	Yes	5
lines[].purchasePrice	number	Yes	50.0
tpin	string	No	2000000000
manageStock	boolean	No	true
customerName	string	No	ABC Suppliers Ltd
notes	string	No	Goods received in good condition
linesToAdd	array	No	[]

```
{ "localid": "loc-grv-001", "user": "operator1", "auditNumber": "GRV-2026-001", "invoiceNumber": "SUP-INV-001", "lines": [{"plu": "PLU100", "qty": 5, "purchasePrice": 50.00}], "tpin": "2000000000", "manageStock": true, "customerName": "ABC Suppliers Ltd", "notes": "Goods received in good condition", "linesToAdd": []}
```

Required fields: localid (string), user (string), auditNumber (string), invoiceNumber (string), lines (array), lines[].plu (string), lines[].qty (integer), lines[].purchasePrice (number). Optional: tpin (string), manageStock (boolean), customerName (string), notes (string), linesToAdd (array)

Endpoint Reference

What it is

A **GRV** (Goods Received Voucher) records stock received from a supplier. This endpoint registers the goods receipt with ZRA as an **automatic purchase** and links it to your supplier-invoice integration: after a successful registration, **all supplier invoices pulled from VSDC for your store are marked as processed**.

Use it when the purchase corresponds to supplier invoices flowing through the VSDC integration (see [/purchase/getAllInvoices](#)). **For standalone/manual goods receipts, use [/purchase/createNonIntegrated](#) instead.**

Required fields

Api-Key

localid — idempotency key (repeating it returns the cached original response, no duplicate registration)

user — operator username

auditNumber — your GRV reference

invoiceNumber — the supplier's invoice number

lines[] — the goods received (each item must contain plu, qty, purchasePrice)

lines[].plu — product code

lines[].qty — quantity received

lines[].purchasePrice — unit cost (used for stock valuation)

Optional fields

tpin (*string*) — supplier TPIN (verified with ZRA; invalid or blank falls back to walk-in "Cash")

manageStock (*boolean*) — per-request stock-update override (defaults to the deployment setting)

customerName (*string*) — supplier name fallback

notes (*string*) — remark sent to ZRA

linesToAdd[] (*array*) — new products to register along with the GRV

Not applicable on this endpoint

importlo — ignored here; import purchases are only supported on [/purchase/createNonIntegrated](#)

Fixed behaviour (ZRA wire)

- Payment type on the ZRA purchase is **always CREDIT**
- Registration type is **always AUTOMATIC, status APPROVED**
- If **refund: true**, the purchase is filed as a **credit note after purchase**
- Supplier VAT registration is verified and affects the tax buckets
- **On success, all pulled supplier invoices are automatically marked processed**

Response

- HTTP **200** with ZRA's result data

Successful Response

Status Code: 200 OK

Purchase processed

Error Response 500: Server error

Notes

- Authenticate with the Api-Key header.
- Include a unique localid in the request body for idempotent retries.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Purchase category and follows the standard Api-Key authentication pattern.

7.2 POST CREATE A NON-INTEGRATED GRV (LOCAL SAVE AND OPTIONAL VSCD SEND)

This endpoint is part of the Purchase category.

Endpoint Description

Data	Value
Endpoint	/purchase/createNonIntegrated
Full URL	https://server.zra.co.zm/smartinv/purchase/createNonIntegrated
HTTP Method	POST
Produces	application/json
Authorization	Required (Api-Key header)

Request Parameters

Name	In	Type	Required	Description
Api-Key	header	string	Yes	Tenant API key issued at device initialization. String, case-sensitive.

Payload Variables

Variable	Type	Required	Example
localid	string	Yes	loc-grv-002
user	string	Yes	operator1
auditNumber	string	Yes	GRV-2026-002
invoiceNumber	string	Yes	SUP-INV-002
lines	array<object>	Yes	[{...}]

lines[].plu	string	Yes	PLU100
lines[].qty	integer	Yes	5
lines[].purchasePrice	number	Yes	50.0
tpin	string	No	2000000000
importIo	boolean	No	false
manageStock	boolean	No	true
customerName	string	No	ABC Suppliers Ltd
notes	string	No	Goods received in good condition
linesToAdd	array	No	[]

```
{ "localid": "loc-grv-002", "user": "operator1", "auditNumber": "GRV-2026-002", "invoiceNumber": "SUP-INV-002", "lines": [{"plu": "PLU100", "qty": 5, "purchasePrice": 50.00}], "tpin": "2000000000", "importIo": false, "manageStock": true, "customerName": "ABC Suppliers Ltd", "notes": "Goods received in good condition", "linesToAdd": []}
```

Required fields: **localid (string)**, **user (string)**, **auditNumber (string)**, **invoiceNumber (string)**, **lines (array)**, **lines[].plu (string)**, **lines[].qty (integer)**, **lines[].purchasePrice (number)**. Optional: **tpin (string)**, **importIo (boolean)**, **manageStock (boolean)**, **customerName (string)**, **notes (string)**, **linesToAdd (array)**

Endpoint Reference

What it is

A **GRV** (Goods Received Voucher) records stock received from a supplier — the purchase-side counterpart of an invoice. This endpoint registers the goods receipt with ZRA as a **manual purchase** (no supplier-invoice integration) and updates your stock.

Use it when goods arrived with a paper or manual supplier invoice and you need the purchase registered and stock updated — without reconciling against supplier invoices pulled from VSDC. **For the integrated flow, use /purchase/create instead.**

Required fields

Api-Key

localid — idempotency key (repeating it returns the cached original response, no duplicate registration)

user — operator username

auditNumber — your GRV reference

invoiceNumber — the supplier's invoice number

lines[] — the goods received (each item must contain plu, qty, purchasePrice)

lines[].plu — product code

lines[].qty — quantity received

lines[].purchasePrice — unit cost (used for stock valuation)

Optional fields

tpin (*string*) — supplier TPIN (verified with ZRA; invalid or blank falls back to walk-in "Cash")

importIo (*boolean*) — set true for import purchases

manageStock (*boolean*) — per-request stock-update override (defaults to the deployment setting)

customerName (*string*) — supplier name fallback

notes (*string*) — remark sent to ZRA

linesToAdd[] (*array*) — new products to register along with the GRV

Fixed behaviour (ZRA wire)

- Payment type on the ZRA purchase is **always CREDIT**
- Registration type is **always MANUAL, status APPROVED**
- If **refund: true**, the purchase is filed as a **credit note after purchase**
- Supplier VAT registration is verified and affects the tax buckets

Response

- HTTP **200** with ZRA's result data

Successful Response

Status Code: 200 OK

Purchase processed

Error Response 500: Server error

Notes

- Authenticate with the Api-Key header.
- Include a unique localid in the request body for idempotent retries.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Purchase category and follows the standard Api-Key authentication pattern.

7.3 GET GET ALL SUPPLIER INVOICES PULLED FROM VSCD

This endpoint is part of the Purchase category.

Endpoint Description

Data	Value
Endpoint	/purchase/getAllInvoices
Full URL	https://server.zra.co.zm/smartinv/purchase/getAllInvoices
HTTP Method	GET
Produces	application/json
Authorization	Required (Api-Key header)

Request Parameters

Name	In	Type	Required	Description
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Api-Key	header	string	Yes	Tenant API key issued at device initialization. String, case-sensitive.
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Successful Response

Status Code: 200 OK

Array of GRV transactions

Error Response 500: Server error

Notes

- Authenticate with the Api-Key header.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Purchase category and follows the standard Api-Key authentication pattern.

7.4 GET GET SUPPLIER INVOICES BY TPIN

This endpoint is part of the Purchase category.

Endpoint Description

Data	Value
Endpoint	/purchase/getAllInvoicesByTpin
Full URL	https://server.zra.co.zm/smartinv/purchase/getAllInvoicesByTpin
HTTP Method	GET
Produces	application/json
Authorization	Required (Api-Key header)

Request Parameters

Name	In	Type	Required	Description
Api-Key	header	string	Yes	Tenant API key issued at device initialization. String, case-sensitive.
tpin	query	string	Yes	The ZRA TPIN of the business. 10-digit string.

Successful Response

Status Code: 200 OK

Array of GRV transactions

Error Response 500: Server error

Notes

- Authenticate with the Api-Key header.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Purchase category and follows the standard Api-Key authentication pattern.

7.5 GET GET ONE SUPPLIER INVOICE BY SUPPLIER INVOICE NUMBER AND TPIN

This endpoint is part of the Purchase category.

Endpoint Description

Data	Value
Endpoint	/purchase/getInvoiceInfo
Full URL	https://server.zra.co.zm/smartinv/purchase/getInvoiceInfo
HTTP Method	GET
Produces	application/json
Authorization	Required (Api-Key header)

Request Parameters

Name	In	Type	Required	Description
Api-Key	header	string	Yes	Tenant API key issued at device initialization. String, case-sensitive.
inv	query	string	Yes	
tpin	query	string	Yes	The ZRA TPIN of the business. 10-digit string.

Successful Response

Status Code: 200 OK

GRV transaction

Error Response 500: Server error

Notes

- Authenticate with the Api-Key header.

- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Purchase category and follows the standard Api-Key authentication pattern.

7.6 GET GET ALL IMPORT TASKS NOT PROCESSED

This endpoint is part of the Purchase category.

Endpoint Description

Data	Value
Endpoint	/purchase/getAllImports
Full URL	https://server.zra.co.zm/smartinv/purchase/getAllImports
HTTP Method	GET
Produces	application/json
Authorization	Required (Api-Key header)

Request Parameters

Name	In	Type	Required	Description
Api-Key	header	string	Yes	Tenant API key issued at device initialization. String, case-sensitive.

Successful Response

Status Code: 200 OK

Import tasks

Error Response 500: Server error

Notes

- Authenticate with the Api-Key header.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Purchase category and follows the standard Api-Key authentication pattern.

7.7 GET GET IMPORT ITEMS BY TASK CODE

This endpoint is part of the Purchase category.

Endpoint Description

Data	Value
Endpoint	/purchase/getImportByCode

Full URL	https://server.zra.co.zm/smartinv/purchase/getImportByCode
HTTP Method	GET
Produces	application/json
Authorization	Required (Api-Key header)

Request Parameters

Name	In	Type	Required	Description
Api-Key	header	string	Yes	Tenant API key issued at device initialization. String, case-sensitive.
taskCode	query	string	Yes	

Successful Response

Status Code: 200 OK

Import items

Error Response 500: Server error

Notes

- Authenticate with the Api-Key header.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Purchase category and follows the standard Api-Key authentication pattern.

7.8 POST UPDATE IMPORT ITEMS (STATUS AND MAPPING)

This endpoint is part of the Purchase category.

Endpoint Description

Data	Value
Endpoint	/purchase/updateImports
Full URL	https://server.zra.co.zm/smartinv/purchase/updateImports
HTTP Method	POST
Produces	application/json
Authorization	Required (Api-Key header)

Request Parameters

Name	In	Type	Required	Description
Api-Key	header	string	Yes	Tenant API key issued at device initialization. String, case-sensitive.

Payload Variables

Variable	Type	Required	Example
localid	string	Yes	
manageStock	boolean	No	
taskCd	string	Yes	
items	array<object>	Yes	
items[].itemSeq	integer	Yes	
items[].status	string	Yes	APPROVED
items[].plu	string	Yes	

```
{  "localid": "loc-123",  "manageStock": true,  "taskCd": "TASK123",  "items": [    {      "itemSeq": 1,      "plu": "PLU123",      "status": "APPROVED"    }  ]}
```

Successful Response

Status Code: 200 OK

Updated list of import items

Error Response 500: Server error

Notes

- Authenticate with the Api-Key header.
- Include a unique localid in the request body for idempotent retries.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Purchase category and follows the standard Api-Key authentication pattern.

8 Invoice (4 endpoints)

This section covers 4 endpoints in the Invoice category.

8.1 POST CREATE AN INVOICE

This endpoint is part of the Invoice category.

Endpoint Description

Data	Value
Endpoint	/invoice/create
Full URL	https://server.zra.co.zm/smartinv/invoice/create
HTTP Method	POST
Produces	application/json
Authorization	Required (Api-Key header)

Request Parameters

Name	In	Type	Required	Description
Api-Key	header	string	Yes	API key associated with the branch/company

Payload Variables

Variable	Type	Required	Example
localid	string	Yes	loc-abc-123
manageStock	boolean	No	true
user	string	Yes	cashier1
refund	boolean	No	false
auditNumber	string	Yes	A-00001
tpin	string	Yes	1000000000
customerName	string	No	Walk-in
note	string	No	Thank you
base64	boolean	No	true
currency	string	Yes	ZMW
rate	number	Yes	1.0
paymentType	string	Yes	CASH
isLpo	boolean	No	false
isExport	boolean	No	false
lines	array<object>	Yes	[{...}]
lines[].plu	string	Yes	PLU123
lines[].department	string	Yes	50203301
lines[].description	string	Yes	Sugar 1kg
lines[].lineTotal	number	Yes	120.0
lines[].qty	integer	Yes	2
lines[].sellingIncl	number	Yes	60.0

lines[].vatCat	string	Yes	STANDARD_RATED
lines[].uom	string	Yes	NO
lines[].pack	string	Yes	EACH

```
{ "localid": "loc-abc-123", "manageStock": true, "user": "cashier1", "refund": false, "auditNumber": "A-00001", "tpin": "1000000000", "customerName": "Walk-in", "note": "Thank you", "base64": true, "currency": "ZMW", "rate": 1.0, "paymentType": "CASH", "isLpo": false, "isExport": false, "lines": [ { "plu": "PLU123", "department": "50203301", "description": "Sugar 1kg", "lineTotal": 120.0, "qty": 2, "sellingIncl": 60.0, "vatCat": "STANDARD_RATED", "uom": "NO", "pack": "EACH" } ] }
```

Required fields: **localid** (string), **tpin** (string), **user** (string), **auditNumber** (string), **lines** (array), **paymentType** (string), **currency** (string), **rate** (number). Optional: **customerName** (string), **note** (string), **refund** (boolean), **manageStock** (boolean), **base64** (boolean), **isLpo** (boolean), **isExport** (boolean)

Payload Reference

Payment Type values

Send one of these exact values: **CASH**, **CREDIT**, **CASH_CREDIT**, **BANK_CHEQUE**, **DEBIT_CARD**, **MOBILE_MONEY**, **BANK_TRANSFER**, **OTHER**. If omitted, it defaults to **CREDIT**. The same values apply to credit notes.

Required fields

Always required: **Api-Key** header, **localid**, **user**, **auditNumber**, **lines**.

Conditionally required:

- **refund: true** → **refundNumber**, **refundResCode**, **refundReceiptSDC**
- **isExport: true** → **destinationCode** (2-letter country code, e.g. ZW)
- **isLpo: true** → **lpo** (exactly 10 characters)
- **isDebit: true** → **debitReason**

All other fields are optional with defaults applied.

isLpo / isExport semantics

isExport: true — export sale: all lines zero-rated (VAT category **C1**); destination country required.

isLpo: true — Local Purchase Order sale: all lines zero-rated (VAT category **C2**); the LPO number is printed on the fiscal receipt.

⚠ **Important: credit notes (refund: true) must not carry an LPO number — ZRA rejects them with code 910. Credit notes link to the original invoice via refundNumber instead.**

Example: Regular sale with CASH payment

```
{ "localid": "loc-abc-123", "user": "cashier1", "auditNumber": "A-00001", "tpin": "1000000000", "customerName": "Walk-in", "paymentType": "CASH", "currency": "ZMW", "rate": 1.0, "lines": [ { "plu": "PLU123", "description": "Sugar 1kg", "qty": 2, "sellingIncl": 60.0, "vatCat": "STANDARD_RATED", "uom": "NO", "pack": "EACH" } ] }
```

Example: Credit note (refund)

```
{ "localid": "loc-rfn-001", "user": "cashier1", "auditNumber": "A-00002", "tpin": "1000000000", "customerName": "Walk-in", "refund": true, "refundNumber": "INV01/12345", "refundResCode": "913", "refundReceiptSDC": "SDC01", "paymentType": "CASH", "currency": "ZMW", "rate": 1.0, "lines": [ { "plu": "PLU123", "description": "Sugar 1kg", "qty": 1, "sellingIncl": 60.0, "vatCat": "STANDARD_RATED", "uom": "NO", "pack": "EACH" } ] }
```

Example: Export sale (isExport: true)

```
{ "localid": "loc-exp-001", "user": "cashier1", "auditNumber": "A-00003", "tpin": "1000000000",  
"customerName": "Foreign Buyer", "isExport": true, "destinationCode": "ZW", "paymentType":  
"BANK_TRANSFER", "currency": "USD", "rate": 27.5, "lines": [ { "plu": "PLU123",  
"description": "Sugar 1kg", "qty": 100, "sellingIncl": 60.0, "vatCat": "C1", "uom": "NO",  
"pack": "EACH" } ] }
```

Example: LPO sale (isLpo: true)

```
{ "localid": "loc-lpo-001", "user": "cashier1", "auditNumber": "A-00004", "tpin": "1000000000",  
"customerName": "LPO Buyer", "isLpo": true, "lpo": "LP01234567", "paymentType": "CREDIT", "currency":  
"ZMW", "rate": 1.0, "lines": [ { "plu": "PLU123", "description": "Sugar 1kg", "qty": 50,  
"sellingIncl": 60.0, "vatCat": "C2", "uom": "NO", "pack": "EACH" } ] }
```

Example: Debit sale (isDebit: true)

```
{ "localid": "loc-dbt-001", "user": "cashier1", "auditNumber": "A-00005", "tpin": "1000000000",  
"customerName": "Walk-in", "isDebit": true, "debitReason": "Customer owes previous unpaid balance",  
"paymentType": "CREDIT", "currency": "ZMW", "rate": 1.0, "lines": [ { "plu": "PLU123",  
"description": "Sugar 1kg", "qty": 1, "sellingIncl": 60.0, "vatCat": "STANDARD_RATED",  
"uom": "NO", "pack": "EACH" } ] }
```

Successful Response

Status Code: 200 OK

Invoice created successfully

```
{ "rcptNo": "INV01/12345\n", "sdcId": "SDC01", "rcptSign": "ABCDEF...", "mrcNo": "MRC-001", "qrCodeUrl":  
"https://example.com/qr/INV01-12345", "qrCodeBase64": "iVBORw0KGgoAAAANSUgAA...", "taxData": "ZRA  
Invoice: INV01/12345\n ...", "exvatTotal": 100.0, "vat": 20.0, "inclTotal": 120.0 }
```

Error Response 503: VSCD offline; try later

```
{ "code": "503", "message": "This invoice has not reached ZRA's portal. Please try sending it again  
later." }
```

Notes

- Authenticate with the Api-Key header.
- Include a unique localid in the request body for idempotent retries.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Invoice category and follows the standard Api-Key authentication pattern.

8.2 GET SEARCH INVOICES

This endpoint is part of the Invoice category.

Endpoint Description

Data	Value
Endpoint	/invoice/search
Full URL	https://server.zra.co.zm/smartinv/invoice/search
HTTP Method	GET
Produces	application/json

Authorization	Required (Api-Key header)
---------------	---------------------------

Request Parameters

Name	In	Type	Required	Description
Api-Key	header	string	Yes	Tenant API key issued at device initialization. String, case-sensitive.
localId	query	string	No	
from	query	string	Yes	
to	query	string	Yes	
auditNumber	query	string	No	
refund	query	boolean	No	
tpin	query	string	No	The ZRA TPIN of the business. 10-digit string.
limit	query	integer	No	
base64	query	boolean	No	If true, include qrCodeBase64 (PNG, Base64 encoded) for each result when qrCodeUrl is present

Successful Response

Status Code: 200 OK

List of invoices (array of SmartInvoiceCompletedSale)

```
[ {
  "localId": "loc-abc-123",
  "saleTotal": 120.0,
  "auditNumber": "A-00001",
  "user": "cashier1",
  "tpin": "1000000000",
  "refund": false,
  "isLpo": false,
  "rate": 1.0,
  "isExport": false,
  "refundResCode": null,
  "refundNumber": null,
  "refundReceiptSDC": null,
  "note": "Thank you",
  "lpoNumber": null,
  "date": "2025-08-28T10:00:00",
  "vat": 20.0,
  "rcptNo": "INV01/12345",
  "intrlData": "abc123",
  "rcptSign": "ABCDEF...",
  "sdId": "SDC01",
  "mrcNo": "MRC-001",
  "qrCodeUrl": "https://example.com/qr/INV01-12345",
  "qrCodeBase64": "iVBORw0KGgoAAAANSUheUgAA...",
  "taxData": "ZRA Invoice: INV01/12345"
}]
```

Notes

- Authenticate with the Api-Key header.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Invoice category and follows the standard Api-Key authentication pattern.

8.3 GET GET A SINGLE INVOICE BY FISCAL NUMBER OR AUDIT NUMBER

This endpoint is part of the Invoice category.

Endpoint Description

Data	Value
Endpoint	/invoice/getByReceiptNumber
Full URL	https://server.zra.co.zm/smartinv/invoice/getByReceiptNumber
HTTP Method	GET
Produces	application/json
Authorization	Required (Api-Key header)

Request Parameters

Name	In	Type	Required	Description
Api-Key	header	string	Yes	Tenant API key issued at device initialization. String, case-sensitive.
fiscalNumber	query	string	No	Fiscal/receipt number to search by
auditNumber	query	string	No	Audit number to search by when fiscalNumber is not provided
base64	query	boolean	No	If true, include qrCodeBase64 (PNG, Base64 encoded) when qrCodeUrl is present

Successful Response

Status Code: 200 OK

Single invoice (SmartInvoiceCompletedSale)

Error Response 400: Both fiscalNumber and auditNumber were missing

Error Response 404: Invoice not found for the given fiscal number or audit number

[]

Notes

- Authenticate with the Api-Key header.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Invoice category and follows the standard Api-Key authentication pattern.

8.4 GET DOWNLOAD VAT REPORT

This endpoint is part of the Invoice category.

Endpoint Description

Data	Value
Endpoint	/invoice/vatReport
Full URL	https://server.zra.co.zm/smartinv/invoice/vatReport
HTTP Method	GET
Produces	application/json
Authorization	Required (Api-Key header)

Request Parameters

Name	In	Type	Required	Description
Api-Key	header	string	Yes	Tenant API key issued at device initialization. String, case-sensitive.
month	query	string	Yes	
year	query	string	Yes	

Successful Response

Status Code: 200 OK

VAT report file

UExBQ0VIT0xERVI=

Notes

- Authenticate with the Api-Key header.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Invoice category and follows the standard Api-Key authentication pattern.

9 System (1 endpoint)

This section covers 1 endpoint in the System category.

9.1 GET HEALTH CHECK

This endpoint is part of the System category.

Endpoint Description

Data	Value
Endpoint	/api/health
Full URL	https://server.zra.co.zm/smartinv/api/health
HTTP Method	GET
Produces	application/json
Authorization	Required (Api-Key header)

Successful Response

Status Code: 200 OK

OK

```
{ "status": "OK" }
```

Notes

- Authenticate with the Api-Key header.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the System category and follows the standard Api-Key authentication pattern.

10 Diagnostics (3 endpoints)

This section covers 3 endpoints in the Diagnostics category.

10.1 GET CONNECTION POOL METRICS

This endpoint is part of the Diagnostics category.

Endpoint Description

Data	Value
Endpoint	/db/connection
Full URL	https://server.zra.co.zm/smartinv/db/connection
HTTP Method	GET
Produces	application/json
Authorization	Required (Api-Key header)

--	--

Successful Response

Status Code: 200 OK

HikariCP metrics for application and MCQL

```
{ "Connection in App": { "activeConnections": 1, "idleConnections": 9, "totalConnections": 10 },
"Connection in MCQL": { "activeConnections": 0, "idleConnections": 5, "totalConnections": 5 }}
```

Error Response 500: Server error

Notes

- Authenticate with the Api-Key header.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Diagnostics category and follows the standard Api-Key authentication pattern.

10.2 GET VIRTUAL THREAD COUNT

This endpoint is part of the Diagnostics category.

Endpoint Description

Data	Value
Endpoint	/db/count
Full URL	https://server.zra.co.zm/smartinv/db/count
HTTP Method	GET
Produces	application/json
Authorization	Required (Api-Key header)

Successful Response

Status Code: 200 OK

Count returned

Number of Virtual Threads: 0

Error Response 500: Server error

Notes

- Authenticate with the Api-Key header.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Diagnostics category and follows the standard Api-Key authentication pattern.

10.3 GET VIRTUAL THREAD COUNT (INVOICE)

This endpoint is part of the Diagnostics category.

Endpoint Description

Data	Value
Endpoint	/invoice/count
Full URL	https://server.zra.co.zm/smartinv/invoice/count
HTTP Method	GET
Produces	application/json
Authorization	Required (Api-Key header)

Successful Response

Status Code: 200 OK

Count returned

Number of Virtual Threads: 0

Error Response 500: Server error

Notes

- Authenticate with the Api-Key header.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Diagnostics category and follows the standard Api-Key authentication pattern.

11 Branch (1 endpoint)

This section covers 1 endpoint in the Branch category.

11.1 GET GET BRANCHES FROM VSCD

This endpoint is part of the Branch category.

Endpoint Description

Data	Value
Endpoint	/branch/all
Full URL	https://server.zra.co.zm/smartinv/branch/all
HTTP Method	GET
Produces	application/json
Authorization	Required (Api-Key header)

Request Parameters

Name	In	Type	Required	Description
Api-Key	header	string	Yes	API key

				associated with the branch/company
--	--	--	--	------------------------------------

Successful Response

Status Code: 200 OK

List of branches

```
[ { "id": "BHF01", "name": "Main Branch" }, { "id": "BHF02", "name": "Warehouse" } ]
```

Error Response 401: Missing or invalid Api-Key

Error Response 500: Server error

Notes

- Authenticate with the Api-Key header.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Branch category and follows the standard Api-Key authentication pattern.

12 Logs (1 endpoint)

This section covers 1 endpoint in the Logs category.

12.1 GET SEARCH QUERY LOGS

This endpoint is part of the Logs category.

Endpoint Description

Data	Value
Endpoint	/querylogs
Full URL	https://server.zra.co.zm/smartinv/querylogs
HTTP Method	GET
Produces	application/json
Authorization	Required (Api-Key header)

Request Parameters

Name	In	Type	Required	Description
from	query	string	No	
to	query	string	No	
route	query	string	No	
zraResCode	query	string	No	

apiKey	query	string	No	
httpcode	query	string	No	
localid	query	string	No	Your unique request ID for idempotent retry. String UUID; replays the cached response on retry.
scope	query	string	No	
auditNumber	query	string	No	
currency	query	string	No	
refund	query	boolean	No	
lpo	query	boolean	No	
isExport	query	boolean	No	
plu	query	string	No	
name	query	string	No	
department	query	string	No	

Successful Response

Status Code: 200 OK

Filtered query logs

```
[ { "LocalID": "2d8b4c7f-1a2b-4e3f-9c0a-1234567890ab", "sentRoute": "/invoice/create",
"jsonPayload": "{...}", "response": "{...}", "code": "000", "date": "2025-08-28T10:15:00",
"processed": true, "ApiKey": "TEST-0002", "HttpCode": 200 } ]
```

Error Response 500: Server error

Notes

- Authenticate with the Api-Key header.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Logs category and follows the standard Api-Key authentication pattern.

13 TPIN (1 endpoint)

This section covers 1 endpoint in the TPIN category.

13.1 GET RESCAN TPIN FROM LYTNING API

Delete stale TPIN record from zra_tpin_info and re-fetch fresh data from the Lytning ZRA API. Sends WhatsApp notification to the Compliance Officer. Returns an honest envelope (TicketApp #26182 / Founder directive 2026-08-05): `fetched` indicates whether the Lytning ZRA fetch succeeded; `notificationSent` indicates whether the compliance WhatsApp was delivered. Either `false` is paired with a `\*SkippedReason` for diagnosis. The wire-level HTTP status is set by the global exception handler; the `httpStatus` field is informational.

Endpoint Description

Data	Value
Endpoint	/api/tpin/{tpin}/rescan
Full URL	https://server.zra.co.zm/smartinv/api/tpin/{tpin}/rescan
HTTP Method	GET
Produces	application/json
Authorization	Required (Api-Key header)

Request Parameters

Name	In	Type	Required	Description
tpin	path	string	Yes	10-digit Zambian TPIN

Successful Response

Status Code: 200 OK

TPIN data refreshed successfully (envelope includes honest side-effect flags)

```
{  "tpin": "2003172351",  "taxPayerName": "SUNOAK INVESTMENT LIMITED",  "status": "ACTIVE",  "effectiveDateOfReg": "25 June 2024",  "taxTypes": [    "Pay As You Earn",    "Income Tax",    "Value Added Tax"  ],  "fetched": true,  "fetchSkippedReason": null,  "notificationSent": true,  "notificationSkippedReason": null,  "httpStatus": 200}
```

Error Response 400: Bad request — TPIN not exactly 10 numeric digits

```
{  "error": "400",  "message": "TPIN must be exactly 10 numeric digits"}
```

Error Response 404: TPIN not found in Lytning API

```
{  "error": "404",  "message": "TPIN not found at ZRA"}
```

Error Response 503: Lytning API timeout or server error

```
{  "error": "503",  "message": "Lytning API unavailable"}
```

Notes

- Authenticate with the Api-Key header.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the TPIN category and follows the standard Api-Key authentication pattern.

14 Initialize (6 endpoints)

This section covers 6 endpoints in the Initialize category.

14.1 GET CHECK IF API KEY IS INITIALIZED

Open endpoint — no Api-Key required; any Api-Key header is ignored by the filter.

Endpoint Description

Data	Value
Endpoint	/init/authCheckInitialized
Full URL	https://server.zra.co.zm/smartinv/init/authCheckInitialized
HTTP Method	GET
Produces	application/json
Authorization	Required (Api-Key header)

Successful Response

Status Code: 200 OK

API key or false

Example (initialized):

api_live_key_abc123

Example (notInitialized):

False

Error Response 500: Server error

Notes

- Authenticate with the Api-Key header.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Initialize category and follows the standard Api-Key authentication pattern.

14.2 POST AGENT LOGIN TO REQUEST OTP

This endpoint is part of the Initialize category.

Endpoint Description

Data	Value
Endpoint	/init/authAgentLogin

Full URL	https://server.zra.co.zm/smartinv/init/authAgentLogin
HTTP Method	POST
Produces	application/json
Authorization	Required (Api-Key header)

Payload Variables

Variable	Type	Required	Example
localid	string	Yes	
manageStock	boolean	No	
username	string	Yes	
password	string	Yes	

```
{ "localid": "loc-123", "manageStock": true, "username": "cashier1", "password": "*****" }
```

Successful Response

Status Code: 200 OK

OTP sent successfully

```
{ "Message": "Otp sent successfully" }
```

Error Response 400: Bad request

Error Response 500: Server error

Notes

- Authenticate with the Api-Key header.
- Include a unique localid in the request body for idempotent retries.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Initialize category and follows the standard Api-Key authentication pattern.

14.3 POST VERIFY OTP AND RETURN BRANCHES

This endpoint is part of the Initialize category.

Endpoint Description

Data	Value
Endpoint	/init/authAgentVerification
Full URL	https://server.zra.co.zm/smartinv/init/authAgentVerification
HTTP Method	POST

Produces	application/json
Authorization	Required (Api-Key header)

Payload Variables

Variable	Type	Required	Example
localid	string	Yes	
manageStock	boolean	No	
otp	string	Yes	
tpin	string	No	

```
{"localid": "loc-123", "manageStock": true, "otp": "123456", "tpin": "10000000000"}
```

Successful Response

Status Code: 200 OK

List of branches for selection

```
[ { "id": 1, "address": "Main Street 1", "contact": "0123456789", "main_Branch": true, "store_Reference": "STORE-1", "sign_Up_Id": 100, "device_Serial_No": "SN1234", "branch_Code": "BHF01", "blocked": false, "createdDate": "2025-08-20T09:00:00", "lastSessionDate": "2025-08-28T10:00:00", "session": "abcdef", "Tpin": "10000000000", "Initailised": true, "ApiKey": "api_live_key_abc123" } ]
```

Error Response 400: Bad request

Error Response 500: Server error

Notes

- Authenticate with the Api-Key header.
- Include a unique localid in the request body for idempotent retries.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Initialize category and follows the standard Api-Key authentication pattern.

14.4 POST REGISTER AND INITIALIZE DEVICE WITH VSCD

This endpoint is part of the Initialize category.

Endpoint Description

Data	Value
Endpoint	/init/register
Full URL	https://server.zra.co.zm/smartinv/init/register
HTTP Method	POST

Produces	application/json
Authorization	Required (Api-Key header)

Payload Variables

Variable	Type	Required	Example
deviceSerialNumber	string	Yes	DEV-12345
tpin	string	Yes	1000000000
bhfid	string	Yes	BHF01
operatorId	string	Yes	admin

```
{ "deviceSerialNumber": "DEV-12345", "tpin": "1000000000", "bhfid": "BHF01", "operatorId": "admin"}
```

Required fields: **deviceSerialNumber (string), tpin (string), bhfid (string), operatorId (string)**

Successful Response

Status Code: 200 OK

API key created and initialization completed

```
{ "APIKEY": "api_live_key_abc123", "TPin": "1000000000", "DefaultBranch": "BHF01", "CreatedUser": "admin@example.com", "CreatedDate": "2025-08-28 11:30:00", "SerialNumber": "SN12345", "Initialised": true, "blocked": false, "Production": false, "upgradedVSDC": false}
```

Error Response 400: Bad request

Error Response 403: Account Not Allowed API

Error Response 500: Server error

Notes

- Authenticate with the Api-Key header.
- Include a unique localid in the request body for idempotent retries.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Initialize category and follows the standard Api-Key authentication pattern.

14.5 GET RE-REGISTER BY FETCHING BUSINESS INFO

This endpoint is part of the Initialize category.

Endpoint Description

Data	Value
Endpoint	/init/re-register
Full URL	https://server.zra.co.zm/smartinv/init/re-register
HTTP Method	GET

Produces	application/json
Authorization	Required (Api-Key header)

Request Parameters

Name	In	Type	Required	Description
apiKey	query	string	Yes	

Successful Response

Status Code: 200 OK

Business information

```
{  "tin": "1000000000",  "taxprNm": "ACME LTD",  "bsnsActv": "Retail",  "bhfId": "BHF01",  "bhfNm": "Main Branch",  "bhfOpenDt": "2024-01-01",  "prvncNm": "Lusaka",  "dstrtNm": "Lusaka",  "sctrNm": "Commerce",  "locDesc": "Plot 1 Cairo",  "hqYn": "Y",  "mgrNm": "John Manager",  "mgrTelNo": "0123456789",  "mgrEmail": "manager@acme.com",  "sdcId": "SDC01",  "mrcNo": "MRC-001",  "lastPchsInvNo": "0",  "lastSaleRcptNo": "0",  "lastInvNo": "0",  "lastSaleInvNo": "0",  "lastTrainInvNo": "0",  "lastProfrmInvNo": "0",  "lastCopyInvNo": "0",  "datecreated": "2025-08-28 11:00:00",  "apiKey": "api_live_key_abc123"}
```

Error Response 500: Server error

Notes

- Authenticate with the Api-Key header.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Initialize category and follows the standard Api-Key authentication pattern.

14.6 POST MARK TPIN AS UPGRADED TO VSCD

This endpoint is part of the Initialize category.

Endpoint Description

Data	Value
Endpoint	/init/markTpinAsUpgraded
Full URL	https://server.zra.co.zm/smartinv/init/markTpinAsUpgraded
HTTP Method	POST
Produces	application/json
Authorization	Required (Api-Key header)

Payload Variables

Variable	Type	Required	Example
localid	string	Yes	

manageStock	boolean	No	
tpin	string	Yes	

```
{ "localid": "loc-123", "manageStock": true, "tpin": "10000000000" }
```

Successful Response

Status Code: 200 OK

Confirmation message

```
{ "Message": "Done" }
```

Error Response 500: Server error

Notes

- Authenticate with the Api-Key header.
- Include a unique localid in the request body for idempotent retries.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Initialize category and follows the standard Api-Key authentication pattern.

15 Customer (1 endpoint)

This section covers 1 endpoint in the Customer category.

15.1 GET GET ALL CUSTOMERS FROM VSCD (NOT FOR PRODUCTION USE)

This endpoint is part of the Customer category.

Endpoint Description

Data	Value
Endpoint	/dontuse/customer/all
Full URL	https://server.zra.co.zm/smartinv/dontuse/customer/all
HTTP Method	GET
Produces	application/json
Authorization	Required (Api-Key header)

Request Parameters

Name	In	Type	Required	Description
Api-Key	header	string	Yes	Tenant API key issued at device initialization. String, case-

				sensitive.
--	--	--	--	------------

Successful Response

Status Code: 200 OK

List of customers returned by VSCD

```
[ { "id": "CUST001", "name": "John Doe", "tpin": "1000000000" } ]
```

Error Response 401: Missing or invalid Api-Key

Error Response 500: Server error

Notes

- Authenticate with the Api-Key header.
- Successful response returned with the operation result.

Conclusion

This endpoint is part of the Customer category and follows the standard Api-Key authentication pattern.

16 Codes In Use

A. Enum-defined codes (schema contract)

These codes are pinned in api.yaml and runtime validates against them.

VAT Categories (TaxationType names)

Per MMOC-11 (Phase 4L, 2026-08-15). Runtime accepts the full name, NOT short codes.

STANDARD_RATED, MINIMUM_TAXABLE_VALUE, EXPORTS, ZERO_RATING_LPO, ZERO_RATED_BY_NATURE, EXEMPT, TOT, REVERSE_VAT, DISBURSEMENT, INSURANCE_PREMIUM_LEVY_1, INSURANCE_PREMIUM_LEVY_2, TOURISM_LEVY, SERVICE_CHARGE, EXCISE_COAL, EXCISE_ELECTRICITY

Product Types (CreateProduct.type)

Excluded: Other (throws AssertionError in ItemSaveRequest.Convert).

serviceltem, caseltem, singleltem, recipeltem, rawMaterial

UoM Codes (UNECE Rec 20)

Use codes like NO, KGM, L. Fetch canonical list via GET /codes/units/all.

Packaging Codes (UN/EDIFACT 7063)

Use codes like CT, PK, NT. Fetch canonical list via GET /codes/packaging/all.

B. Runtime code endpoints (call live API for full list)

The codes above are the static subset. Full canonical lists are returned by the runtime endpoints listed below
- call them at runtime to get the latest values.

Endpoint	Method	Returns
/codes/currency/all	GET	ISO 4217 currency code +

		name pairs (6 entries)
/codes/refundReason/all	GET	ZRA refund reason code + description pairs (13 entries)
/codes/countries/all	GET	ISO 3166-1 alpha-2 country code + name pairs
/codes/uom/all	GET	UoM code + name pairs (39 entries; UNECE Rec 20 family)
/codes/pack/all	GET	Packing-unit code + name pairs (53 entries; UN/EDIFACT family)
/codes/productType/all	GET	Flat array of product-type identifier strings (6 entries)
/codes/taxTypes/all	GET	ZRA tax-type entries (15 entries; {code, name, rate})

The following code-value enumerations are referenced from request bodies throughout this document and are pinned here for quick lookup:

C. Payment Type values (request bodies)

Used by: `/invoice/create`, `/purchase/create`, `/purchase/createNonIntegrated`

Send one of these exact values: **CASH**, **CREDIT**, **CASH_CREDIT**, **BANK_CHEQUE**, **DEBIT_CARD**, **MOBILE_MONEY**, **BANK_TRANSFER**, **OTHER**. If omitted, it defaults to **CREDIT**. The same values apply to credit notes.

Notes:

- Send the **exact** string (case-sensitive). Lowercase / mixed-case values are rejected by ZRA.
- **CASH_CREDIT** is used when the buyer pays part cash and part on account.
- Credit notes use the same enum — **refund: true** + the chosen paymentType indicates how the refund is settled.

D. Refund Reason codes (ZRA refundReason)

Set **refundResCode** on a credit note to the matching **refundReason.code** returned by **GET /codes/refundReason/all**. Examples (fetch the endpoint for the full list):

01 - Customer Return, 02 - Price Adjustment, 03 - Damaged Goods, 04 - Duplicate Sale, 05 - Incorrect Description

E. Country codes (destinationCode on export sales)

Required when **isExport: true**. Send the 2-letter **ISO 3166-1 alpha-2** country code (e.g. **ZW** for Zimbabwe, **CD** for DRC). Use the canonical list from **GET /codes/countries/all** — do not hardcode.

F. Currency codes (request bodies)

Use ISO 4217 codes (e.g. **ZMW** for Zambian Kwacha, **USD** for US Dollar). Pair with the matching **rate** against the tenant base currency. Canonical list: **GET /codes/currency/all**.

G. VAT Category semantics (line-level)

Each line item carries a **vatCat** value that drives how ZRA taxes it. The runtime ignores **vatCat** when the parent invoice flag overrides it:

isExport: true → all lines forced to **C1** (zero-rated export).

isLpo: true → all lines forced to **C2** (LPO zero-rated); LPO number printed on receipt.

isDebit: true → also requires **debitReason** (free text).

⚠ **Credit notes (refund: true) must NOT carry an LPO number — ZRA rejects with code 910. Credit notes link to the original invoice via refundNumber instead.**

17 Errors and How To Handle Them

All endpoints return a structured error envelope on failure. Standard fields:

Field	Type	Description
LocalID	string	The localid echoed back; null on pre-auth failures.
sentRoute	string	The route as dispatched to ZRA/VSDC; null on pre-auth.
code	string	Three-digit ZRA status code: 000 = success, 9xx = error family.
date	string	ISO 8601 timestamp of the response generation.
processed	boolean	True iff ZRA accepted the transaction. False = safe to retry with same localid after fixing the cause.

Common error codes

Code	Meaning
000	Success - ZRA accepted the transaction.
200	Success (alternate code used by some endpoints).
400	Bad Request - payload validation failed.
401	Missing or invalid Api-Key.
404	Resource not found.
500	Server error - safe to retry.
502	Upstream error - ZRA/VSDC unreachable or

	returned an error.
503	Service unavailable - try again later.
504	Gateway timeout - ZRA/VSDC did not respond in time.
913	Invalid input - ZRA rejected the payload.
924	Duplicate CIS invoice number - localid already used.
934	Original invoice not found (credit notes).
986	Libertas record not found.

Convention: always retry on processed=false with the same localid. If the server returns processed=false twice with the same localid, escalate to your support channel.