

Protocols

This section contains the specification of protocols used by both E-SDCs and POSes

1. [TaxCore.API for both POS and E SDC](#)
TaxCore.API is designed to expose TaxCore's functionalities to all external systems.
2. [POS to SDC Protocol](#)
This section describes API exposed by V-SDC and all accredited E-SDC devices and applications to POS and invoicing systems.

TaxCore.API for both POS and E-SDC

Introduction

TaxCore.API is designed to expose TaxCore's functionalities to all external systems.

It enables the integration of POS's, E-SDCs, accreditation tools, and other clients that make the TaxCore ecosystem.

API documentation design is based on OpenAPI-Specification V2 (<https://github.com/OAI/OpenAPI-Specification>). You can use OpenAPI-Specification code generators (e.g. <https://swagger.io/tools/swagger-codegen>) to quickly build a proxy library for almost any programming language and platform.

NOTE:

Development, testing, and technical review are all done in the Sandbox environment. The next step is the administrative review process, which enables getting accreditation for a specific country. Different countries have different system names, and every environment has its own URL.

NOTE:

The documents in this section provide TaxCore.API endpoints for both E-SDCs and POS's.

If you want to learn more about the TaxCore.API endpoints for E-SDCs, refer to the documents [here](#), and if you are interested in POS endpoints, refer to the document [For POS Developers](#), section *Connecting with V-SDC and E-SDC service*.

Content

1.

[Obtain a URL of the TaxCore.API Service from Digital Certificate](#)

TaxCore.API service provides the configuration information of the current environment. In order to access it, one must obtain the URL of the TaxCore.API service from the Secure Element digital certificate. This procedure applies to any type of Secure Element.

2.

[Configuration](#)

Every TaxCore.API instance provides services anyone can use to gather information about the current environment and all available environments from the current node.

Obtain a URL of the TaxCore.API Service from Digital Certificate

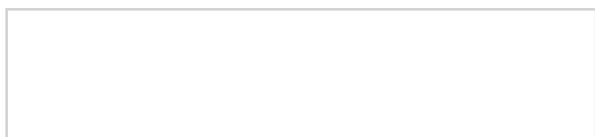
Introduction

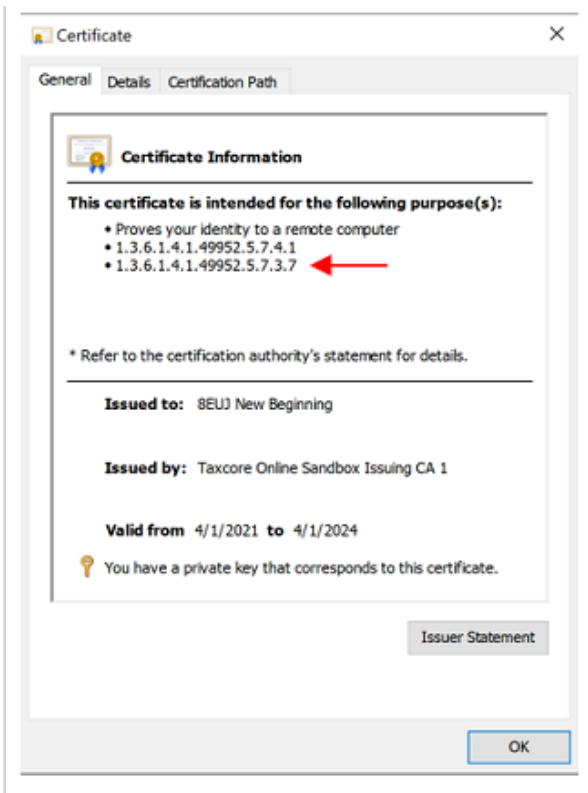
TaxCore.API service provides the configuration information of the current environment. In order to access it, one must obtain the URL of the TaxCore.API service from the Secure Element digital certificate. This procedure applies to any type of Secure Element.

How to obtain TaxCore.API URL

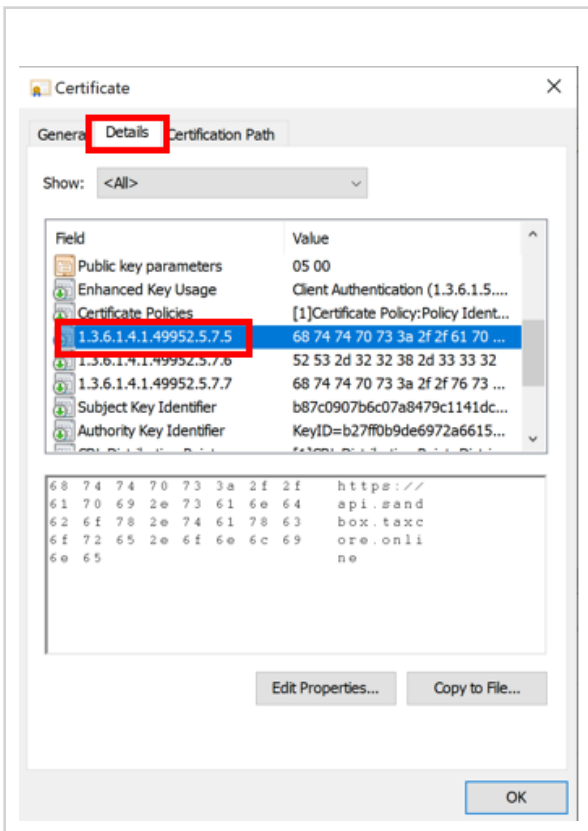
TaxCore.API URL is stored in a digital certificate of the Secure Element as the value of OID. OID is dynamically created when a Secure Element is issued and depends on the target environment. For example, Test and Production environments will have different OIDs, so that the digital certificate issued for one environment cannot be used for any purpose in another environment. Follow the steps to read the OID value from the digital certificate installed on your computer:

1. Open the certificate installed on your computer;
2. In the **General** tab, your certificate should have the OID in this format **1.3.6.1.4.1.49952.X.Y.3.7**;
3. **X and Y parameters identify the environment** and their **values change according to each environment**.





4. Click on the **Details** tab and find the line with an OID in this format - **1.3.6.1.4.1.49952.X.Y.5**



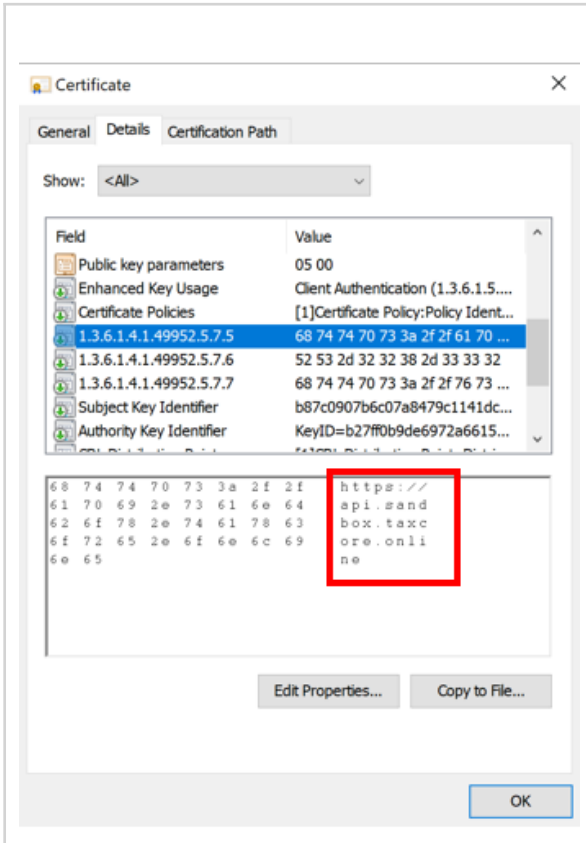
5. Again, **X and Y parameters identify the environment**, and the **values will vary according to different environments**, but they will be the same as on the **General** tab.

6.

Number **5** at the end identifies the TaxCore.API URL.

7.

Read the value of this OID containing the root URL of TaxCore.API Service.



If the Secure Element is in the smart card format, the URL of TaxCore.API services can be obtained at runtime using [Export Certificate APDU command](#), which returns the digital certificate in the DER format.

Configuration

Introduction

Every TaxCore.API instance provides services anyone can use to gather information about the current environment and all available environments from the current node.

These services should be used by all POS and E-SDC implementations to gather environment information and to simplify technical review, accreditation, deployment, and usage in various jurisdictions.

Content

1.

[Configuration](#)

This service returns the information about environment configuration.

2.

[Tax Rates](#)

This service returns the information about defined tax rates for the environment.

3.

[Environments](#)

This service returns a list of all available environments from the TaxCore.API.

4.

[Encryption Certificate](#)

This service returns the public key of the TaxCore.API, which can be used for encryption.

Configuration

This service returns the information about environment configuration.

NOTE:

The same parameters can also be obtained from any SDC device (E-SDC or V-SDC), which is the preferred option for obtaining this information - see [POS to SDC Protocol](#).

Endpoint

| Endpoint | Example |
|---|--|
| <TaxCore_API_URL_obtained_from_certificate_as_e; here >/api/v3/configuration | https://api.sandbox.vms.fracs.org.fj/api/v |

NOTE:

Development and production environments, as well the environments in different countries, have different URLs. For this reason, URLs and names in your documentation, code, and UI should not be hardcoded but configurable or extracted from a digital certificate.

HTTP Method

Authentication

No authentication

Response

| Field | Description |
|---------------------------|---|
| organizationName | Name of the tax authority organization |
| serverTimeZone | Time zone of the server location |
| street | Tax authority street address |
| city | Tax authority city |
| country | Tax authority country |
| endpoints | List of available endpoints |
| environmentName | Name of the environment |
| logo | Link to the tax authority's official logo |
| ntpServer | NTP server used for time synchronization |
| supportedLanguages | List of language-culture strings supported by TaxCore |

Example

```
{
  "organizationName": "Data Tech International",
  "serverTimeZone": "Fiji Standard Time",
  "street": "Kruzni put 7",
  "city": "Belgrade",
  "country": "RS",
  "endpoints": {
    "taxpayerAdminPortal": "https://tap.sandbox.taxcore.dti.rs:443/",
    "taxCoreApi": "https://api.sandbox.taxcore.dti.rs:443/",
    "vsdc": "https://vsdc.sandbox.taxcore.dti.rs:443/",
    "root": "https://frontendui.sandbox.taxcore.dti.rs:443/v/?vl="
  },
  "environmentName": "SANDBOX",
```

```
"logo": "https://i.imgur.com:443/tg5ad60.png?hash=1563836329",
"ntpServer": "http://0.europe.pool.ntp.org:80/",
"supportedLanguages": [
  "en-US",
  "sr-Cyrl-RS"
]
}
```

Tax Rates

This service returns the information about defined tax rates for the environment.

NOTE:

The same parameters can also be obtained from any SDC device (E-SDC or V-SDC), which is the preferred option for obtaining this information - see [POS to SDC Protocol](#).

Endpoint

| Endpoint | Example |
|---|--|
| <TaxCore_API_URL_obtained_from_certificate_as_e; here >/api/v3/tax-rates | https://api.sandbox.vms.frcs.org.fj/api rates |

NOTE:

Development and production environments, as well the environments in different countries, have different URLs. For this reason, URLs and names in your documentation, code, and UI should not be hardcoded but configurable or extracted from a digital certificate.

HTTP Method

GET

Authentication

No authentication

Response

| Field | Description |
|------------------------|---|
| currentTaxRates | The currently active tax rate group. |
| allTaxRates | All tax rate groups ever used for the environment - can be used for reference when issuing refunds. Also includes all approved future tax rate groups, with the date of their activation. |

Example

```
{
  "currentTaxRates": [
    {
      "validFrom": "2020-08-03T12:56:56",
      "groupId": 2,
      "taxCategories": [
        {
          "name": "ECAL",
          "categoryType": 0,
          "taxRates": [
            {
              "rate": 5,
              "label": "D"
            },
            {
              "rate": 11,
              "label": "F"
            }
          ]
        },
        {
          "name": "N-TAX",
          "categoryType": 0,
          "taxRates": [
            {
              "rate": 0,
              "label": "N"
            }
          ]
        }
      ],
      "orderId": 1
    },
    {
      "name": "PBL",
      "categoryType": 2,
      "taxRates": [
        {
          "rate": 0.5,
          "label": "P"
        }
      ],
      "orderId": 3
    },
    {
      "name": "STT",
      "categoryType": 0,

```

```
    "taxRates": [
      {
        "rate": 6,
        "label": "E"
      }
    ],
    "orderId": 4
  },
  {
    "name": "VAT",
    "categoryType": 0,
    "taxRates": [
      {
        "rate": 9,
        "label": "A"
      },
      {
        "rate": 0,
        "label": "B"
      }
    ],
    "orderId": 5
  },
  {
    "name": "VAT-EXCL",
    "categoryType": 1,
    "taxRates": [
      {
        "rate": 0,
        "label": "C"
      }
    ],
    "orderId": 6
  }
]
}
],
"allTaxRates": [
  {
    "validFrom": "2020-08-02T21:04:00",
    "groupId": 1,
    "taxCategories": [
      {
        "name": "ECAL",
        "categoryType": 0,
        "taxRates": [
          {
            "rate": 5,
            "label": "D"
          },
          {
            "rate": 11,
            "label": "F"
          }
        ],
        "orderId": 1
      },
      {
        "name": "N-TAX",
        "categoryType": 0,
        "taxRates": [
          {
            "rate": 0,
            "label": "N"
          }
        ],
        "orderId": 1
      }
    ]
  }
]
```

```
"orderId": 2
},
{
  "name": "PBL",
  "categoryType": 2,
  "taxRates": [
    {
      "rate": 0.2,
      "label": "P"
    }
  ],
  "orderId": 3
},
{
  "name": "STT",
  "categoryType": 0,
  "taxRates": [
    {
      "rate": 6,
      "label": "E"
    }
  ],
  "orderId": 4
},
{
  "name": "VAT",
  "categoryType": 0,
  "taxRates": [
    {
      "rate": 9,
      "label": "A"
    },
    {
      "rate": 0,
      "label": "B"
    }
  ],
  "orderId": 5
},
{
  "name": "VAT-EXCL",
  "categoryType": 1,
  "taxRates": [
    {
      "rate": 0,
      "label": "C"
    }
  ],
  "orderId": 6
}
]
},
{
  "validFrom": "2022-01-01T00:00:00Z",
  "groupId": 3,
  "taxCategories": [
    {
      "name": "ECAL",
      "categoryType": 0,
      "taxRates": [
        {
          "rate": 10,
          "label": "F"
        }
      ],
      "orderId": 5
    }
  ]
}
```

```

    },
    {
      "name": "PB",
      "categoryType": 2,
      "taxRates": [
        {
          "rate": 0.1,
          "label": "P"
        }
      ],
      "orderId": 6
    },
    {
      "name": "STT",
      "categoryType": 0,
      "taxRates": [
        {
          "rate": 1,
          "label": "E"
        }
      ],
      "orderId": 2
    },
    {
      "name": "VAT",
      "categoryType": 0,
      "taxRates": [
        {
          "rate": 9,
          "label": "A"
        }
      ],
      "orderId": 1
    }
  ]
}

```

Environments

This service returns a list of all available environments from the TaxCore.API.

NOTE:

The same parameters can also be obtained from any SDC device (E-SDC or V-SDC), which is the preferred option for obtaining this information - see [POS to SDC Protocol](#).

Endpoint

| Endpoint | Example |
|----------|---------|
|----------|---------|

<TaxCore_API_URL_obtained_from_certificate_as_e:
[here](#)>/api/v3/environments

https://api.sandbox.vms.fracs.org.fj/api/v

NOTE:

Development and production environments, as well the environments in different countries, have different URLs. For this reason, URLs and names in your documentation, code, and UI should not be hardcoded but configurable or extracted from a digital certificate.

HTTP Method

GET

Authentication

No authentication

Response data

| Field | Description |
|------------------------|--|
| name | Name of the TaxCore environment |
| url | Root Url of the TaxCore environment. You can construct other well-known Urls using this value. For example, <code>api.sandbox.taxcore.online</code> and <code>vsvc.sandbox.taxcore.online</code> . |
| description | Description of the environment. For example, "for accreditation purposes only". |
| environmentName | For internal use only. |

Example (not specific for any environment)

```
[  
  {  
    "name": "Sandbox",  
    "url": "sandbox.taxcore.online",  
    "description": "",  
    "environmentName": "SANDBOX"  
  }  
]
```


BDwAwggEKAoIBAQCp6DtItC7kP3EwPwES6xjPD7Yn2S0mUzTy2vAsHmSeW4iHs
ZfSY24kz1EpUKqHJhukmg7tJwT+L4IJDaQzFdK+PxlgYAFiOGeAu+WS3Ka1dY0
2/bS+rFvzLbuh29Jhd5ESpQp39X7DSA9fSB8bms/SmaI0h5qT3NWL7leU9tiG/
77srpVhzPP4/CI+oXYOQ5V7MvztGUXjsRJBcg8o2nHJa4nDzz4kuyY5Mb4k6Nr
OTPMcTs8HgR2HE1NTIp1KEA46R8Rv9QD415oBxmL+bEiKR68xXjoAxbBLJcEfV
CTIkFU0ImuyHK1RRV3JCSbglfdRwcqIbkeCEYdeRE0HPMAbAgMBAAGjggK2MI
CsjaOBgNVHQ8BAf8EBAMCBDAwDwYDVR0TAQH/BAUwAwIBADAXBgNVHSUEEDA
OBgwrBgEEAYOGIAEBAwYwggGjBgNVHSAEggGAMIIBfDCBuwYMKwYBBAGDhiABA
QQBIMIGqMC4GCCsGAQUFBwIBFiJodHRwOi8vcGtpLnRlc3QuZGF4Y29yZS5kdGkuc
nMvcGtpMHgGCCsGAQUFBwICMGweagBEAFQASQAgAFQAYQB4AEMAbwByAGUAIA
BpAG4AdABlAHIAAbgBhAGwAVQbzAGUAIABwAeSASQBUAGUAcwB0ACAAaQBzAHMA
dQBhAG4AYwBlAFAAbwBsAGkAYwB5ACAAyWbsAGEAcwBzADEwgbsGDCsGAQQBg4Y
gAQEEATCBqjAuBggrBgEFBQcCARYiaHR0cDovL3BraS50ZXN0LnRheGNvcmUuZ
HRpLnJzL3BraTB4BggrBgEFBQcCAjBsHmoARABUAekAIABUAGEAeABDAG8AcgB
lACAAaQBuAHQAZQByAG4AYQBsAFUAcwBlACAAcABLAekAVABlAHMAAdAAgAGkAc
wBzAHUAYQBuAGMAZQBQAG8AbABpAGMAeQAgAGMAbABhAHMAcWxMB0GA1UdDgQ
WBBQCMogZokiv0fsLYwd+h2HFU9SBejAfBgNVHSMEGDAWgBR96opdCPQ+lAPgN
GyM3NFn5WwubjBOBgNVHR8ERzBFMEogQa/hj1odHRwOi8vcGtpLnRlc3QuZGF
4Y29yZS5kdGkucnMvcGtpL1RheENvcmVJQ0ExRGV2ZWxvcG11bnQuY3JsMFkGC
CsGAQUFBwEBBE0wSzBJBggrBgEFBQcwAoY9aHR0cDovL3BraS50ZXN0LnRheGN
vcmUuZHRpLnJzL3BraS9UYXhDb3JlSUNBMURldmVsb3BtZW50LmNlcjANBgkqh
kiG9w0BAQsFAAOCAQEAI9pj/BFcQ7i1i/577kcCP2/0W8hi3Wr07UyESvSn+z7
5jdBG1r1v3tkSswqYhoQmZsDifuvi02cnSEt0QOyyBTUYS499xsIbGVZVzuEop
nFzqsgyTarPtITho4DeLcnjtol1xVh9PPzAT1fsz7xXHqfaex6x+HCkWFkUuFE
bze59ib5MJoz5zE9WxYZwdXy7mOxgdjyjTanQTGReqDWeT1bA219/UZxHGBpr
TALfU7uAxdnCexPxim24sDkO3/ZsVLqhRFPuTFq1EY8K9YY9L9aWxIWFuJFKsh
rHc3fQND9BzjT5Hj6T2CxqfEUUxgUkpFPkeOYEtmvE/rm03jSvA=="

POS to SDC Protocol

This section describes API exposed by V-SDC and all accredited E-SDC devices and applications to POS and invoicing systems.

[Create Invoice](#) command is the same for both V-SDCs and E-SDC thus simplifying implementation of POSes. Some other services defined in this section are specific to either V-SDC or E-SDC implementations because they cater for differences between Connected and Semi-Connected modes of operation and specifics of authentication and authorization.

Network Connectivity of E-SDCs

E-SDC device shall be equipped with an Ethernet port or a Wireless controller in accordance with IEEE 802.3, with speed no less than 100Mb/s, in order to access a local area network.

The physical connection to a network can be established with a standard LAN cable, Cat.5 or similar with better features. The ends of the cables shall be equipped with RJ-45 plug male connectors since an E-SDC is equipped with a female RJ-45 connector.

E-SDC shall have a globally unique MAC-48 address in accordance with IEEE 802, which is stored on a specialized MAC Address chip, or an address obtained by the authorized vendor stored in the non-volatile memory during the manufacturing.

IP Address and other network settings on an E-SDC shall be configurable. The technical implementation of these features is in the scope of the E-SDC manufacturer.

Content

1. [Get Environment Parameters](#)

This service returns information about environment configuration. The same parameters can also be obtained directly from TaxCore.API with more accuracy, as SDCs' accuracy depends on their synchronization frequency. The fields list in Response can grow, adding additional information, so integrators should keep that in mind.
2. [Attention](#)

This command is used by POS to verify if E-SDC is available. The command is used prior to Sign Invoice or Send Pin requests. This significantly lowers the possibility of communication errors, including timeout errors. Only if a valid response is received, the POS immediately sends the next command.
3. [Get Status](#)

This service is used to get status information from SDC.
4. [Verify PIN](#)

This service is used to verify a PIN entered by a cashier on a POS. Once the PIN is entered, it is validated using the Secure element on a smart card. The request is sent as plain text and the response is plain text (still application/json HTTP header must be provided).
5. [Create Invoice](#)

This section contains the description of the **Create Invoice** command.
6. [Get Last Signed Invoice](#)

Get the last signed invoice by `RequestId`. It is used in case POS did not get a response from E-SDC after the [Create Invoice](#) service was invoked. The response is the same as for the Create Invoice service. `RequestId` field from the request is used to determine whether the last invoice was successfully created.
7. [Error Messages Format](#)

This section describes the structure and format of error messages that SDC returns to POS.
8. [Status and Error Codes](#)

All protocols share the same Info, Error, and Warning codes.

Get Environment Parameters

This service returns information about environment configuration. The same parameters can also be obtained directly from TaxCore.API with more accuracy, as SDCs' accuracy depends on their synchronization frequency. The fields list in Response can grow, adding additional information, so integrators should keep that in mind.

NOTE:

Development, testing and, technical review are all done in the Sandbox environment. The next step is the administrative review process, which enables getting accreditation for a specific country. Different countries have different environment names, and every environment has its own URL (see [Environments](#)). For this reason, URLs and names in your documentation, code and UI should not be hardcoded but configurable or extracted from a digital certificate.

| SDC | Endpoint | Example |
|-------|--|--|
| V-SDC | <V-SDC_API_URL_obtained_from_certificate_as_exp here >/api/v3/environment-parameters | <code>[[_TaxCore.PublicConfiguration.VsdcaParameters]</code> |
| E-SDC | <code>http://<ESDC_ip_address>:<ESDC_port>/api/parameters</code> | <code>http://192.168.88.112:8888/api/v3/enparameters</code> |

HTTP Method

GET

Header

Add following HTTP headers to each request

- Accept: application/json
- PAC: <PAC_value> (PAC value for the provided client authentication certificate - **only for V-SDC**)

Authentication

V-SDC

Use client digital certificate for authentication with each request to V-SDC.Api.

E-SDC

E-SDC does not require client authentication.

Response

| Field | Description |
|---------------------------|---|
| organizationName | Name of the tax authority organization |
| serverTimeZone | Time zone of the server location |
| street | Tax authority street address |
| city | Tax authority city |
| country | Tax authority country |
| endpoints | List of available endpoints |
| environmentName | Name of the environment |
| logo | Link to the tax authority's official logo |
| ntpServer | NTP server used for time synchronization |
| supportedLanguages | Supported language(s) for the environment |

Example (not specific for any environment)

```
{
  "organizationName": "Data Tech International",
  "serverTimeZone": "Fiji Standard Time",
  "street": "Kruzni put 7",
  "city": "Belgrade",
  "country": "RS",
  "endpoints": {
    "taxpayerAdminPortal": "https://tap.sandbox.taxcore.dti.rs:443/",
    "taxCoreApi": "https://api.sandbox.taxcore.dti.rs:443/",
    "vsdc": "https://vsdc.sandbox.taxcore.dti.rs:443/",
    "root": "https://frontendui.sandbox.taxcore.dti.rs:443/v/?v1="
  },
  "environmentName": "SANDBOX",
  "logo": "https://i.imgur.com:443/tg5ad60.png?hash=1563836329",
  "ntpServer": "http://0.europe.pool.ntp.org:80/",
  "supportedLanguages": [
    "en-US",
  ]
}
```

Attention

This command is used by POS to verify if E-SDC is available. The command is used prior to Sign Invoice or Send Pin requests. This significantly lowers the possibility of communication errors, including timeout errors. Only if a valid response is received, the POS immediately sends the next command.

Endpoint

| SDC | Endpoint | Example |
|-------|---|--|
| V-SDC | <V-SDC_API_URL_obtained_from_certificate_as_exp here >/api/v3/attention | <code>[[_TaxCore.PublicConfiguration.VSDCA]</code> |
| E-SDC | <code>http://<ESDC_ip_address>:<ESDC_port>/api/</code> | <code>http://192.168.88.112:8888/api/v3/att</code> |

NOTE:
Development and production environments, as well the environments in different countries, have different URLs. For this reason, URLs and names in your documentation, code and UI should not be hardcoded but configurable or extracted from a digital certificate.

Method

GET

Header

Add the following HTTP headers to each request

- `Accept: application/json`

Authentication

V-SDC

V-SDC.API does not require client authentication.

E-SDC

E-SDC does not require client authentication.

Request

N/A

Response

HTTP Code 200

Get Status

This service is used to get status information from SDC.

Endpoint

| SDC | Endpoint | Example |
|-------|--|--|
| V-SDC | <V-SDC_API_URL_obtained_from_certificate_as_exp here >/api/v3/status | <code>[[_TaxCore.PublicConfiguration.VSDCA]</code> |
| E-SDC | <code>http://<E-SDC_ip_address>:<E-SDC_port>/api/v3/status</code> | <code>http://192.168.88.112:8888/api/v3/sta</code> |

NOTE:
Development and production environments, as well the environments in different countries, have different URLs. For this reason, URLs and names in your documentation, code and UI should not be hardcoded but configurable or extracted from a digital certificate.

Method

GET

Header

Add following HTTP headers to each request

- Accept: application/json

- PAC: <PAC_value> (PAC value for the provided client authentication certificate - **only for V-SDC**)

Authentication

V-SDC

Use client digital certificate for authentication with each request to V-SDC.Api.

E-SDC

E-SDC does not require client authentication.

Request

N/A

Response

JSON formatted data in accordance with the below table.

| SDC | Field | Description | Example |
|--------------|--------------------------|--|--|
| E-SDC | isPinRequired | If PIN is not entered, or if a wrong PIN is entered in the previous attempt, this field shall be set to true; otherwise set to false | true |
| E-SDC | auditRequired | If Audit is required, this field shall be set to true. Audit is required if the Total Amount of all invoices is 75% or more of the Maximum Limit. Maximum Limit and Total Amount are obtained from the Secure element using Amount Status APDU command | False if Total Amount is 1554879 Maximum Limit is 9000000 True If Total Amount is 7504899 Maximum Limit is 10000000 |
| E-SDC, V-SDC | sdcDateTime | Current Local Date and Time in ISO 8601 format | 2017-08-30T11:53:05+13:00 |
| E-SDC | lastInvoiceNumber | Invoice number of the last invoice signed by this E-SDC. | ORG674J1-ORG674J1-98637 |

| | | | |
|--------------|-----------------------------|---|---|
| E-SDC | protocolVersion | Always return 1.0.0.0 | 1.0.0.0 |
| E-SDC | secureElementVersion | Version obtained from the Secure element using Get Secure Element Version APDU command | 1.1.1 |
| E-SDC | hardwareVersion | Manufacturer-specific hardware version, if applicable | 1.2.7.21 |
| E-SDC | softwareVersion | Manufacturer-specific software version | 1.7.6.5 |
| E-SDC | deviceSerialNumber | Manufacturer-specific serial number of the E-SDC device in format of the Manufacturer Registration Code - MRC | 0108-0012-ASDJKA1SDJL2A |
| E-SDC | make | Name of the manufacturer | Acme |
| E-SDC | model | Manufacturer-specific Model Name | The Device 442 |
| E-SDC | mssc | Manufacturer-specific Errors, Warnings and info messages | Array of error codes |
| E-SDC | gsc | General Errors, Warnings and info messages defined in the Status and Error Codes section | Array of error codes |
| E-SDC, V-SDC | supportedLanguages | List of language-culture strings supported by SDC and intercepted with languages supported by specific environment, as per Get Environment Parameters . They define the language and data formats on the invoice journal. | en-US |
| E-SDC, V-SDC | uid | UID of the client certificate (V-SDC) or inserted smart card (E-SDC) | TK7SV2AY |
| E-SDC, V-SDC | taxCoreApi | Root URL of the TaxCore.API | https://api.sandbox.taxcore.dt |

| | | | |
|--------------|------------------------|---|--|
| | | targeted by SDC | |
| E-SDC, V-SDC | currentTaxRates | An object of currently active tax rates | An object containing validFrom date, group Id and the array of currently active tax categories |
| E-SDC, V-SDC | allTaxRates | An array of all tax rates | An array containing validFrom date, group Id and tax categories for each group |

Model

```

GetStatusResponse {
  sdcDateTime (string, optional),

  supportedLanguages (Array[string], optional),

  uid (string, optional),

  taxCoreApi (string, optional),

  currentTaxRates (TaxRateGroup, optional),

  allTaxRates (Array[TaxRateGroup], optional)
}

```

Example for E-SDC

```

{
  "isPinRequired": true,
  "auditRequired": false,
  "sdcDateTime": "2021-07-14T18:21:11.3320963+02:00",
  "lastInvoiceNumber": "CL4KBJCE-CL4KBJCE-1",
  "protocolVersion": "1.0.0.0",
  "hardwareVersion": "1.0.0.0",
  "softwareVersion": "1.0.0.0",
  "mssc": [
    "6001"
  ],
  "gsc": [
    "0100"
  ],
  "deviceSerialNumber": "99-3010-22222222",
  "make": "ExampleSDC",
  "model": "ExampleSDC",
  "supportedLanguages": [
    "en-US",
  ],
  "uid": "TK7SV2AY",
  "taxCoreApi": "https://api.sandbox.taxcore.dti.rs:443/",
  "currentTaxRates": {
    "validFrom": "2020-08-03T12:56:56",
    "groupId": 2,
    "taxCategories": [
      {

```

```
{}{}{}{}"name": "ECAL",
{}{}{}{}"categoryType": 0,
{}{}{}{}"taxRates": [
  {}{}{}{}{
    {}{}{}{}{}"rate": 5,
    {}{}{}{}{}"label": "D"
  }{}{}{}{}},
  {}{}{}{}{
    {}{}{}{}{}"rate": 11,
    {}{}{}{}{}"label": "F"
  }{}{}{}{}},
  {}{}{}{}},
  {}{}{}{}},
{}{}{}{}"orderId": 1
{}{}{}{}},
{}{}{}{}{
  {}{}{}{}"name": "N-TAX",
  {}{}{}{}"categoryType": 0,
  {}{}{}{}"taxRates": [
    {}{}{}{}{
      {}{}{}{}{}"rate": 0,
      {}{}{}{}{}"label": "N"
    }{}{}{}{}},
    {}{}{}{}},
  {}{}{}{}},
{}{}{}{}"orderId": 2
{}{}{}{}},
{}{}{}{}{
  {}{}{}{}"name": "PBL",
  {}{}{}{}"categoryType": 2,
  {}{}{}{}"taxRates": [
    {}{}{}{}{
      {}{}{}{}{}"rate": 0.5,
      {}{}{}{}{}"label": "P"
    }{}{}{}{}},
    {}{}{}{}},
  {}{}{}{}},
{}{}{}{}"orderId": 3
{}{}{}{}},
{}{}{}{}{
  {}{}{}{}"name": "STT",
  {}{}{}{}"categoryType": 0,
  {}{}{}{}"taxRates": [
    {}{}{}{}{
      {}{}{}{}{}"rate": 6,
      {}{}{}{}{}"label": "E"
    }{}{}{}{}},
    {}{}{}{}},
  {}{}{}{}},
{}{}{}{}"orderId": 4
{}{}{}{}},
{}{}{}{}{
  {}{}{}{}"name": "VAT",
  {}{}{}{}"categoryType": 0,
  {}{}{}{}"taxRates": [
    {}{}{}{}{
      {}{}{}{}{}"rate": 9,
      {}{}{}{}{}"label": "A"
    }{}{}{}{}},
    {}{}{}{}{
      {}{}{}{}{}"rate": 0,
      {}{}{}{}{}"label": "B"
    }{}{}{}{}},
    {}{}{}{}},
  {}{}{}{}},
{}{}{}{}"orderId": 5
{}{}{}{}},
{}{}{}{}{
  {}{}{}{}"name": "VAT-EXCL",
  {}{}{}{}"categoryType": 1,
  {}{}{}{}"taxRates": [
```

```
{}{
  {}"rate": 0,
  {}"label": "C"
}
],
{}"orderId": 6
}
],
{}},
{}"allTaxRates": [
  {}{
    {}"validFrom": "2020-08-02T21:04:00",
    {}"groupId": 1,
    {}"taxCategories": [
      {}{
        {}"name": "ECAL",
        {}"categoryType": 0,
        {}"taxRates": [
          {}{
            {}"rate": 5,
            {}"label": "D"
          },
          {}{
            {}"rate": 11,
            {}"label": "F"
          }
        ]
      },
      {}"orderId": 1
    },
    {}{
      {}"name": "N-TAX",
      {}"categoryType": 0,
      {}"taxRates": [
        {}{
          {}"rate": 0,
          {}"label": "N"
        }
      ]
    },
    {}"orderId": 2
  },
  {}{
    {}"name": "PBL",
    {}"categoryType": 2,
    {}"taxRates": [
      {}{
        {}"rate": 0.2,
        {}"label": "P"
      }
    ]
  },
  {}"orderId": 3
},
  {}{
    {}"name": "STT",
    {}"categoryType": 0,
    {}"taxRates": [
      {}{
        {}"rate": 6,
        {}"label": "E"
      }
    ]
  },
  {}"orderId": 4
},
  {}{
    {}"name": "VAT",
    {}"categoryType": 0,
    {}"taxRates": [
```

```
{}{
  {}"rate": 9,
  {}"label": "A"
  },
  {}{
    {}"rate": 0,
    {}"label": "B"
  }
  ],
  {}"orderId": 5
  },
  {}{
    {}"name": "VAT-EXCL",
    {}"categoryType": 1,
    {}"taxRates": [
      {}{
        {}"rate": 0,
        {}"label": "C"
      }
    ],
    {}"orderId": 6
  }
  ],
  {}},
  {}{
    {}"validFrom": "2022-01-01T00:00:00Z",
    {}"groupId": 3,
    {}"taxCategories": [
      {}{
        {}"name": "ECAL",
        {}"categoryType": 0,
        {}"taxRates": [
          {}{
            {}"rate": 10,
            {}"label": "F"
          }
        ],
        {}"orderId": 5
      },
      {}{
        {}"name": "PB",
        {}"categoryType": 2,
        {}"taxRates": [
          {}{
            {}"rate": 0.1,
            {}"label": "P"
          }
        ],
        {}"orderId": 6
      },
      {}{
        {}"name": "STT",
        {}"categoryType": 0,
        {}"taxRates": [
          {}{
            {}"rate": 1,
            {}"label": "E"
          }
        ],
        {}"orderId": 2
      },
      {}{
        {}"name": "VAT",
        {}"categoryType": 0,
        {}"taxRates": [
          {}{
```



```
    "categoryType": 0,
    "taxRates": [
      {
        "rate": 6,
        "label": "E"
      }
    ],
    "orderId": 4
  },
  {
    "name": "VAT",
    "categoryType": 0,
    "taxRates": [
      {
        "rate": 9,
        "label": "A"
      },
      {
        "rate": 0,
        "label": "B"
      }
    ],
    "orderId": 5
  },
  {
    "name": "VAT-EXCL",
    "categoryType": 1,
    "taxRates": [
      {
        "rate": 0,
        "label": "C"
      }
    ],
    "orderId": 6
  }
],
"allTaxRates": [
  {
    "validFrom": "2020-08-02T21:04:00",
    "groupId": 1,
    "taxCategories": [
      {
        "name": "ECAL",
        "categoryType": 0,
        "taxRates": [
          {
            "rate": 5,
            "label": "D"
          },
          {
            "rate": 11,
            "label": "F"
          }
        ],
        "orderId": 1
      },
      {
        "name": "N-TAX",
        "categoryType": 0,
        "taxRates": [
          {
            "rate": 0,
            "label": "N"
          }
        ],
        "orderId": 1
      }
    ]
  }
]
```

```

    "orderId": 2
  },
  {
    "name": "PBL",
    "categoryType": 2,
    "taxRates": [
      {
        "rate": 0.2,
        "label": "P"
      }
    ],
    "orderId": 3
  },
  {
    "name": "STT",
    "categoryType": 0,
    "taxRates": [
      {
        "rate": 6,
        "label": "E"
      }
    ],
    "orderId": 4
  },
  {
    "name": "VAT",
    "categoryType": 0,
    "taxRates": [
      {
        "rate": 9,
        "label": "A"
      },
      {
        "rate": 0,
        "label": "B"
      }
    ],
    "orderId": 5
  },
  {
    "name": "VAT-EXCL",
    "categoryType": 1,
    "taxRates": [
      {
        "rate": 0,
        "label": "C"
      }
    ],
    "orderId": 6
  }
],
{
  "validFrom": "2022-01-01T00:00:00Z",
  "groupId": 3,
  "taxCategories": [
    {
      "name": "ECAL",
      "categoryType": 0,
      "taxRates": [
        {
          "rate": 10,
          "label": "F"
        }
      ],
      "orderId": 5
    }
  ]
}

```

```

    },
    {
      "name": "PB",
      "categoryType": 2,
      "taxRates": [
        {
          "rate": 0.1,
          "label": "P"
        }
      ],
      "orderId": 6
    },
    {
      "name": "STT",
      "categoryType": 0,
      "taxRates": [
        {
          "rate": 1,
          "label": "E"
        }
      ],
      "orderId": 2
    },
    {
      "name": "VAT",
      "categoryType": 0,
      "taxRates": [
        {
          "rate": 9,
          "label": "A"
        }
      ],
      "orderId": 1
    }
  ]
}

```

Verify PIN

This service is used to verify a PIN entered by a cashier on a POS. Once the PIN is entered, it is validated using the Secure element on a smart card. The request is sent as plain text and the response is plain text (still application/json HTTP header must be provided).

If the command is successfully executed and the PIN is correct, E-SDC shall return "0100" and remember this PIN in its volatile memory (RAM) for all subsequent operations, until the smart card is removed from the reader or the E-SDC is switched off. Therefore there is no need for POS to send a PIN before every operation, only once it receives the response "0100".

However, if POS receives the error code "1500" during its regular operation, it must use this service again to provide a valid PIN (ask the user for the PIN or other way as per the POS internal policy). This case can be due to a card being removed, a card reader or E-SDC malfunctioning, etc.

In order to verify PIN, E-SDC invokes [Pin Verify](#) APDU command and passes PIN to the Secure element.

Endpoint

| SDC | Endpoint | Example |
|-------|-------------------------------------|-------------------------------------|
| V-SDC | N/A | N/A |
| E-SDC | http://<ESDC_ip_address>:<ESDC_port | http://192.168.88.112:8888/api/v3/p |

Method

POST

Header

Add following HTTP headers to each request

- Accept: application/json
- Content-Type: application/json

Authentication

V-SDC

N/A

E-SDC

E-SDC does not require client authentication.

Request

String with PIN code sent from POS. PIN can contain only 4 ASCII digits 0-9.

Example

1234

Response Data

A string representation of one of the general [Status and Error Codes](#):

- "0100" - command executed successfully and PIN is correct for the inserted card;
- "2100" - PIN code is wrong for the inserted card. Secure element responded with 0x6302 or 0x6303;
- "2110" - The number of allowed PIN entries exceeded. The card is locked for further use and has to be returned to Tax Office. Secure element responded with 0x6310;
- "1300" - E-SDC detects that the smart card is not inserted (or E-SDC fails to connect to it due to card or card reader issues or some other internal malfunction);
- "2220" - E-SDC cannot connect to the Secure Element applet;
- ~~"2210" - Secure Element is locked due to the card limit set by the Tax Service. No additional invoices can be signed before the audit (local or remote) is completed;~~
- ~~"2230" - Secure Element does not support requested protocol version (reserved for later use);~~
- "2400" - SDC device is not fully configured for invoice signing (i.e. tax rates or verification URL are missing etc.)
- "2806" - If provided PIN is in invalid format, other than ASCII digits 0-9.
- "1999" - E-SDC could not verify PIN, but specific case reason is not determined by error codes. Field *message* may contain more description. Manufacturer can use manufacturer-specific codes to describe warning in more details.

For more information consult [Status and Error Codes](#) sections.

Example

```
"0100"
```

Create Invoice

This section contains the description of the **Create Invoice** command.

This command enables applying a digital signature on the transaction data received from the taxpayer's invoicing system. It provides non-repudiation of the signed invoice, i.e. taxpayers cannot deny the content of the invoice or the fact that the invoice was signed using their secure element.

Endpoints

NOTE:

Development, testing, and technical review are all done in the Sandbox environment. The next step is the administrative review process, which enables getting accreditation for a specific country. Different countries have different environment names, and every environment has its own URL. See [Environments](#).

| SDC | Endpoint | Example |
|-----|----------|---------|
| | | |

| | | |
|--------------|---|---------------------------------------|
| V-SDC | <V-SDC_API_URL_obtained_from_certificate_as_exp here >/api/v3/invoices | [[_TaxCore.PublicConfiguration.VSDCA] |
| E-SDC | http://<ESDC_ip_address>:<ESDC_port>/api/ | http://192.168.88.112:8888/api/v3/in |

Method

POST

Authentication

V-SDC

Use the client digital certificate for authentication with each request to V-SDC.Api.

E-SDC

E-SDC does not require client authentication.

Request

Headers

Add the following HTTP headers to each request

- Accept: application/json
- Content-Type: application/json
- RequestId: <RequestId_value> (Unique identifier of the request, generated by the POS system. It is used only for later request search, in case a response was not received. - **optional**). MaxLength: 32
- Accept-Language: <Accept-Language_value> (The list of one or more languages returned through the field **supportedLanguages** in the [Get Status](#) service response, ordered in POS language preference and separated by semi-colon. This affects the language and data formats on the invoice journal.)
 - o SDC returns Invoice Result in the first supported language from the list
 - o if none of the languages from the list are supported by SDC, it returns HTTP status code 406
 - o if POS does not submit this parameter, SDC returns Invoice Result in the first language from the list obtained through the Get Status service
- PAC: <PAC_value> (PAC value for the provided client authentication certificate - **only for V-SDC**)

Invoice

| Field | Optional/Mandatory | Description | Min/Max Length or Value |
|---------------------------|--------------------|---|--|
| dateAndTimeOfIssue | Optional | Current Local Date and Time in ISO 8601 format. This is an optional element on the API level. However, tax legislation in certain jurisdictions might mandate including it on invoices - so make sure you become familiarized with the requirements in each jurisdiction. | MinValue: 1900-01-01T00:00:01Z MaxValue: 9999-12-31T23:59:59Z |
| invoiceType | Mandatory | Invoice Type enumeration value: 0 - Normal, 1 - Proforma, 2 - Copy, 3 - Training, 4 - Advance | / |
| transactionType | Mandatory | Transaction Type enumeration value: 0 - Sale, 1 - Refund | / |
| payment | Mandatory | <p>List of payments for the invoice, where each payment defines its method and amount. Each invoice must contain at least one payment element.</p> <div data-bbox="826 1565 1139 2177" style="background-color: #ff9900; padding: 10px;"> <p>In cases when the cashier needs to give change to the customer, the amount submitted in the <code>payment</code> field must be the actual amount that stays in the cash register (not the total amount that was given by the customer to the cashier).</p> </div> | / |

| | | | |
|--------------------------|----------|--|-----------------------|
| cashier | Optional | <p>Cashier's identification.</p> <p>The Cashier field is mandatory for the Fiji, Samoa, and Vanuatu tax jurisdictions.</p> | Unicode MaxLength: 50 |
| buyerId | Optional | <p>Unique identification of the buyer/customer. It is mandatory only if there is a legal obligation for buyer identification (in both B2C and B2B transactions); otherwise, it's optional.</p> | Unicode MaxLength: 20 |
| buyerCostCenterId | Optional | <p>Cost Center ID provided by the buyer to the cashier or an identification of the invoice purpose. It is mandatory only if there is a legal obligation for invoice purpose identification (in both B2C and B2B transactions); otherwise, it's optional.</p> | Unicode MaxLength: 50 |
| invoiceNumber | Optional | <p>Invoice number generated by a POS or the software version of the accredited POS. This is an optional element on the API level. However, tax legislation in certain jurisdictions might mandate including it on invoices. Make sure you become familiarized with specific jurisdiction requirements regarding its use and content.</p> | Unicode MaxLength: 60 |
| | | | |

| | | | |
|----------------------------|--|---|--|
| referentDocumentNum | Mandatory for all Copies and Refunds and some Normal Sale or Advance Sale invoices | Mandatory only in case Invoice Type is Refund, Copy, or Advance Sale , connected to an Advance Sale (other jurisdiction-specific rules may apply). In all cases, this field must contain SDC Invoice Number of the previously issued invoice. In any other case, this field is optional. Must be in the requestedBy-signedBy-Ordinal_Number format. | Unicode MaxLength: 50 |
| referentDocumentDT | Optional | SDC date and time (local date and time in ISO 8601 format) of the document referenced in the <code>referentDocumentNu</code> field. It is used to calculate taxes on the date of issue of the original document that is refunded or copied. If it is not provided in the request, SDC uses the currently active tax rates. It can be used only when there is a Reference Number (<code>referentDocumentNu</code>) on the same invoice. | MinValue: 1900-01-01T00:00:01Z MaxValue: 9999-12-31T23:59:59Z |
| items (n) | Mandatory | Each invoice contains at least one item in the Items collection (E-SDC should support a minimum of 250, recommended up to 500). | / |
| options | Optional | Key/value collection defines the output of E-SDC invoice fiscalization, to optimize resources. | / |

| | | | |
|--|--|--|--|
| | | <p>Key: omitQRCodeGen Value: "1" to omit QR Code generation by E-SDC and "0" to generate and return QR code to POS.</p> <p>E-SDC MUST NOT submit QR code to the tax authority as part of an audit package.</p> | |
| | | <p>Key: omitTextualRepresenta Value: "1" to omit generation of textual representation by E-SDC and "0" to generate return textual representation to POS.</p> <p>E-SDC MUST ALWAYS submit the textual representation of an invoice (journal) to the tax authority as part of an audit package.</p> | |

Item

Each Item represents one line item on the invoice.

| Field | Optional/Mandatory | Description | Min/Max Length or Value |
|-------------|--------------------|--|-------------------------------|
| gtin | Optional | Global Trade Item Number (GTIN) is an identifier for trade items, incorporated the ISBN, ISSN, ISMN, IAN (which includes the European Article Number and Japanese Article Number) and some Universal Product Codes, into a universal number space. | MinLength: 8 MaxLength: 14 |

| | | | |
|--------------------|-----------|--|-----------------|
| | | The GTIN field is mandatory for the Republic of Srpska tax jurisdiction. | |
| name | Mandatory | Human-readable name of the product or service. | MaxLength: 2048 |
| quantity | Mandatory | The quantity of an item, with a maximum of 3 decimals. Example: 2 (pieces), 0.100 (grams). | MinValue: 0.001 |
| unitPrice | Mandatory | Unit price of the line item. It does not take part in tax calculation. If there is a discount, the displayed unit price should show the price after the discount is applied. It must not include the value of the discount. | / |
| labels | Mandatory | The array of labels. Each Label represents one of the Tax Rates applied on the invoice item. Tax Items are calculated based on <code>totalAmount</code> and applied labels as described in the Calculate Taxes section. This field is mandatory (i.e. the caller must submit a non-empty collection) for each item, even when the price is 0.00. | MinLength: 1 |
| totalAmount | Mandatory | Gross price for the line item - <code>unit price x quantity</code> . If there is a discount, the displayed amount should show the calculated price after the discount is applied to the line item. It must not include the value of the discount. | MaxLength: 29 |

Payment

| Field | Optional/Mandatory | Description | Min/Max Length or Value |
|--------------------|--------------------|-------------------------------|-------------------------|
| amount | Mandatory | Decimal amount of the payment | MaxLength: 29 |
| paymentType | Mandatory | Payment Type enumeration | / |

| | | | |
|--|--|---|--|
| | | value: 0 - Other, 1 - Cash, 2 - Card, 3 - Check, 4 - Wire Transfer, 5 - Voucher, 6 - Mobile Money | |
|--|--|---|--|

Model

```
InvoiceRequest {
  dateAndTimeOfIssue (string, optional) MinValue: 1900-01-01T00:00:01Z, MaxValue: 9999-12-31T23:59:59Z,
  cashier (string) Unicode MaxLength:50,
  buyerId (string, optional) Unicode MaxLength:20,
  buyerCostCenterId (string, optional) Unicode MaxLength:50,
  invoiceType (string) = ['Normal', 'ProForma', 'Copy', 'Training', 'Advance'] (int) = [0,1,2,3,4,5,6],
  transactionType (string) = ['Sale', 'Refund'] (int) = [0,1],
  payment (Array[Payment]),
  invoiceNumber (string, optional) Unicode MaxLength:60,
  referentDocumentNumber (string, optional) Unicode MaxLength: 50,
  referentDocumentDT (string, optional) MinValue: 1900-01-01T00:00:01Z, MaxValue: 9999-12-31T23:59:59Z,
  options (inline_model, optional),
  items (Array[Item])
}
payment {
  amount (number) MaxLength:29,
  paymentType (string) = ['Other', 'Cash', 'Card', 'Check', 'WireTransfer', 'Voucher', 'MobileMoney']
}
inline_model {
omitQRCodeGen (string, optional) = ["0", "1"],
omitTextualRepresentation (string, optional) = ["0", "1"]
}
items {
  gtin (string, optional) MinLength:8 MaxLength:14,
  name (string) Unicode MaxLength:2048,
  quantity (number) Decimal(14,3) MinValue:0.001,
  labels (Array[string]) MinLength:1,
  unitPrice (number) Decimal(14,2),
  totalAmount (number) Decimal(14,2) MaxLength:29
}
```

Response

Headers

The following HTTP headers shall be returned in response

- RequestId: <RequestId from Request HTTP Headers>

Data Fields

| Field | Description |
|-------------|---|
| requestedBy | UID of client's Secure Element digital certificate. |

| | |
|--------------------------------|---|
| signedBy | UID of SDC's Secure Element digital certificate. |
| sdcDateTime | Local date and time in ISO 8601 format provided by E-SDC. |
| invoiceCounter | Invoice Counter in format transactionTypeCounter/totalCounter invoiceCounterExtension For Example: 14/17NS |
| invoiceCounterExtension | First letters of Invoice Type and Transaction Type of the invoice. NS for Normal Sale, CR – Copy Refund, TS – Training Sale, etc. |
| invoiceNumber | SDC Invoice Number in format requestedBy-signedBy-totalCounter |
| verificationUrl | VerificationURL generated in the <i>Create Verification URL</i> process |
| verificationQRCode | Base64 encoded byte array of GIF image created in the Create QR Code process |
| journal | Textual Representation of the invoice created in the <i>Create a Textual Representation of an Invoice (Receipt)</i> process |
| totalCounter | Total number of invoices signed by Secure Element. Returned by <i>Sign Invoice</i> APDU command |
| transactionTypeCounter | Total number of invoices for a requested type. Returned by <i>Sign Invoice</i> APDU command |
| totalAmount | Sum of all Items – total payable by the customer |
| encryptedInternalData | Base64 encoded byte array returned by <i>Sign Invoice</i> APDU command |
| signature | Base64 encoded byte array returned by <i>Sign Invoice</i> APDU command |
| taxItems | Array of TaxItem entities |
| businessName | Taxpayer Business Name obtained from digital certificate subject field O , as explained here |
| locationName | Location Name obtained from digital certificate subject field OU , as explained here |
| address | Street address obtained from digital certificate subject field STREET , as explained here |
| tin | Taxpayer's tax identification number obtained taxpayer's digital certificate, as explained here |

| | |
|----------------------------|---|
| district | District obtained from digital certificate subject field S , as explained here |
| taxGroupRevision | Revision of taxes used in the calculation |
| mrc | Manufacturer Registration Code is mandatory for an audit package sent to the tax authority database, but it's optional for invoice response sent to POS. It always has the format ProductCode-ProductVersionCode-DeviceSerialNumber - all 3 elements of MRC are mandatory. Explanation: ProductCode - unique 4 characters received from the tax authority during accreditation - case sensitive. ProductVersionCode - unique 4 characters received from the tax authority during accreditation - case sensitive. DeviceSerialNumber - serial number assigned by the manufacturer for each E-SDC installation - case sensitive (max 32 characters). |
| messages (optional) | Custom human-readable message that shall be printed or displayed by POS. |

TaxItem

TaxItem represents tax liability on the invoice per one tax category.

| Field | Description |
|---------------------|---|
| label | Tax Label (A, F, G, N, P...) |
| categoryName | Tax Category Name (e.g. VAT, Consumption) |
| categoryType | Tax Category Type (0 - Tax on net, 1 - Tax on total, 2 - Amount per quantity) |
| rate | Tax rate percentage for Label (i.e. 12.50%) |
| amount | Tax amount calculated by E-SDC during invoice fiscalization |

Model

```
InvoiceResult {
  requestedBy (string, optional),
  sdcDateTime (string),
  invoiceCounter (string, read only),
  invoiceCounterExtension (string, optional),
  invoiceNumber (string, read only),
  taxItems (Array[TaxItem], optional),
  verificationUrl (string, optional),
  verificationQRCode (string, optional),
  journal (string, optional),
  messages (string, optional),
  signedBy (string),
  encryptedInternalData (string),
```

```
signature (string, optional),
totalCounter (integer, optional),
transactionTypeCounter (integer, optional),
totalAmount (number, optional) MaxLength:29,
taxGroupRevision (integer, optional),
businessName (string, optional),
tin (string, optional),
locationName (string, optional),
address (string, optional),
district (string, optional),
mrc (string, optional)
}
TaxItem {
categoryType (integer, optional),
label (string),
amount (number) MaxLength: 29,
rate (number),
categoryName (string)
}
```

Examples

Below are examples of invoice requests and responses for all supported invoice and transaction types:

1.
[Mapping](#)
In case the POS does not use Journal (generated by E-SDC or V-SDC) as a content for a fiscal receipt, but it generates a custom-designed receipt instead, it must use the following element mappings:
2.
[Normal Sale](#)
This is an example of Normal Sale Invoice
3.
[Normal Refund](#)
This is an example of Normal Refund
4.
[Advance Sale](#)
This is an example of Advance Sale Invoice
5.
[Advance Refund](#)
This is an example of Advance Refund.
6.
[Copy Sale](#)
This is an example of Copy Sale
7.
[Copy Refund](#)

This is an example of Copy Refund

8.

[Proforma Sale](#)

This is an example of Proforma Sale

9.

[Proforma Refund](#)

This is an example of Proforma Refund

10.

[Training Sale](#)

This is an example of Training Sale

11.

[Training Refund](#)

This is an example of Training Refund

Mapping

In case the POS does not use Journal (generated by E-SDC or V-SDC) as a content for a fiscal receipt, but it generates a custom-designed receipt instead, it must use the following element mappings:

Invoice request

```

{
  "request": {
    "dateAndTimeOfIssue": "2021-09-02T14:45:59",
    "cashier": "1",
    "buyerId": "987654321",
    "buyerCostCenterId": "099999999",
    "invoiceType": "0",
    "transactionType": "1",
    "payment": [
      {
        "amount": 5.0,
        "paymentType": 2
      },
      {
        "amount": 20.0,
        "paymentType": 1
      }
    ],
    "invoiceNumber": "07-2021-3",
    "referentDocumentNumber": "BQVWAAR4-BQVWAAR4-23",
    "referentDocumentDT": "2021-09-02T13:45:29",
    "options": {
      "omitTextualRepresentation": "0",
      "omitQRCodeGen": "1"
    },
    "items": [
      {
        "gtin": "987654321",
        "name": "Mate 20 Lite",
        "quantity": 2.0,
        "discount": null,
        "labels": [
          "A"
        ],
        "unitPrice": 10.0,
        "totalAmount": 20.0
      },
      {
        "gtin": "987654321",
        "name": "Credit",
        "quantity": 1.0,
        "discount": null,
        "labels": [
          "A"
        ],
        "unitPrice": 5.0,
        "totalAmount": 5.0
      }
    ]
  }
}

```

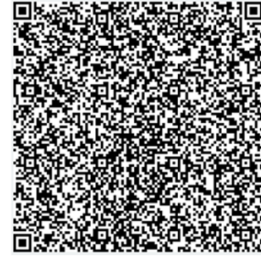
```

===== FISCAL INVOICE =====
123456789
Premier League DTI
Store 3
1200 Willow Road

Cashier: 1
Buyer: 987654321
Buyer Cost center: 099999999
POS Number: 07-2021-3
POS Time: 02/09/2021 14:45:59
Ref No: BQVWAAR4-BQVWAAR4-23
Ref DT: 2021-09-02T13:45:29
----- NORMAL REFUND -----

Items:
=====
Name Price Qty Total
Mate 20 Lite (A, B) 10.00 2 -20.00
Credit (A) 5.00 1 -5.00
Total Refund: 25.00
Card: 5.00
Cash: 20.00
=====
Label Name Rate Tax
A VAT 9.00% 2.06
B VAT 0.00% 0.00
Total Tax: 2.06
=====
SDC Time: 02/09/2021 14:46:00
SDC Invoice No: BQVWAAR4-BQVWAAR4-27
Invoice counter: 4/27NR
=====

```



===== END OF FISCAL INVOICE =====

Invoice response

```

"result": {
  "requestedBy": "BQVWAAR4",
  "sdcDateTime": "2021-09-02T12:46:00.8266132Z",
  "invoiceCounter": "4/27NR",
  "invoiceCounterExtension": "NR",
  "invoiceNumber": "BQVWAAR4-BQVWAAR4-27",
  "taxItems": [
    {
      "categoryType": 0,
      "label": "A",
      "amount": 2.0642,
      "rate": 9.0,
      "categoryName": "VAT"
    },
    {
      "categoryType": 0,
      "label": "B",
      "amount": 0.0,
      "rate": 0.0,
      "categoryName": "VAT"
    }
  ],
  "verificationUrl": "https://test.verification.rs/...",
  "verificationQRCode": null,
  "journal": "===== FISCAL INVOICE =====\r\n
            .
            .
            .
            ===== END OF FISCAL INVOICE =====\r\n",
  "messages": "Success",
  "signedBy": "BQVWAAR4",
  "encryptedInternalData": "...",
  "signature": "...",
  "totalCounter": 27,
  "transactionTypeCounter": 4,
  "totalAmount": 25.0,
  "taxGroupRevision": 5,
  "businessName": "Premier League DTI",
  "tin": "123456789",
  "locationName": "Store 3",
  "address": "1200 Willow Road",
  "district": "Lestan",
  "mrc": "00-1002-BQVWAAR4"
}

```

```

===== FISCAL INVOICE =====
123456789
Premier League DTI
Store 3
1200 Willow Road

Cashier:
Buyer: 987654321
Buyer Cost center: 099999999
POS Number: 07-2021-3
POS Time: 02/09/2021 14:45:59
Ref No: BQVWAAR4-BQVWAAR4-23
Ref DT: 2021-09-02T13:45:29
----- NORMAL REFUND -----

Items:
=====
Name Price Qty. Total
Mate 20 Lite (A, B)
Credit (A)
Total Refund: 25.00
Card: 5.00
Cash: 20.00
=====
Label Name Rate Tax
A VAT 9.00% 2.06
B VAT 0.00% 0.00
Total Tax: 2.06
=====
SDC Time: 02/09/2021 14:46:00
SDC Invoice No: BQVWAAR4-BQVWAAR4-27
Invoice counter: 4/27NR
=====

```



Normal Sale

This is an example of Normal Sale Invoice

Request

Header

RequestId: 4c5730b50eb7b50e7a0292600a67ce16

Body

```

{
  "dateAndTimeOfIssue": "2020-12-08T08:55:23.286Z",
  "cashier": "123456789",
  "buyerId": "RS34564565",
  "buyerCostCenterId": "567546",
  "invoiceType": "Normal",
  "transactionType": "Sale",
  "payment": [
    {
      "amount": 68.46,
      "paymentType": "Cash"
    }
  ],
}

```

```

"invoiceNumber": "POS2017/998",
"referentDocumentNumber": "",
"options": {
  "omitQRCodeGen" : "1" ,
  "omitTextualRepresentation" : "0"
},
"items": [
  {
    "name": "Sport-100 Helmet, Blue",
    "quantity": 2,
    "unitPrice": 34.23,
    "labels": [
      "A"
    ],
    "totalAmount": 68.46
  }
]
}

```

Response

Header

RequestId: 4c5730b50eb7b50e7a0292600a67ce16

Body

```

{
  "requestedBy": "WHKV8WJH",
  "sdcDateTime": "2020-12-09T01:51:43.1847161+12:00",
  "invoiceCounter": "6/16NS",
  "invoiceCounterExtension": "NS",
  "invoiceNumber": "WHKV8WJH-GFB38TO0-16",
  "taxItems": [
    {
      "categoryType": 0,
      "label": "A",
      "amount": 5.6527,
      "rate": 9,
      "categoryName": "VAT"
    }
  ],
  "verificationUrl": "https://frontendui.test.taxcore.dti.rs/v/?vl=AldIS1Y4V0pIR0ZCMzhUTzAQA7",
  "verificationQRCode": null,
  "journal": "===== FISCAL INVOICE =====\r\n
TIN:                HIHKLIKJ\r\n
Company:             Fiskalizacija doo\r\n
Store:               Fiskalizacija doo\r\n
Address:             Milinka Milinkovica 44\r\n
District:            Vinca\r\n
Cashier TIN:         123456789\r\n
POS Number:          POS2017/998\r\n
POS Time:            08/12/2020 08:55:23\r\n
-----NORMAL SALE-----\r\n
Items\r\n
=====
Name   Price      Qty.      Total\r\n
Sport-100 Helmet, Blue (A)                \r\n
      34.23        2        68.46\r\n

```

```

-----\r\n
Total Purchase:                68.46\r\n
-----\r\n
Cash:                          68.46\r\n
=====
Label      Name      Rate      Tax\r\n
A          VAT      9.00%    5.65\r\n
-----\r\n
Total Tax:                      5.65\r\n
=====
SDC Time:          09/12/2020 01:51:43\r\n
SDC Invoice No:    WHKV8WJH-GFB38T00-16\r\n
Invoice Counter: 6/16NS\r\n
=====

```

```

===== END OF FISCAL INVOICE =====\r\n",

```

```

  "messages": "Success",
  "signedBy": "GFB38T00",
  "encryptedInternalData": "aoo+9OCMgbe+a10QyeJt44DqbE8KyBh9fj49saQNr3XcMRgHz+IE1oagmebqVucjM
  "signature": "YE6eOSCgZaz/eCVzeLQHvD02zWBBEOxFnQhFRiY1jNmaEbHi+7j910/vXd47ui6qvKtYp+pahbbRZ
  "totalCounter": 16,
  "transactionTypeCounter": 6,
  "totalAmount": 68.46,
  "taxGroupRevision": 2,
  "businessName": "Shtelovanje doo",
  "tin": "HIHKLIKJ",
  "locationName": "Shtelovanje doo",
  "address": "Milinka Milinkovica 44",
  "address": "Vinca",
  "mrc": "0099-0100-GFB38T00"
}

```

Normal Refund

This is an example of Normal Refund

Request

Header

RequestId: 4feb64edffca4ccdb19b9c44214a4c66

Body

```

{
  "dateAndTimeOfIssue": "2020-12-08T08:55:23.286Z",
  "cashier": "123456789",
  "buyerId": "RS34564565",
  "buyerCostCenterId": "567546",
  "invoiceType": "Normal",
  "transactionType": "Refund",
  "payment": [
    {
      "amount": 68.46,
      "paymentType": "Cash"
    }
  ]
}

```

```
}
],
"invoiceNumber": "POS2017/998",
"referentDocumentNumber": "YTSS6KKG-HJHR9E00-305",
"referentDocumentDT": "2021-07-15T15:57:49.7423334+02:00",
"options": {
  "omitQRCodeGen" : "1" ,
  "omitTextualRepresentation" : "0"
},
"items": [
  {
    "name": "Sport-100 Helmet, Blue",
    "quantity": 2,
    "unitPrice": 34.23,
    "labels": [
      "A"
    ],
    "totalAmount": 68.46
  }
]
}
```

Response

Header

RequestId: 4feb64edffca4ccdb19b9c44214a4c66

Body

```
{
  "requestedBy": "YTSS6KKG",
  "sdcDateTime": "2021-07-15T16:20:55.6856444+02:00",
  "invoiceCounter": "30/319NR",
  "invoiceCounterExtension": "NR",
  "invoiceNumber": "YTSS6KKG-HJHR9E00-319",
  "taxItems": [
    {
      "categoryType": 0,
      "label": "A",
      "amount": 5.6527,
      "rate": 9,
      "categoryName": "VAT"
    }
  ],
  "verificationUrl": "https://ft8.test.taxcore.dti.rs/v/?vl=AllUU1M2S0tHSEpIUjlFTzA%2FAQAAHg7",
  "verificationQRCode": null,
  "journal": "===== FISCAL INVOICE =====\r\n
TIN: RS543456345\r\n
Company: PKBB Livada\r\n
Store: PKBB Livada\r\n
Address: Leskovacki drum bb\r\n
District: Lestane\r\n
Cashier TIN: 123456789\r\n
Buyer TIN: RS34564565\r\n
Buyers Cost Center: 567546\r\n
POS Number: POS2017/998\r\n
POS Time: 08/12/2020 08:55:23\r\n
Ref No: YTSS6KKG-HJHR9E00-305\r\n"
```

```

Ref DT:          15/07/2021 15:57:49\r\n
-----NORMAL REFUND-----\r\n
Items\r\n
=====
Name      Price      Qty.      Total\r\n
Sport-100 Helmet, Blue (A)          \r\n
          34.23        2        -68.46\r\n
-----
Total Refund:          68.46\r\n
-----
Cash:          68.46\r\n
=====
Label      Name      Rate      Tax\r\n
A          VAT      9.00%     5.65\r\n
-----
Total Tax:          5.65\r\n
=====
SDC Time:          15/07/2021 16:20:55\r\n
SDC Invoice No:    YTSS6KKG-HJHR9E00-319\r\n
Invoice Counter:          30/319NR\r\n
=====

```

===== END OF FISCAL INVOICE =====\r\n",

```

  "messages": "Success",
  "signedBy": "HJHR9E00",
  "encryptedInternalData": "C6LKBVy3PlWQeDOEPJFcvl1xbpbxR8r6Rw/o/kkU/PI54u2NYvPlXSfRad+kuAOX1",
  "signature": "Nt5xSWtfd1LJuoph+qd9kBONG8uExt6FmWgDtvMjr2Dyahxn+ZfXBaMgJeSDH99BgZsY419DRMb+r",
  "totalCounter": 319,
  "transactionTypeCounter": 30,
  "totalAmount": 68.46,
  "taxGroupRevision": 3,
  "businessName": "PKBB Livada",
  "tin": "RS543456345",
  "locationName": "PKBB Livada",
  "address": "Leskovacki drum bb",
  "district": "Lestane",
  "mrc": "0099-3000-HJHR9E00"
}

```

Advance Sale

This is an example of Advance Sale Invoice

Request

Header

RequestId: 8b795cf980c54f1ca7b40d9f5fe5fda3

Body

```

{
  "Cashier": "Software QA Engineer",
  "buyerId": "DT12345",
  "BuyerCostCenterId": "Data Tech",

```

```
"InvoiceNumber": "07-2021-3",
>DateAndTimeOfIssue": "2021-09-03T21:44:59",
>ReferentDocumentNumber" : "",
>referentDocumentDT" : "",
>invoiceType": "Advance",
>transactionType": "Sale",
>payment": [
  {
    "amount": 5,
    "paymentType": "Card"
  },
  {
    "amount": 20,
    "paymentType": "Cash"
  }
],
>Options": {
  "omitTextualRepresentation": 0,
  "omitQRCodeGen": 1
},
>Items": [
  {
    "GTIN": "987654321",
    "Name": "Mate 20 Lite",
    "Quantity": 2,
    "Labels": ["A","B"],
    "UnitPrice": 10,
    "TotalAmount": 20
  },
  {
    "GTIN": "987654321",
    "Name": "Credit",
    "Quantity": 1,
    "Labels": ["A"],
    "UnitPrice": 5,
    "TotalAmount": 5
  }
]
}
```

Response

Header

RequestId: 4c5730b50eb7b50e7a0292600a67ce16

Body

```
{
  "requestedBy": "BQVWAAR4",
  "sdcDateTime": "2021-09-03T21:45:48.5070512+02:00",
  "invoiceCounter": "3/30AS",
  "invoiceCounterExtension": "AS",
  "invoiceNumber": "BQVWAAR4-BQVWAAR4-30",
  "taxItems": [
    {
      "categoryType": 0,
      "label": "A",

```

```

        "amount": 2.0642,
        "rate": 9.00,
        "categoryName": "VAT"
    },
    {
        "categoryType": 0,
        "label": "B",
        "amount": 0.0000,
        "rate": 0.00,
        "categoryName": "VAT"
    }
],
"verificationUrl": "https://ft8.test.taxcore.dti.rs/v/?vl=A0JRVldBQVI0QlFWV0FBUjQeAAAAAwZ",
"verificationQRCode": "R0lGODlhhAGEAfcAAAAAAAAAMwAAZgAAMQAAzAAA/wArAAArMwArZgArmQArzAAr/v",
"journal": "===== FISCAL INVOICE =====\r\n
TIN: RS654321\r\n
Company: Premier League DTI\r\n
Store: Premier League DTI\r\n
Address: Kruzni put 7\r\n
District: Lestane\r\n
Cashier TIN: Software QA Engineer\r\n
Buyer TIN: DT12345\r\n
Buyers Cost Center: Data Tech\r\n
POS Number: 07-2021-3\r\n
POS Time: 03/09/2021 21:44:59\r\n
-----ADVANCE SALE-----\r\n
Items\r\n
=====
Name Price Qty. Total\r\n
Mate 20 Lite (A, B) \r\n
10.00 2 20.00\r\n
Credit (A) \r\n
5.00 1 5.00\r\n
-----
Total Purchase: 25.00\r\n
Card: 5.00\r\n
Cash: 20.00\r\n
=====
Label Name Rate Tax\r\n
A VAT 9.00% 2.06\r\n
B VAT 0.00% 0.00\r\n
-----
Total Tax: 2.06\r\n
=====
SDC Time: 03/09/2021 21:45:48\r\n
SDC Invoice No: BQVWAAR4-BQVWAAR4-30\r\n
Invoice Counter: 3/30AS\r\n
=====
===== END OF FISCAL INVOICE =====\r\n",
"messages": "Success",
"signedBy": "BQVWAAR4",
"encryptedInternalData": "Q/I4fZy0VicsCVoRN0kt7j3V4NkgDtc/L4okDB96nP0127oOHPiPDgRNjwKdRfI",
"signature": "UMNE9LKgn4Bn6R0HDlNVerD2E+E9Ry4s+A/esxbDKSCXBxlV0LCuJ+OHXLhprbyTKx9N8h4JC2j",
"totalCounter": 30,
"transactionTypeCounter": 3,
"totalAmount": 25.0,
"taxGroupRevision": 5,
"businessName": "Premier League DTI",
"tin": "RS654321",
"locationName": "Premier League DTI",
"address": "Kruzni put 7",
"district": "Lestane",
"mrc": "0001-1002-BQVWAAR4"
}

```

Advance Refund

This is an example of Advance Refund.

Request

Header

RequestId: 80b0ea559aff4058a030dc5c8ca01f31

Body

```
{
  "Cashier": "Software QA Engineer",
  "buyerId": "DT12345",
  "BuyerCostCenterId": "Data Tech",
  "InvoiceNumber": "07-2021-3",
  "DateAndTimeOfIssue": "2021-09-03T21:44:59",
  "ReferentDocumentNumber" : "BQVWAAR4-BQVWAAR4-30",
  "referentDocumentDT" : "2021-09-03T21:45:48",
  "invoiceType": "Advance",
  "transactionType": "Refund",
  "payment": [
    {
      "amount": 5,
      "paymentType": "Card"
    },
    {
      "amount": 20,
      "paymentType": "Cash"
    }
  ],
  "Options": {
    "omitTextualRepresentation": 0,
    "omitQRCodeGen": 1
  },
  "Items": [
    {
      "GTIN": "987654321",
      "Name": "Mate 20 Lite",
      "Quantity": 2,
      "Labels": ["A", "B"],
      "UnitPrice": 10,
      "TotalAmount": 20
    },
    {
      "GTIN": "987654321",
      "Name": "Credit",
      "Quantity": 1,
      "Labels": ["A"],
      "UnitPrice": 5,
      "TotalAmount": 5
    }
  ]
}
```

Response

Header

RequestId: 4c5730b50eb7b50e7a0292600a67ce16

Body

```
{
  "requestedBy": "BQVWAAR4",
  "sdcDateTime": "2021-09-03T21:48:27.3129874+02:00",
  "invoiceCounter": "2/31AR",
  "invoiceCounterExtension": "AR",
  "invoiceNumber": "BQVWAAR4-BQVWAAR4-31",
  "taxItems": [
    {
      "categoryType": 0,
      "label": "A",
      "amount": 2.0642,
      "rate": 9.00,
      "categoryName": "VAT"
    },
    {
      "categoryType": 0,
      "label": "B",
      "amount": 0.0000,
      "rate": 0.00,
      "categoryName": "VAT"
    }
  ],
  "verificationUrl": "https://ft8.test.taxcore.dti.rs/v/?vl=A0JRVldBQVI0QlFWV0FBUjQfAAAAAgZ",
  "verificationQRCode": "R01GODlhLAGUafcAAAAAAAAAMwAAZgAAmQAAzAAA/wArAAArMwArZgArmQArzAAr/v",
  "journal": "===== FISCAL INVOICE =====\r\n"
```

```
TIN: RS654321\r\n
Company: Premier League DTI\r\n
Store: Premier League DTI\r\n
Address: Kruzni put 7\r\n
District: Lestane\r\n
Cashier TIN: Software QA Engineer\r\n
Buyer TIN: DT12345\r\n
Buyers Cost Center: Data Tech\r\n
POS Number: 07-2021-3\r\n
POS Time: 03/09/2021 21:44:59\r\n
Ref No: BQVWAAR4-BQVWAAR4-30\r\n
Ref DT: 03/09/2021 21:45:48\r\n
-----ADVANCE REFUND-----\r\n
Items\r\n
=====
Name Price Qty. Total\r\n
Mate 20 Lite (A, B) \r\n
10.00 2 -20.00\r\n
Credit (A) \r\n
5.00 1 -5.00\r\n
-----\r\n
Total Refund: 25.00\r\n
Card: 5.00\r\n
Cash: 20.00\r\n
=====
```

| Label | Name | Rate | Tax\r\n |
|---|------|--------------------------|----------|
| A | VAT | 9.00% | 2.06\r\n |
| B | VAT | 0.00% | 0.00\r\n |
| -----\r\n | | | |
| Total Tax: | | | 2.06\r\n |
| =====\r\n | | | |
| SDC Time: | | 03/09/2021 21:48:27\r\n | |
| SDC Invoice No: | | BQVWAAR4-BQVWAAR4-31\r\n | |
| Invoice Counter: | | 2/31AR\r\n | |
| =====\r\n | | | |
| ===== END OF FISCAL INVOICE =====\r\n", | | | |

```

"messages": "Success",
"signedBy": "BQVWAAR4",
"encryptedInternalData": "DSx6K4/kXJ576hf4xUvtNgIb28+Q/Yja72U6IaNmYN9U1DZ9BaP/S0U7cRv78C+
"signature": "ZSkjT5VRY9vXwfk8h5cwA0n1p7DPNDBHLS7kVCYR92zq8FCy8DvVDcMfnKWoJzInvNLBk78jdyI
"totalCounter": 31,
"transactionTypeCounter": 2,
"totalAmount": 25.0,
"taxGroupRevision": 5,
"businessName": "Premier League DTI",
"tin": "RS654321",
"locationName": "Premier League DTI",
"address": "Kruzni put 7",
"district": "Lestane",
"mrc": "0001-1002-BQVWAAR4"
}

```

Copy Sale

This is an example of Copy Sale

Request

Header

RequestId: cf40377f2d1a4b5593f80008876dc016

Body

```

{
  "dateAndTimeOfIssue": "2020-12-08T08:55:23.286Z",
  "cashier": "123456789",
  "buyerId": "RS34564565",
  "buyerCostCenterId": "567546",
  "invoiceType": "Copy",
  "transactionType": "Sale",
  "payment": [
    {
      "amount": 68.46,
      "paymentType": "Cash"
    }
  ],
  "invoiceNumber": "POS2017/998",
  "referentDocumentNumber": "YTSS6KKG-HJHR9E00-305",
}

```

```
"referentDocumentDT": "2021-07-15T15:57:49.7423334+02:00",
  "options": {
    "omitQRCodeGen" : "1" ,
    "omitTextualRepresentation" : "0"
  },
  "items": [
    {
      "name": "Sport-100 Helmet, Blue",
      "quantity": 2,
      "unitPrice": 34.23,
      "labels": [
        "A"
      ],
      "totalAmount": 68.46
    }
  ]
}
```

Response

Header

RequestId: cf40377f2d1a4b5593f80008876dc016

Body

```
{
  "requestedBy": "YTSS6KKG",
  "sdcDateTime": "2021-07-15T16:03:35.173426+02:00",
  "invoiceCounter": "31/307CS",
  "invoiceCounterExtension": "CS",
  "invoiceNumber": "YTSS6KKG-HJHR9E00-307",
  "taxItems": [
    {
      "categoryType": 0,
      "label": "A",
      "amount": 5.6527,
      "rate": 9,
      "categoryName": "VAT"
    }
  ],
  "verificationUrl": "https://ft8.test.taxcore.dti.rs/v/?vl=AllUU1M2S0tHSEpIUjlFTzAzAQAAHwAAZ",
  "verificationQRCode": null,
  "journal": "==== THIS IS NOT A FISCAL INVOICE =====\r\n
TIN: RS543456345\r\n
Company: PKBB Livada\r\n
Store: PKBB Livada\r\n
Address: Leskovacki drum bb\r\n
District: Lestane\r\n
Cashier TIN: 123456789\r\n
Buyer TIN: RS34564565\r\n
Buyers Cost Center: 567546\r\n
POS Number: POS2017/998\r\n
POS Time: 08/12/2020 08:55:23\r\n
Ref No: YTSS6KKG-HJHR9E00-305\r\n
Ref DT: 15/07/2021 15:57:49\r\n
-----COPY SALE-----\r\n
Items\r\n
=====
```

```

Name      Price      Qty.      Total\r\n
Sport-100 Helmet, Blue (A)      \r\n
          34.23      2      68.46\r\n
-----\r\n
Total Purchase:      68.46\r\n
-----\r\n
Cash:      68.46\r\n
=====
          THIS IS NOT A FISCAL INVOICE      \r\n
=====
Label      Name      Rate      Tax\r\n
A          VAT      9.00%      5.65\r\n
-----\r\n
Total Tax:      5.65\r\n
=====
SDC Time:      15/07/2021 16:03:35\r\n
SDC Invoice No:      YTSS6KKG-HJHR9E00-307\r\n
Invoice Counter:      31/307CS\r\n
=====
===== THIS IS NOT A FISCAL INVOICE =====\r\n"

```

```

    "messages": "Success",
    "signedBy": "HJHR9E00",
    "encryptedInternalData": "dBgBvpa/5Y0qh0lYDcXTsMw9IAY40+pggnDtEv/UalpvEa6JU4LtQ/IakGMN3BG7j",
    "signature": "OWzvSqz/TcvWsG6UsL3U1QdvcfN755/37x/So4SHhH/3PbcviT419uLnHtUIj9UaDX6uGzniEouW/",
    "totalCounter": 307,
    "transactionTypeCounter": 31,
    "totalAmount": 68.46,
    "taxGroupRevision": 3,
    "businessName": "PKBB Livada",
    "tin": "RS543456345",
    "locationName": "PKBB Livada",
    "address": "Leskovacki drum bb",
    "district": "Lestane",
    "mrc": "0099-3000-HJHR9E00"
}

```

Copy Refund

This is an example of Copy Refund

Request

Header

RequestId: a02a9746466e46a0837990b3d5569ba3

Body

```

{
  "dateAndTimeOfIssue": "2020-12-08T08:55:23.286Z",
  "cashier": "123456789",
  "buyerId": "RS34564565",
  "buyerCostCenterId": "567546",
  "invoiceType": "Copy",

```

```
"transactionType": "Refund",
"payment": [
  {
    "amount": 68.46,
    "paymentType": "Cash"
  }
],
"invoiceNumber": "POS2017/998",
"referentDocumentNumber": "YTSS6KKG-HJHR9E00-305",
"referentDocumentDT": "2021-07-15T15:57:49.7423334+02:00",
"options": {
  "omitQRCodeGen" : "1" ,
  "omitTextualRepresentation" : "0"
},
"items": [
  {
    "name": "Sport-100 Helmet, Blue",
    "quantity": 2,
    "unitPrice": 34.23,
    "labels": [
      "A"
    ],
    "totalAmount": 68.46
  }
]
}
```

Response

Header

RequestId: a02a9746466e46a0837990b3d5569ba3

Body

```
{
  "requestedBy": "YTSS6KKG",
  "sdcDateTime": "2021-07-15T16:25:49.9232384+02:00",
  "invoiceCounter": "38/390CR",
  "invoiceCounterExtension": "CR",
  "invoiceNumber": "YTSS6KKG-HJHR9E00-390",
  "taxItems": [
    {
      "categoryType": 0,
      "label": "A",
      "amount": 5.6527,
      "rate": 9,
      "categoryName": "VAT"
    }
  ],
  "verificationUrl": "https://ft8.test.taxcore.dti.rs/v/?vl=AllUU1M2S0tHSEpIUjlFTzCGAQAAJgAAZ",
  "verificationQRCode": null,
  "journal": "==== THIS IS NOT A FISCAL INVOICE =====\r\n
TIN: RS543456345\r\n
Company: PKBB Livada\r\n
Store: PKBB Livada\r\n
Address: Leskovacki drum bb\r\n
District: Lestane\r\n
Cashier TIN: 123456789\r\n"
```

Buyer TIN: RS34564565\r\n
Buyers Cost Center: 567546\r\n
POS Number: POS2017/998\r\n
POS Time: 08/12/2020 08:55:23\r\n
Ref No: YTSS6KKG-HJHR9E00-305\r\n
Ref DT: 15/07/2021 15:57:49\r\n
-----COPY REFUND-----\r\n

Items\r\n
=====\r\n
Name Price Qty. Total\r\n
Sport-100 Helmet, Blue (A) \r\n
34.23 2 -68.46\r\n
-----\r\n
Total Refund: 68.46\r\n
-----\r\n
Cash: 68.46\r\n
=====\r\n

THIS IS NOT A FISCAL INVOICE \r\n
=====\r\n
Label Name Rate Tax\r\n
A VAT 9.00% 5.65\r\n
-----\r\n
Total Tax: 5.65\r\n
=====\r\n

SDC Time: 15/07/2021 16:25:49\r\n
SDC Invoice No: YTSS6KKG-HJHR9E00-390\r\n
Invoice Counter: 38/390CR\r\n
=====\r\n

==== THIS IS NOT A FISCAL INVOICE =====\r\n",
"messages": "Success",
"signedBy": "HJHR9E00",
"encryptedInternalData": "hsiPUq7UvtxWXCLdkmZ04o3eAqGwoeb9Agf9x0DVdADJhwWaI9IAbImZnXh9cY+yj",
"signature": "Aypg62GkNMFKuCosQ2LVtVklWYeWQCwtX1rIFCDdzmQIGd3eEe4yBs3piQWAs3qJD84EcMGALGSE",
"totalCounter": 390,
"transactionTypeCounter": 38,
"totalAmount": 68.46,
"taxGroupRevision": 3,
"businessName": "PKBB Livada",
"tin": "RS543456345",
"locationName": "PKBB Livada",
"address": "Leskovacki drum bb",
"district": "Lestane",
"mrc": "0099-3000-HJHR9E00"
}

Proforma Sale

This is an example of Proforma Sale

Request

Header

RequestId: 3f980e694ce045a9814ac145f4374531

Body

```
{
  "dateAndTimeOfIssue": "2020-12-08T08:55:23.286Z",
  "cashier": "123456789",
  "buyerId": "RS34564565",
  "buyerCostCenterId": "567546",
  "invoiceType": "Proforma",
  "transactionType": "Sale",
  "payment": [
    {
      "amount": 68.46,
      "paymentType": "Cash"
    }
  ],
  "invoiceNumber": "POS2017/998",
  "referentDocumentNumber": "YTSS6KKG-HJHR9E00-305",
  "referentDocumentDT": "2021-07-15T15:57:49.7423334+02:00",
  "options": {
    "omitQRCodeGen" : "1" ,
    "omitTextualRepresentation" : "0"
  },
  "items": [
    {
      "name": "Sport-100 Helmet, Blue",
      "quantity": 2,
      "unitPrice": 34.23,
      "labels": [
        "A"
      ],
      "totalAmount": 68.46
    }
  ]
}
```

Response

Header

RequestId: 3f980e694ce045a9814ac145f4374531

Body

```
{
  "requestedBy": "YTSS6KKG",
  "sdcDateTime": "2021-07-15T16:41:30.1405248+02:00",
  "invoiceCounter": "39/393PS",
  "invoiceCounterExtension": "PS",
  "invoiceNumber": "YTSS6KKG-HJHR9E00-393",
  "taxItems": [
    {
      "categoryType": 0,
      "label": "A",
      "amount": 5.6527,
      "rate": 9,
      "categoryName": "VAT"
    }
  ]
}
```

```

],
"verificationUrl": "https://ft8.test.taxcore.dti.rs/v/?vl=AllUU1M2S0tHSEpIUjlFTzCJAQAAJwAAZ
"verificationQRCode": null,
"journal": "===== THIS IS NOT A FISCAL INVOICE =====\r\n
TIN: RS543456345\r\n
Company: PKBB Livada\r\n
Store: PKBB Livada\r\n
Address: Leskovacki drum bb\r\n
District: Lestane\r\n
Cashier TIN: 123456789\r\n
Buyer TIN: RS34564565\r\n
Buyers Cost Center: 567546\r\n
POS Number: POS2017/998\r\n
POS Time: 08/12/2020 08:55:23\r\n
-----PROFORMA SALE-----\r\n
Items\r\n
=====
Name Price Qty. Total\r\n
Sport-100 Helmet, Blue (A) \r\n
34.23 2 68.46\r\n
-----
Total Purchase: 68.46\r\n
-----
Cash: 68.46\r\n
=====
THIS IS NOT A FISCAL INVOICE \r\n
=====
Label Name Rate Tax\r\n
A VAT 9.00% 5.65\r\n
-----
Total Tax: 5.65\r\n
=====
SDC Time: 15/07/2021 16:41:30\r\n
SDC Invoice No: YTSS6KKG-HJHR9E00-393\r\n
Invoice Counter: 39/393PS\r\n
=====
===== THIS IS NOT A FISCAL INVOICE =====\r\n",
"messages": "Success",
"signedBy": "HJHR9E00",
"encryptedInternalData": "NH6NC4ixqSHJXOs+s8TNeCRj9+WbTJT1t2LshfHxU3keo78alMvsRBEN7QhR9bev
"signature": "CvGKrQEG4qCNHDStyViKYc3ogCHhAw0NjhdHJUzUX6nryxVEEpwmxF0AOJFRUVCsqF2pNElav1fw
"totalCounter": 393,
"transactionTypeCounter": 39,
"totalAmount": 68.46,
"taxGroupRevision": 3,
"businessName": "PKBB Livada",
"tin": "RS543456345",
"locationName": "PKBB Livada",
"address": "Leskovacki drum bb",
"district": "Lestane",
"mrc": "0099-3000-HJHR9E00"
}

```

Proforma Refund

This is an example of Proforma Refund

Request

Header

RequestId: d0bdc3dcb8b442c0bd7231ccff59f027

Body

```
{
  "dateAndTimeOfIssue": "2020-12-08T08:55:23.286Z",
  "cashier": "123456789",
  "buyerId": "RS34564565",
  "buyerCostCenterId": "567546",
  "invoiceType": "Proforma",
  "transactionType": "Refund",
  "payment": [
    {
      "amount": 68.46,
      "paymentType": "Cash"
    }
  ],
  "invoiceNumber": "POS2017/998",
  "referentDocumentNumber": "YTSS6KKG-HJHR9E00-305",
  "referentDocumentDT": "2021-07-15T15:57:49.7423334+02:00",
  "options": {
    "omitQRCodeGen" : "1" ,
    "omitTextualRepresentation" : "0"
  },
  "items": [
    {
      "name": "Sport-100 Helmet, Blue",
      "quantity": 2,
      "unitPrice": 34.23,
      "labels": [
        "A"
      ],
      "totalAmount": 68.46
    }
  ]
}
```

Response

Header

RequestId: d0bdc3dcb8b442c0bd7231ccff59f027

Body

```
{
  "requestedBy": "YTSS6KKG",
  "sdcDateTime": "2021-07-15T16:44:44.0877791+02:00",
  "invoiceCounter": "37/394PR",
  "invoiceCounterExtension": "PR",
  "invoiceNumber": "YTSS6KKG-HJHR9E00-394",
  "taxItems": [
    {
```

```

    "categoryType": 0,
    "label": "A",
    "amount": 5.6527,
    "rate": 9,
    "categoryName": "VAT"
  }
],
"verificationUrl": "https://ft8.test.taxcore.dti.rs/v/?vl=AllUU1M2S0tHSEpIUjlFTzCKAQAAJQAAZ",
"verificationQRCode": null,
"journal": "===== THIS IS NOT A FISCAL INVOICE =====\r\n
TIN: RS543456345\r\n
Company: PKBB Livada\r\n
Store: PKBB Livada\r\n
Address: Leskovacki drum bb\r\n
District: Lestane\r\n
Cashier TIN: 123456789\r\n
Buyer TIN: RS34564565\r\n
Buyers Cost Center: 567546\r\n
POS Number: POS2017/998\r\n
POS Time: 08/12/2020 08:55:23\r\n
Ref No: YTSS6KKG-HJHR9E00-305\r\n
Ref DT: 15/07/2021 15:57:49\r\n
-----PROFORMA REFUND-----\r\n
Items\r\n
=====
Name Price Qty. Total\r\n
Sport-100 Helmet, Blue (A) \r\n
34.23 2 -68.46\r\n
-----
Total Refund: 68.46\r\n
-----
Cash: 68.46\r\n
=====
THIS IS NOT A FISCAL INVOICE \r\n
=====
Label Name Rate Tax\r\n
A VAT 9.00% 5.65\r\n
-----
Total Tax: 5.65\r\n
=====
SDC Time: 15/07/2021 16:44:44\r\n
SDC Invoice No: YTSS6KKG-HJHR9E00-394\r\n
Invoice Counter: 37/394PR\r\n
=====
===== THIS IS NOT A FISCAL INVOICE =====\r\n",
"messages": "Success",
"signedBy": "HJHR9E00",
"encryptedInternalData": "AOF3Rh6qYd2E3vI2ub0mKqW9CbeFKF6br+dKl8COblPTlWBWP+Sr22PkgHjT9HI65",
"signature": "AMr8SA1WxDwUHC7UrKJMcGkXgJuEASwzRYa3XeHecNEMvxdOXZzKnpus9NAEDGU+I3TIyYPuCFKL6",
"totalCounter": 394,
"transactionTypeCounter": 37,
"totalAmount": 68.46,
"taxGroupRevision": 3,
"businessName": "PKBB Livada",
"tin": "RS543456345",
"locationName": "PKBB Livada",
"address": "Leskovacki drum bb",
"district": "Lestane",
"mrc": "0099-3000-HJHR9E00"
}

```

Training Sale

This is an example of Training Sale

Request

Header

RequestId: a44cf40b1f2b4afabd1d9c4f1066b92d

Body

```
{
  "dateAndTimeOfIssue": "2020-12-08T08:55:23.286Z",
  "cashier": "123456789",
  "buyerId": "RS34564565",
  "buyerCostCenterId": "567546",
  "invoiceType": "Training",
  "transactionType": "Sale",
  "payment": [
    {
      "amount": 68.46,
      "paymentType": "Cash"
    }
  ],
  "invoiceNumber": "POS2017/998",
  "referentDocumentNumber": "YTSS6KKG-HJHR9EO0-305",
  "referentDocumentDT": "2021-07-15T15:57:49.7423334+02:00",
  "options": {
    "omitQRCodeGen" : "1" ,
    "omitTextualRepresentation" : "0"
  },
  "items": [
    {
      "name": "Sport-100 Helmet, Blue",
      "quantity": 2,
      "unitPrice": 34.23,
      "labels": [
        "A"
      ],
      "totalAmount": 68.46
    }
  ]
}
```

Response

Header

RequestId: d0bdc3dcb8b442c0bd7231ccff59f027

Body

```

{
  "requestedBy": "YTSS6KKG",
  "sdcDateTime": "2021-07-15T16:47:48.3965089+02:00",
  "invoiceCounter": "39/395TS",
  "invoiceCounterExtension": "TS",
  "invoiceNumber": "YTSS6KKG-HJHR9EO0-395",
  "taxItems": [
    {
      "categoryType": 0,
      "label": "A",
      "amount": 5.6527,
      "rate": 9,
      "categoryName": "VAT"
    }
  ],
  "verificationUrl": "https://ft8.test.taxcore.dti.rs/v/?vl=AllUU1M2S0tHSEpIUjlFTzCLAQAAJwAA",
  "verificationQRCode": null,
  "journal": "===== THIS IS NOT A FISCAL INVOICE =====\r\n
TIN: RS543456345\r\n
Company: PKBB Livada\r\n
Store: PKBB Livada\r\n
Address: Leskovacki drum bb\r\n
District: Lestane\r\n
Cashier TIN: 123456789\r\n
Buyer TIN: RS34564565\r\n
Buyers Cost Center: 567546\r\n
POS Number: POS2017/998\r\n
POS Time: 08/12/2020 08:55:23\r\n
-----TRAINING SALE-----\r\n
Items\r\n
=====
Name Price Qty. Total\r\n
Sport-100 Helmet, Blue (A) \r\n
34.23 2 68.46\r\n
-----\r\n
Total Purchase: 68.46\r\n
-----\r\n
Cash: 68.46\r\n
=====
THIS IS NOT A FISCAL INVOICE \r\n
=====
Label Name Rate Tax\r\n
A VAT 9.00% 5.65\r\n
-----\r\n
Total Tax: 5.65\r\n
=====
SDC Time: 15/07/2021 16:47:48\r\n
SDC Invoice No: YTSS6KKG-HJHR9EO0-395\r\n
Invoice Counter: 39/395TS\r\n
=====
===== THIS IS NOT A FISCAL INVOICE =====\r\n",
  "messages": "Success",
  "signedBy": "HJHR9EO0",
  "encryptedInternalData": "UKsZsoFmKMEW2PLX+Ex/P/H8E1355WZPrVU+jrJYKjsm1dGOvvWxDVTc5pJkR1tQ",
  "signature": "QbFJICVTO2OWru4zViu2KKbLW7hPhpA/ED6AVD8H1SkRZBhNqdu/tXr61GuuOILBPuI1gal02MXs",
  "totalCounter": 395,
  "transactionTypeCounter": 39,
  "totalAmount": 68.46,
  "taxGroupRevision": 3,
  "businessName": "PKBB Livada",
  "tin": "RS543456345",
  "locationName": "PKBB Livada",
  "address": "Leskovacki drum bb",
  "district": "Lestane",
  "mrc": "0099-3000-HJHR9EO0"
}

```

Training Refund

This is an example of Training Refund

Request

Header

RequestId: 8caa71f8dca849908872b0d14f4c33fb

Body

```
{
  "dateAndTimeOfIssue": "2020-12-08T08:55:23.286Z",
  "cashier": "123456789",
  "buyerId": "RS34564565",
  "buyerCostCenterId": "567546",
  "invoiceType": "Training",
  "transactionType": "Refund",
  "payment": [
    {
      "amount": 68.46,
      "paymentType": "Cash"
    }
  ],
  "invoiceNumber": "POS2017/998",
  "referentDocumentNumber": "YTSS6KKG-HJHR9EO0-305",
  "referentDocumentDT": "2021-07-15T15:57:49.7423334+02:00",
  "options": {
    "omitQRCodeGen": "1",
    "omitTextualRepresentation": "0"
  },
  "items": [
    {
      "name": "Sport-100 Helmet, Blue",
      "quantity": 2,
      "unitPrice": 34.23,
      "labels": [
        "A"
      ],
      "totalAmount": 68.46
    }
  ]
}
```

Response

Header

Body

```

{
  "requestedBy": "YTSS6KKG",
  "sdcDateTime": "2021-07-15T17:01:53.0192859+02:00",
  "invoiceCounter": "37/396TR",
  "invoiceCounterExtension": "TR",
  "invoiceNumber": "YTSS6KKG-HJHR9E00-396",
  "taxItems": [
    {
      "categoryType": 0,
      "label": "A",
      "amount": 5.6527,
      "rate": 9,
      "categoryName": "VAT"
    }
  ],
  "verificationUrl": "https://ft8.test.taxcore.dti.rs/v/?vl=AllUU1M2S0tHSEpIUj1FTzCMAQAAJQAAZ",
  "verificationQRCode": null,
  "journal": "===== THIS IS NOT A FISCAL INVOICE =====\r\n
TIN: RS543456345\r\n
Company: PKBB Livada\r\n
Store: PKBB Livada\r\n
Address: Leskovacki drum bb\r\n
District: Lestane\r\n
Cashier TIN: 123456789\r\n
Buyer TIN: RS34564565\r\n
Buyers Cost Center: 567546\r\n
POS Number: POS2017/998\r\n
POS Time: 08/12/2020 08:55:23\r\n
Ref No: YTSS6KKG-HJHR9E00-305\r\n
Ref DT: 15/07/2021 15:57:49\r\n
-----TRAINING REFUND-----\r\n
Items\r\n
=====
Name Price Qty. Total\r\n
Sport-100 Helmet, Blue (A) \r\n
34.23 2 -68.46\r\n
-----\r\n
Total Refund: 68.46\r\n
-----\r\n
Cash: 68.46\r\n
=====
THIS IS NOT A FISCAL INVOICE \r\n
=====
Label Name Rate Tax\r\n
A VAT 9.00% 5.65\r\n
-----\r\n
Total Tax: 5.65\r\n
=====
SDC Time: 15/07/2021 17:01:53\r\n
SDC Invoice No: YTSS6KKG-HJHR9E00-396\r\n
Invoice Counter: 37/396TR\r\n
=====
===== THIS IS NOT A FISCAL INVOICE =====\r\n",
  "messages": "Success",
  "signedBy": "HJHR9E00",
  "encryptedInternalData": "brqW02fw5qyqAC4AkSyc8K7zrN2K9BTZL5cofnNYMEEesyqsPVfmK6ipB4a6ie8oç",
  "signature": "1Ufjv1/LqBOn7koT7qeKQqv6xTA+UQ3iBMUqz2UB13hjSrBRK/41axT3WTdMJSTeuIURUoxCLNIRI",
  "totalCounter": 396,
  "transactionTypeCounter": 37,
  "totalAmount": 68.46,

```

```
"taxGroupRevision": 3,
"businessName": "PKBB Livada",
"tin": "RS543456345",
"locationName": "PKBB Livada",
"address": "Leskovacki drum bb",
"district": "Lestane",
"mrc": "0099-3000-HJHR9E00"
}
```

Get Last Signed Invoice

Get the last signed invoice by `RequestId`. It is used in case POS did not get a response from E-SDC after the [Create Invoice](#) service was invoked. The response is the same as for the Create Invoice service. `RequestId` field from the request is used to determine whether the last invoice was successfully created.

Endpoint

| SDC | Endpoint | |
|-------|--|--|
| V-SDC | <V-SDC_API_URL_obtained_from_certificate_as_exp here >/api/v3/invoices/{requestId} | <code>[[_TaxCore.PublicConfiguration.VSDCA]</code> |
| E-SDC | <code>http://<ESDC_ip_address>:<port>/api</code> | <code>http://192.168.88.112:8888/api/v3/in</code> |

NOTE:
Development and production environments, as well the environments in different countries, have different URLs. For this reason, URLs and names in your documentation, code and UI should not be hardcoded but configurable or extracted from a digital certificate.

Method

GET

Authentication

V-SDC

N/A

E-SDC

E-SDC does not require client authentication.

Request

N/A

Response

If found, same response structure as the response model for [Create Invoice](#) service. If not found, null is returned.

NOTE:

The main purpose of the command is to receive information about the last signed invoice, so that in case of failure, POS can decide whether it is necessary to repeat an invoice request. There are various alternative scenarios that may arise from this, which E-SDC should process in accordance with its technical capabilities and capacities, as well as depending on the intended implementation and the guarantees it can offer to POS:

1. If more than one POS is using the same E-SDC, the uniqueness of the RequestId should be ensured at the level of all acceding POS. In this regard, it is recommended to use a GUID with each request, or a combination of `POS_id + request_id`. Also, in this case, the last invoice according to the POS, or one of the last N requests, should be saved, depending on the capabilities of the E-SDC.
2. If one E-SDC is issuing invoices with multiple POSs and multiple Secure Elements, then the E-SDC should store at least 1 latest invoice response for each unique combination of `request_id + secure element UID`. Depending on the implementation, E-SDC can store more than 1 latest responses for each combination.
3. The E-SDC should store this data in a non-volatile memory so that in the event of a failure (e.g. power failure) it can read the stored data.
4. E-SDC should keep this data at least until the next request.

Error Messages Format

This section describes the structure and format of error messages that SDC returns to POS.

Data fields

| | |
|---------|---|
| | |
| message | Human-readable error information. If unsure which error message to return to a POS, use "The request is invalid" phrase |
| | |

| | |
|------------|---|
| modelState | Array of objects containing key-value pairs of property-errorCodes . |
| property | Path to the property error codes are associated with. If some of the fields in the path is an array, index number shall be included in square brackets. If errorcode is not related to a specific JSON property in the request, leave empty string. |
| errors | Error codes associated with a particular property. Codes are from the section Status and Error Codes . |

Model

```
ModelErrors {
  message (string),
  modelState (Array[ModelError])
}
```

```
ModelError {
  property(string),
  errors(Array[string])
}
```

Example

```
{
  "message": "The request is invalid.",
  "modelState": [
    {
      "property": "invoiceType",
      "errors": [
        "1234"
      ]
    },
    {
      "property": "items[0].labels[0]",
      "errors": [
        "1234"
      ]
    },
    {
      "property": "items[0].gtin",
      "errors": [
        "1234",
        "5678"
      ]
    }
  ]
}
```

Status and Error Codes

All protocols share the same Info, Error, and Warning codes.

| | | | | |
|--|--|--|--|--|
| | | | | |
|--|--|--|--|--|

| Code | 0-Info 1-Warning 2-Error | Description | Applies to | Retryable/Permanent |
|-------------|---------------------------|---|-------------|---------------------|
| | INFO | | | |
| 0000 | All OK | Command is executed without warnings or errors | VSDC, E-SDC | N/A |
| 0100 | Pin OK | This code indicates that the provided PIN code is correct | E-SDC | N/A |
| 0210 | Internet Available | Internet Connection is available (optional) | E-SDC | N/A |
| 0220 | Internet Unavailable | Internet Connection is not available (optional) | E-SDC | Retryable |
| | WARNINGS | | | |
| 1100 | Storage 90% Full | Storage used to store audit packages is 90% percent full. It is time to perform the audit. | E-SDC | Retryable |
| 1300 | Smart Card is not present | Secure element card is not inserted in the E-SDC smart card reader | E-SDC | Retryable |
| 1400 | Audit Required | Total Sale and Refund amount reached 75% of the SE limit. It is time to perform the audit. | E-SDC | Retryable |
| 1500 | Pin Code Required | Indicates that POS must provide the PIN code | E-SDC | Retryable |
| 1999 | Undefined Warning | Something is wrong, but a specific warning is not defined for that situation. The manufacturer can use manufacturer-specific codes to describe the warning in more detail | E-SDC | Retryable |

| | | | | |
|-------------|-------------------------|--|--------------|-----------|
| | | | | |
| | ERRORS | | | |
| 2100 | Pin Not OK | PIN code sent by the POS is invalid | E-SDC | Retryable |
| 2110 | Card Locked | The number of allowed PIN entries exceeded. The card is locked for use | E-SDC | Permanent |
| 2210 | SE Locked | Secure Element is locked. No additional invoices can be signed before the audit is completed | E-SDC | Retryable |
| 2220 | SE Communication Failed | E-SDC cannot connect to the Secure Element applet | E-SDC | Retryable |
| 2230 | SE Protocol Mismatch | Secure Element does not support requested protocol version (reserved for later use) | E-SDC | Retryable |
| 2310 | Invalid tax labels | Tax Labels sent by the POS are not defined | V-SDC, E-SDC | Retryable |
| 2400 | Not configured | SDC device is not fully configured for invoice signing (i.e., tax rates or verification URL are missing) | E-SDC | Retryable |
| 2800 | Field Required | A field is required (a mandatory invoice request field is missing) | V-SDC, E-SDC | Retryable |
| 2801 | Field Value Too Long | The length of the field value is longer than expected | V-SDC, E-SDC | Retryable |
| 2802 | Field Value Too Short | The length of the field value is shorter than expected | V-SDC, E-SDC | Retryable |
| | | | | |

| | | | | |
|-------------|------------------------|---|-------------|-----------|
| 2803 | Invalid Field Length | The length of the field value is shorter or longer than expected | VSDC, E-SDC | Retryable |
| 2804 | Field Out Of Range | A field value out of expected range | VSDC, E-SDC | Retryable |
| 2805 | Invalid Field Value | A field contains an invalid value | VSDC, E-SDC | Retryable |
| 2806 | Invalid Data Format | The data format is invalid | VSDC, E-SDC | Retryable |
| 2807 | List Too Short | The list of items or the list of tax labels in the invoice request does not contain at least one element (item/label). | VSDC, E-SDC | Retryable |
| 2808 | List Too Long | The list of items or the list of tax labels in the invoice request exceeds the maximum allowed number of elements (items/labels) or byte size. The maximum values depend on an SDC's capacity for processing invoice requests and can be manufacturer-specific. | VSDC, E-SDC | Retryable |
| 2809 | Secure Element Expired | The digital certificate on the smart card secure element has expired. | E-SDC | Permanent |

Obsolete error codes

| Code | Error | Description | Applies to |
|-------------|--------------------------|---|-------------|
| 2811 | Invalid Invoice Type | Value of Invoice Type field is invalid or out of range (replaced with 2805) | VSDC, E-SDC |
| 2812 | Invalid Transaction Type | Value of Transaction Type field is invalid or out of range (replaced with 2805) | VSDC, E-SDC |
| | | | |

| | | | |
|-------------|--------------------------------------|--|-------------|
| 2813 | Invalid Payment Type | Value of Payment Type field is invalid or out of range (replaced with 2805) | VSDC, E-SDC |
| 2814 | BuyerIdLenghtInBytes Length Exceeded | BuyerID field maximum length is exceeded (20 chars) (replaced with 2803) | VSDC, E-SDC |
| 2815 | BuyerCostCenterId Length Exceeded | BuyerCostCenterId field maximum length is exceeded (15 chars) (replaced with 2803) | VSDC, E-SDC |
| 2816 | POSInvoiceNumber Length Exceeded | POSInvoiceNumber field maximum length is exceeded (20 chars) (replaced with 2803) | VSDC, E-SDC |
| 2817 | GTIN Length Invalid | POSInvoiceNumber field length is less than 8 or greater than 14 (replaced with 2803) | VSDC, E-SDC |
| 2818 | Name Length Exceeded | Name field maximum length is exceeded (2048 chars) (replaced with 2803) | VSDC, E-SDC |
| 2819 | Name is Required | An item name is required (replaced with 2800) | VSDC, E-SDC |
| 2820 | Labels Length Exceeded | Label length is exceeded (replaced with 2803) | VSDC, E-SDC |