



EFR GUIDE [PT]

Implementation Details Portugal

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It refers to EFR version 2.14.0

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1. Introduction

1.1 The EFSTA System

serves as software blackbox to fulfill country specific fiscal requirements for POS systems using a unified API.

So, the frontend application operated by the cashier prepares transaction data (items, prices), which finally is registered with the EFR (EFSTA Fiscal Register) service. Here the transaction is augmented with fiscal reference data and stored on local disk and in the EFSTA cloud archive.

In Portugal it is mandatory to use officially certified software (CERTIFICAÇÃO DE SOFTWARE MODELO 24), for this different approaches exist:

- **Variant A: Certification of your POS software using EFR** You have to implement specific rules in your master data administration, POS frontend, EFSTA is used for cryptography, archiving and periodic SAF-T export to the Fiscal Authority. Be aware that you will require consulting and the full certification process will take about one year.
 - **Variant B: Use of the certified SimplePOS API** Your software will act as data entry only, the registration of transactions is done by EFR, you have to print the preformatted documents. Also here consulting is required, but in total your efforts will be a fraction of variant A.
-

2. Requirements

2.1 System requirements

Usually EFR runs on fail-safe the cash register system, but alternatively it can be operated as a server instance, also for multiple clients

- Windows XP SP3 or higher (x86/x64), Linux (x86/x64), OS-X
- node.js is installed as runtime engine, currently v10.24.1
- 1 GB of hard disk space is reserved by default, minimal 100 MB
- administrator privileges required during installation
- internet access for cloud services (<https://fr.efsta.net> IP 52.178.64.26 port 443)
- internet access of the fiscal portal over <https://servicos.portaldasfinancas.gov.pt:422/ServiceWS> (production) and, for certification and test systems, <https://servicos.portaldasfinancas.gov.pt:722/ServiceWS> (test)

if required online communication can be substituted by providing files on the local file system. For more details see section ATCUD below

2.2 Printer

You will have to print fiscal documents according to law. If your software is certified (Variant A), your document layout will be part of the certification. With SimplePOS (Variant B) either EFR prints directly (only Epson TM-T88 or compatible over USB, LAN or RS232), or you send the preformatted output to the printer controlled by your software (recommended).

The printer must be able to print the mandatory QR code
(https://info.portaldasfinancas.gov.pt/pt/docs/Conteudos_1pagina/Documents/QR_Code_Technical_Specifications.pdf).

3. Setup

3.1 EFR Installation

The EFR software can be downloaded from <http://public.efsta.net/EFR>, select country version [PT] for your platform.

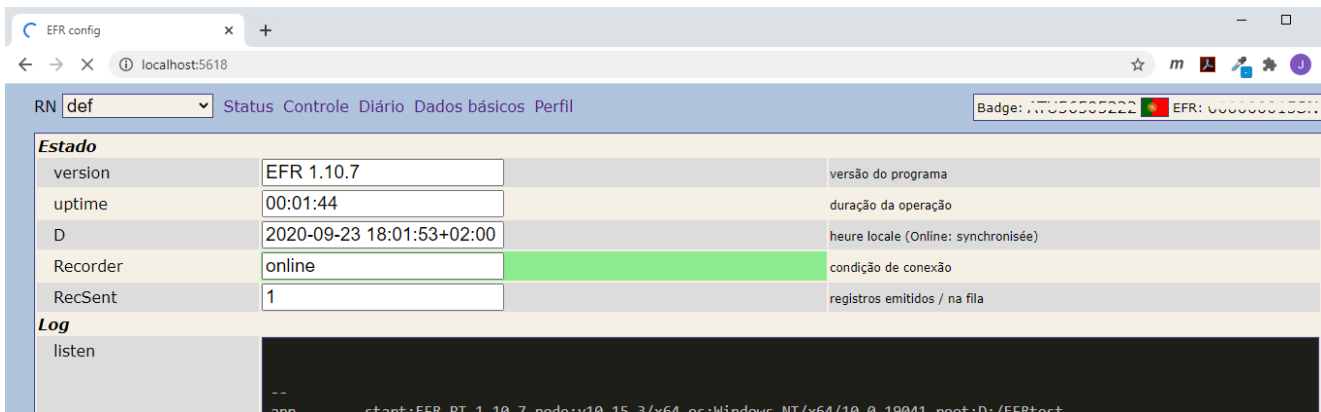
Windows:

- .msi installer
- service "EFR" is created
- target directory C:\ProgramData\EFR

Linux:

- .zip package
- mkdir EFR and unzip into this directory
- chmod x to install.sh and run this script
- ./install.sh --service creates a service file in /etc/systemd/system

EFR installation success can be verified via web access <http://localhost:5618> :



3.2 Setting Base Parameters

One of the key requirements of a fiscal journal is the unique identification of documents (transactions). As the incremental numbering of documents is performed per cash register, each register has a specific ID consisting of TL (Transaction Location) and TT (Transaction Terminal).

3.2.1 RN_SINGLE

So, on systems running a local EFR harden the settings during installation on page <http://localhost:5618> "Dados básicos":

RN def ▼ Status Controle Diário Dados básicos Perfil		
Cmp <i>Empresa / Company</i>		
TaxId	999999990	Nú
Nam	EMPRESA DE TESTE	No De
ValidationCode		Có
Loc <i>Localização / Location</i>		
TL	001	Nú
label		De No
Adr	123 Rua Longa	Mo De
City	Lisboa	Lo
Zip	1100	Có
Ctry	PT	Paí
Trm <i>Caixa / Terminal</i>		
TT	2	Nú
salvar		

and do not specify ESR.TL and ESR.TT in your /register request.

3.2.2 RN_MULTI

In EFR server mode managing multiple clients, please set RN_TT in http://localhost:5618 "Perfil":

Client Assignment	
RN_TT	☒

In this case, specify ESR.TL and ESR.TT (see EFR Reference) in your request, a separate storage area per client (directory /EFR/rn/{TL}_{TT}/) is created managing its own number range.

3.2.3 API-Key

For certification and field usage of EFR you have to obtain a partner specific API-Key from your efsta sales representative, which has to be entered in "Perfil":

Attributes	
Fiscal ApiKey=	

The value belongs into the profile field **ApiKey** and is the partner *token*. The profile attribute Fiscal_ApiKey is not read by EFR, and the keys: value is a certificate thumbprint, not the token.

A wrong or missing ApiKey logs CSP Profile ApiKey not valid and EFR falls back to a placeholder partner (NIF 999999990, certificate number 9999), which signs documents with ApiKey+missing. With that fallback active:

- transactions in production are refused with #FISCAL_TEST Profile ApiKey not valid (fallback partner NIF 999999990): Profile attribute 'Fiscal_test' must be set

- loading the partner certificate fails with #APIKEY Profile ApiKey not valid - cannot use the production certificate 999999990.pfx

3.3 Base data/company header data

Before sending the first transaction the company header sales data has to be configured. This can be done manually or via request.

The company NIF (field **TaxId**) is mandatory. Without it every transaction is refused with <TraC><Result RC="BAD">, warning #TAXID and the message "*Faltando NIF (Perfil TaxId)*" — no Fiscal Number is issued and no communication with AT takes place at all. The SAF-T export is refused as well (#TAXID Perfil TaxId em falta / profile TaxId missing). EFR neither substitutes the placeholder NIF PT999999990 nor the partner NIF for a missing TaxId.

The TaxId PT999999990 itself is a test shortcut that keeps the numbering series local (no AT communication); it requires the profile attribute `Fiscal_test` to be set, see chapter Test Mode.

3.3.1 Manual configuration

Navigate to <http://localhost:5618> in your browser and open "Dados básicos" (base data).

Enter the field values required, data is replicated to EFSTA cloud. In case of an online EFR this data can also be sent from the cloud to EFR. Sending of configuration data must be allowed in the efsta cloud and a company default setting should be configured in the cloud.

3.3.2 Programmatic configuration

```
<Cfg>
  <Cmp TaxId="PT999999999" Nam="My Company" ValidationCode="ATCD"/>
  <Loc TL="1" label="1" Adr="123 Long Road" Zip="12345" City="Lisboa" Ctry="PT"/>
  <Trm TT="1"/>
</Cfg>
```

or

```
{
  "Cfg": {
    "Cmp": {
      "TaxId": "PT999999999",
      "Nam": "My Company",
      "ValidationCode": "ATCD"
    },
    "Loc": {
      "TL": "1",
      "label": "1",
      "Adr": "123 Long Road",
      "Zip": "12345",
      "City": "Lisboa",
      "Ctry": "PT"
    },
    "Trm": {
      "TT": "1"
    }
  }
}
```


4. Transactions

4.1 First Test Transaction

The frontend application communicates with the EFR via REST Webservice.

You can simulate this behavior in your browser before starting software implementation. To do so install a REST client of your choice, for example "Advanced REST client" for Google Chrome.

Parameters for the web request are:

URL	http://localhost:5618/register
Method	POST
Body	transaction data as XML or JSON, e.g.:

```
<Tra>
  <ESR T="3.98" TN="1234" Opr="555" OprN="Ana">
    <PosA>
      <Pos PN="1" SKU="571233" Dsc="Pão de centeio integral 500g" TaxG="C"
        Amt="1.49" Qty="1" Pri="1.49" />
      <Pos PN="2" SKU="356889" Dsc="COLGATE Escova dente dura" TaxG="A"
        Amt="2.99" Qty="1" Pri="2.99" />
      <Mod PN="2" Dsc="Promoção" Amt="-0.50" />
    </PosA>
    <PayA>
      <Pay Dsc="Numerário" Amt="5.00" PayG="cash" />
      <Pay Dsc="Troco" Amt="-1.02" PayG="change" />
    </PayA>
    <TaxA>
      <Tax TaxG="A" Prc="23" Net="2.02" TAmt="0.47" Amt="2.49"/>
      <Tax TaxG="C" Prc="6" Net="1.41" TAmt="0.08" Amt="1.49"/>
    </TaxA>
  </ESR>
</Tra>
```

```
{
  "Tra": {
    "ESR": {
      "T": 3.98, "TN": 1234, "Opr": "555", "OprN": "Ana",
      "PosA": [
        {
          "_": "Pos", "PN": 1, "SKU": "571233", "Dsc": "Pão de centeio integral 500g",
          "TaxG": "C", "Amt": "1.49", "Qty": "1", "Pri": "1.49"
        },
        {
          "_": "Pos", "PN": 2, "SKU": "356889", "Dsc": "COLGATE Escova dente dura",
          "TaxG": "A", "Amt": "2.99", "Qty": "1", "Pri": "2.99"
        },
        {
          "_": "Mod", "PN": 2, "Dsc": "Promoção", "Amt": "-0.50"
        }
      ],
      "PayA": [
        {
          "Dsc": "Numerário", "Amt": "5.00", "PayG": "cash"
        },
        {
          "Dsc": "Troco", "Amt": "-1.02", "PayG": "change"
        }
      ],
      "TaxA": [
        {
          "_": "Tax", "TaxG": "A", "Prc": "23", "Net": "2.02", "TAmt": "0.47", "Amt": "2.49"
        },
        {
          "_": "Tax", "TaxG": "C", "Prc": "6", "Net": "1.41", "TAmt": "0.08", "Amt": "1.49"
        }
      ]
    }
  }
}
```

Response:

```
<TraC SQ="4">
  <Result RC="OK"/>
  <ESR TL="001" TT="2" D="2023-09-24T14:53:45" FN="FS 001_2.23/1">
  </ESR>
  <Fis>
    <Payload>2023-09-24;2023-09-24 14:53:45;FS 001_2.23/1;3.98;</Payload>
    <Signature>EWZM3...xhK0=</Signature>
    <Code>A:999999990*B:999999990*C:PT*D:FS*F:20230924...</Code>
    <Serial>1</Serial>
    <Tag Label="ATCUD:" Value="AAJFFY3FCG-1" Name="ATCUD"/>
    <Tag Label="" Value="EH+U-Processado por programa certificado nº 9999/AT"
      Name="Sec"/>
    <Tag Label="Data:" Value="2023-09-24 14:53:45" Name="Date"/>
    <Tag Label="Operador:" Value="Ana" Name="Opr"/>
  </Fis>
</TraC>
```

The response contains fields automatically by EFR, and the fiscal security data including signature. The <TaxA> array is basically optional, but it is recommended to provide it to avoid differences between POS and EFR calculus.

The <Code> field contains the data to be printed as QR (version 9, M) on the ticket. Its field A: is the issuer NIF and always carries the configured profile TaxId.

On a system running in test mode (profile attribute Fiscal_test, see chapter Test Mode) the same transaction is answered with the test series and the marker Test="true":

```
<TraC SQ="4">
  <Result RC="OK"/>
  <ESR TL="001" TT="2" D="2023-09-24T14:53:45" FN="FS TESTE-001_2.23/1">
  </ESR>
  <Fis Test="true">
    <Payload>2023-09-24;2023-09-24 14:53:45;FS TESTE-001_2.23/1;3.98;</Payload>
    ...
  </Fis>
</TraC>
```

4.2 [PT] Specific ESR Fields

4.2.1 Operator ID Opr

To each transaction the cash register operator ID shall be assigned. Provide field ESR.Opr (and optionally operator name ESR.OprN), default is the username logged in (operating system). Alternatively you can use separate nonfiscal Logon/Logoff transactions:

```
<Tra>
  <ESR TN="1233" NF="LOGON" Opr="555" OprN="Ana"/>
</Tra>
...
<Tra>
  <ESR TN="1250" NF="LOGOFF"/>
</Tra>
```

4.2.2 Payment Group PayG

SAF-T export format expects payment group specification for payment lines. Else this field value is derived from <Pay Dsc=... field using a string match list. For details see "SAF-T Payment Group Codes" in Appendix.

4.2.3 Services

In SAF-T export the positions have to be marked as products (default) or services. To register services please tag the lines with position type "Svc":

```
...
  <PosA>
    <Pos PN="1" SKU="2220007" Dsc="Parafusos DIN933 M10x50" TaxG="A"
      Amt="55.00" Qty="100" Pri="0.55" />
    <Svc PN="2" SKU="9900023" Dsc="Serviço de reparo" TaxG="A"
      Amt="70.00" Qty="1" Pri="70.00" />
  ...
```

```
...
  "PosA": [
    { "_": "Pos", "PN": 1, "SKU": "2220007", "Dsc": "Parafusos DIN933 M10x50", "TaxG": "A",
      "Amt": "55.00", "Qty": "100", "Pri": "0.55" },
    { "_": "Svc", "PN": 2, "SKU": "9900023", "Dsc": "Serviço de reparo", "TaxG": "A",
      "Amt": "70.00", "Qty": "1", "Pri": "70.00" }
  ]
  ...
```

4.2.4 Unique Fiscal Number (FN)

In cash register systems usually each transaction gets an incremental transaction number. But the fiscal rules determine numbering per document type (e.g. invoice, credit note, ...). You can register your transaction number in ESR field TN as reference, but always a separate Fiscal Number FN will be assigned and stored in the journal. The current number part is reset to 1 with each year's first transaction.

4.2.5 Fiscal Signature

A digital signature is created for each transaction and blockchained according to law, parts of the signature are printed in receipt trailer line `Processado por programa certificado...`. As the signature is included in SAF-T [PT] export data, the fiscal authority can and will verify signature values and chain.

4.3 Document Types

4.3.1 Sale / Credit Note (Fatura Simplificado / Nota de crédito)

As with other countries using fiscal printers, mixing of positive (sales) and negative (return/void) positions within one transaction is not allowed and will lead to a `<TraC><Result RC="BAD">` response. Please train your cashiers to do this in two separate steps.

To accept data from applications, which do not remove lines, but immediately void unwanted scans, negative (return/void) positions are allowed, as long as they correspond to positive positions within the same transaction.

Transactions with negative total (e.g. `ESR.T="-3.98"`) automatically are registered as credit notes "Nota de Crédito", which are printed showing inverted amounts and quantities. You have to reference the original transaction in fields `ESR.RFN` (or `ESR.RTL`, `ESR.RTT`, `ESR.RTN`) and `Pos.RPN`. Also specify a reason for SAF-T export:

```
<Tra>
  <ESR T="-3.98" ... RFN="FS 001_1.23/1234" Rsn="Jacket did not fit">
  ...
```

4.3.2 Invoice (Fatura)

For sales with a total from EUR 1000.00 instead of FS "Fatura simplificado" an invoice FT "Fatura" is issued. For this, customer data including the customer's TaxId NIF is required:

```
<Tra>
  <ESR T="1008.98" ...>
    <Ctm TaxId="PT123456789" Nam="Nuno MUELLER" Adr="Rua do Porto, 12" City="Carcavelos"
    Zip="2775-543" Ctry="PT"/>
  ...
```

If a ticket (with lower `ESR.T`) is registered including `<Ctm TaxId=`, also FT will be used.

`<Ctm>` information without `TaxId` is shown as unknown customer (`CustomerTaxID=Desconhecido`) in SAF-T, document type is FS.

Please be advised that cash payment (`PayG="NU" | PayG="cash"`) must be less than EUR 3000.00.

4.3.3 Voiding Documents (Anulação)

Mark the transaction with `<ESR ... Void="1"`, specify `RFN` and send the positions inverted. You will not get a `<Fis>` tag in the response, as the void trigger itself not signed - the original ticket is flagged as voided (`InvoiceStatus=A`) in SAF-T.

For voiding the last transaction `/register/void/last` (see EFR Reference) may be used.

A void — and likewise a credit note — has to be issued in the same environment as the document it references: a test document can only be voided while `Fiscal_test` is set, a production document only while it is unset (see chapter Test Mode). The opposite case is refused with `#FISCAL_TEST` and the message *"Documento referenciado pertence ao outro ambiente AT (Fiscal_test)"*, because a document of the AT sandbox must not change production totals.

4.3.4 Override of Document Type

The document type is selected automatically upon signum of the transaction total. If another document type as FS/FT/NC is required, you can specify it in ESR field Document Type DT:

```
<Tra>  
  <ESR DT="CM" ...
```

See appendix for a full list of supported document types.

4.3.5 Nonfiscal Documents

Additional cases which were not described here may be sent as non-fiscal. Using attribute NF, no signature will be created and these document types are not included in SAF-T export. See more information in our ESR table on efstaDocs.

5. POS Administration

5.1 Document Reprints

To access the fiscal journal use `http://localhost:5618 "Diário"`, where you can search for specific field values. Single transaction reprints can be requested, which will be marked "Cópia do documento original ...".

5.2 Backup Strategy

During fiscal certification the backup strategy of the POS (databases) and recovery procedure will have to be presented. Usually on larger POS infrastructure base and configuration data is provided by replication, so a local base data backup will not be required.

Transaction data backup from EFR is done immediately after each registration into the EFSTA cloud archive, so data loss cannot occur as long as either EFR has an online connection or the local hard disk works without total failure.

5.3 Manual Integration of Documents Lost with Backup Restore

Although a loss of transaction data is highly improbable, the fiscal auditor may ask for the procedure how to proceed after system failure and replacement. After restore of the last backup, a function to manually integrate documents that have been lost may be required to provide a gapless SAF-T export.

For integration of "Lost Documents" please register the original transaction including the additional fields Fiscal Number FN and original Date D:

```
<Tra>
  <ESR TL="001" TT="1" T="0.98" Opr="102" FN="FT 001_1.22/4711" D="2022-01-02T14:12:00">
    <PosA>
      ...
```

Manual integration will automatically start a new numbering series (see chapter below).

Documents integrated manually are tagged with `<SourceBilling>M</SourceBilling>` ("manual") in SAF-T, and other reference fields are set according to the regulations.

5.4 Integration from Manual Invoice Book

In case of POS outage the company may use a Manual Invoice Book with prenumbered invoice forms, which have to be manually entered at end of outage.

The transactions are registered being FN the form number and D the original Date:

```
<Tra>
  <ESR TL="001" TT="1" T="0.98" Opr="102" FN="abc/00001" D="2023-07-14T14:12:00">
    <PosA>
      ...
```

Manual integration will automatically start a new numbering series (see chapter below).

According to "ponto 2.4 do Despacho n.º 8632/2014 de 03 de Julho do Diretor Geral da Autoridade Tributária e Aduaneira" Manual Invoice Books can be ordered from a certified printing company. Before, the retailer has to open a manual series in AT Portal to get an ATCUD, which is required by the printing company. The forms are sequentially numbered.

5.5 Daily Closure / Z Reports

A Z-report is a daily closure report that sums totals of different payment methods, returns, voids, etc. At the end of the day, the cash register needs to generate a daily closure and send the EFR a signal that the daily closure has been made.

The Z-report is marked as a non-fiscal signed transaction, with the attribute NFS="Z"

Example:

```
<Tra>
  <ESR TL="01" TT="1" TN="1234" NFS="Z"/>
</Tra>
```

5.6 Numbering Series

The numbering of documents has to be unique within the whole company. For this the ID of the POS system and the document date is used: Transaction Location (business premise) TL="001", Transaction Terminal (POS number on premise) TT="1" with transaction Date D="2022-..." will result in series "001_1.22". The whole Fiscal Number then shows as "FS 001_1.22/1234"

An automatic enumerator reset is performed with each new year (first transaction on January, 1st 2023), giving e.g. "FS 001_1.23/1".

If the system is restored from backup, you eventually may have to enter missing documents (see Manual Recovery of Lost Documents). Then [start new series] on the "Controle" page (<http://localhost:5618/control>), .

5.6.1 Client Certificate for the Software Producer

Software creator certificates will expire and need to be replaced using the following steps. This process only applies when using your own certificate.

Steps:

- please open <http://localhost:5618> page "Controle" and click on "Registration"
- check if NIF (=TaxId) is that of you (the software producer)
- in "Request" enter the certificate subject fields, e.g. "FR, none, Paris, ..." CN will show your NIF
- then create [new .csr]
- the content of the .csr file (PEM base64 formatted) has to be copied into the request field in the AT portal
- the request will be processed by AT and you will get the public key part via email
- then paste the PEM formatted certificate in the "Registration" page and [create .pfx]
- The .pfx file then will be used as client certificate in the WSDL communication. Another certificate for communication with the test backend is provided by EFR.
- To ensure the EFR can access the certificate, please send it to your efsta Partner so we can add it to our backend system where it will be provided to the EFR

5.6.2 ATCUD

Note: Since EFR release 2.6.1 the EFR blocks all transactions before the ATCUD was obtained from the government web service (this may take a bit after username/password were entered into the EFR).

Each document (e.g. Fatura Simplificado) has to show a number prefix, which is issued by the [PT] fiscal authority AT. EFR does the communication automatically on behalf (open or close series) using a web service interface. You will have to configure a login (sub-user/password) in the fiscal portal <https://www.acesso.gov.pt/gestaoDeUtilizadores/criarForm?partID=PFIN>.

Then enter the data on "Controle", [configurar...] login:

RN: def	Status	Controle	Dados básicos	Perfil	Diário	Licença	Badge:
Login Portal das Finanças							
NIF	980701066	TesteWebservices	Numero de Identificação Fiscal / TaxId				
Gestão de utilizadores			permitir serviço da web / permit webservice: "WFA - Webservice de comunicação de dados de faturas", "WSE - Comunicação e Gestão de Séries por webservice"				
sub-user	980701066/7	"Utilizador" atribuído por AT, exemplo / sub-user assigned by authority, e.g.: 980701066/1					
password	...	digite a "Senha", se for novo / enter password, if new					
1. test	teste e salve	teste de acesso ao webservice / test webservice access					
2. upload	distribuir	distribuir login na nuvem / share login over cloud					

With [teste e salve] a communication test is performed, on success an encrypted file with the login credentials is created. With [distribuir] you can immediately provide the credentials to all systems belonging to your company. This function is disabled while the profile attribute `Fiscal_test` is set, because the cloud backup feeds production systems.

One login is stored per NIF and it is **shared between the two AT environments** — the sub-user is a regular Portal das Finanças credential which AT validates on both, so switching `Fiscal_test` never requires entering it again.

A sub-user belonging to a different NIF than the configured TaxId is accepted in the test environment (it is legitimate there), but refused in production with NIF mismatch {username}: in production the merchant's own sub-user has to be used, because AT attributes a numbering series to whoever authenticates. The sub-user needs the **WSE** profile.

If no login is stored for the configured NIF the call fails with AT login missing.

Open series at AT always can be shown on "Controle", [listar...]:

Último Documento											
NIF	980701066	TesteWebservices	Numero de Identificação Fiscal / TaxId								
TL/TT	8861/1	identificação de caixa / POS identification									
lastD	2023-01-18 19:45:45	última data do documento / last document date									
lastTS	2023-01-18 19:45:45	último carimbo de data / last timestamp									
Série no Portal AT											
serie	tipo Serie	tipo Doc	cod Validacao Serie	num Inicial Seq	FN	seq Ultimo Doc Emitido	data Registo	estado	data Estado	data Inicio Prev Utiliz	nif Comunicou

Network communication with the AT portal is done with following endpoints:

https://servicos.portaldasfinancas.gov.pt:422/SeriesWSService (production) and

https://servicos.portaldasfinancas.gov.pt:722/SeriesWSService (test)

Please assure that these URLs and ports are appropriate configured on your local firewall.

During certification with the fiscal authority please set "Perfil" "Attributes" "Fiscal_test":

Attributes	Fiscal_test
------------	--------------------

This switches all communication to the test endpoint and gives the test documents their own numbering series. Test mode is described in chapter 5.7.

5.6.3 Automatic New Series

As far as possible opening an new series is done automatically by EFR on following events:

- first transaction on a new (empty) EFR
- first transaction in a new year (e.g. on January 1st)
- first transaction in Manual Integration of Lost Documents (because after hardware failure a new series is required)
- first normal transaction after Manual Integration of Lost Documents

5.6.4 Closing Series

On new series, the old series always are closed automatically.

But if a POS system is taken out of operation, please use the function "Controle", "Serie e ATCUD" [finalizer ativas / close active].

Listing and closing act on the series of the environment the system is currently in: with `Fiscal_test` set only the test series are listed and closed, without it only the production series.

5.6.5 Series of Test Documents

Documents issued in test mode (profile attribute `Fiscal_test`, chapter 5.7) use their **own** series with the prefix `TESTE-`, with their own document counters and their own signature chain:

FS 001_1.26/1	normal document
FS TESTE-001_1.26/1	same register, test mode

The prefix is part of the series, i.e. it follows the document type, so it also appears in QR code field G: . The ATCUD is built from the validation code that AT issues for the test series.

The production series is never touched by test traffic, so switching `Fiscal_test` on or off neither closes, renumbers nor interrupts it. A series name is limited to 35 characters: with a `TL_TT` longer than 25 characters, the `TL_TT` part is shortened from the left; the `TESTE-` prefix itself is always kept.

5.7 Test Mode (`Fiscal_test`)

5.7.1 The switch

The profile attribute `Fiscal_test` ("Perfil", "Attributes") is the **only** switch between the two AT environments:

<code>Fiscal_test</code>	Endpoint	Client certificate	Series data
set	<code>servicos.portaldasfinancas.gov.pt:722</code>	AT test certificate, provided by EFR	sandbox
not set	<code>servicos.portaldasfinancas.gov.pt:422</code>	your partner certificate	real and binding

The configured `TaxId` is never changed by the attribute, there is no URL parameter and no automatic switching derived from the NIF. A request without a register number (certificate handling for example) follows the **global** profile, as register profiles inherit the global attributes anyway.

5.7.2 What a test document looks like

A test document runs through the full fiscal flow — Fiscal Number, signature, ATCUD, QR code — it is simply registered in AT's test environment:

- own series `TESTE-...` with own counters and own signature chain (chapter 5.6.5)
- journal marker `Fis.Test: true`, also contained in the response to the POS (chapter 4.1)
- SAF-T export separated per environment (chapter 5.8)
- voids and credit notes stay within their environment (chapter 4.3.3)

The test badge is shown on the pages "Controle", [configurar...] login and "Serie e ATCUD", and every call to AT is logged with its environment and port in /EFR/log/{yyyyymmdd}m.log:

```
2026-08-26T11:35:26 SeriesWSService TEST :722
```

5.7.3 Configurations refused in production

To prevent a misconfigured system from registering series in the real fiscal data under a foreign identity, EFR refuses the following combinations while `Fiscal_test` is **not** set, with the warning `#FISCAL_TEST ... Profile attribute Fiscal_test must be set` (see the error reference in the appendix):

- the profile `TaxId` is efsta's own NIF, or the stored login is an efsta sub-user
- the profile `TaxId` is the placeholder NIF PT999999990
- the profile `ApiKey` is invalid, so the placeholder partner is used (chapter 3.2.3)

5.7.4 Putting a system into test mode

1. set the profile attribute `Fiscal_test`
2. make sure a real merchant `TaxId` is configured — it is not supplied implicitly (chapter 3.3)
3. make sure the profile `ApiKey` holds your partner token (chapter 3.2.3)
4. enter the Portal das Finanças login once on "Controle", [configurar...] — it is shared with production (chapter 5.6.2)
5. check that "Controle", login and series pages show the test badge and that the log contains the `TEST :722` lines
6. register a receipt: the Fiscal Number contains `TESTE-` and the journal entry carries `Fis.Test`

5.7.5 Going live

Remove the attribute `Fiscal_test`. The test series and their counters remain stored, unused.

If the system was used in test mode before this EFR release, close the active series ("Controle", "Serie e ATCUD", [finalizer ativas]) before the first production transaction, so that production starts with a new series.

5.8 SAF-T Export

The Portuguese Fiscal Authority "AT" requires at least monthly upload of sales data of all POS systems. This usually is performed from the EFSTA Cloud Portal for the whole company.

During certification and for audit on premise by the Fiscal Authority a local export is required. This can be found on <http://localhost:5618> (open with your browser) under "Controle":

Arquivos para baixar			
network	☒ usa rede?		
	Caixa	EFR	Host
	8890/1	000000015SN	isto OK
	8890/7	00000003LLQ	10.30.0.167 OK
export.zip	de	2022-01-01	em 2022-12-31
	começar		

Para agregar os dados de toda a loja, use a rede /
For aggregated store data check 'network'

XML de acordo com / according to: [SAF-T \(PT\) 1.04_01](#)

An export of all POS systems of the business premise is required, so all other EFR systems within the local network (LAN) are shown (for this UDP broadcasting is used, if your systems are not shown properly check your network switch/router/firewall configuration).

By default checkbox "LAN" is checked, so a SAF-T export will include all other POS systems (with matching field `Loc.TL`, see "Dados básicos").

If LAN=on and a known POS cannot be reached, a warning is shown on the GUI, but the export will be performed:

network	☒ usa rede?		
	Caixa	EFR	Host Status
	8890/1 000000015SN	isto	OK
	8890/7 00000003LLQ		offline
export.zip	de 2022-01-01	em 2022-12-31	
	começar		! sem/without 8890/7 export.zip 0.06MB

The export requires a configured profile TaxId, otherwise it is refused with #TAXID Perfil TaxId em falta / profile TaxId missing (chapter 3.3).

One environment per export. The export follows the attribute Fiscal_test (chapter 5.7): with the attribute set it contains **only** the test documents — so a system used for certification can validate its own SAF-T — without it **only** the production documents. Both exports are gapless, because each environment has its own numbering series. The documents of the respective other environment are listed with #FISCAL_TEST in the file warnings.log of the download.

warnings.log is an EFR diagnostic file inside the .zip and is not part of the SAF-T: it is not referenced from the XML and has always collected export notes (#DUPLICATE, #DIFF, #REPAIR). Hand the **XML** to your accountant or the auditor, not the whole .zip.

5.8.1 REST Implementation

For export use e.g.

```
GET /control/export?lan=on&from=2022-01-01&till=2022-12-31
```

Before starting the export please check the current network state with

```
GET /control/lan
```

(for XML response instead of JSON set request header Accept=application/xml).

POS systems not accessible are listed with "state":"offline". In case of systems being offline, request a user confirmation that the resulting export will not be complete.

As network reachability can change, the /control/lan result is cached for 60 sec and then will be used in an subsequent export, offline systems will be skipped.

Optional query parameters for /control/export:

Parameter	Effect
&headercomment=...	will be exported in <header><HeaderComment>...
&target=...	specify a directory path, where the export .xml shall be stored; else, a .zip containing the export file will be sent in response body

6. Special Cases

6.1 Reduced Tax Rates for Madeira, Azores

For Portuguese islands reduced tax rates are valid; extend TaxG with "M" for Madeira and "A" for Azores. For details see "VAT Rates" in Appendix.

For stores in these regions you have to set field TaxGR in "Dados básicos", "Location":

Loc	Localização / Location	
TL	001	Número da loja / Store Number
label	Funchal	Designação Comercial / BusinessName Nome abreviado da filial
Adr	Rua João Chagas, nº 10	Morada detalhada / AddressDetail Deve incluir o nome da rua, número de polícia e andar, se aplicável
City	Funchal	Localidade / City
Zip	9000-031	Código postal / PostalCode
Ctry	PT	País / Country
TaxGR	Região Autónoma da Madeira	Espaço fiscal / Tax Country Region

6.2 B2B Sales

For sales business-to-business at least the 'NIF' TaxId (with or without leading "PT") of the buyer shall be registered; example:

```
<Tra>
  <ESR T="3.98" TN="1234" Opr="555">
    <Ctm TaxId="PT980701066">
      <PosA>
        ...
```

TaxId PT999999990 ("undefined"/"desconhecido") does not trigger a "Fatura" — but do not send it as customer NIF either: the transaction is rejected with #TAXID reserved. Simply omit Ctm.TaxId for an unknown customer.

For further customer data fields see EFR Reference.

6.3 Receipt Layout

The receipt print layout is controlled in /EFR/rn/def/cfg/fiscal.ejs (or .pug). EJS/Pug (ejs.co/pugjs.org) are templating languages to transform JSON data into HTML, afterwards the formatted HTML is rendered for a character font receipt printer.

A basic layout is provided by default, details of print configuration can be found in EFR Reference.

7. Software Certification

Finally, the POS software has to undergo a certification with the Portuguese fiscal authority AT.

7.1 Prerequisites

For details please contact sales@efsta.eu, EFSTA will accompany you through the preparation phase.

7.2 Initiation at the Fiscal Portal

The fiscal public key file public.pem has to be uploaded (download from page "Controle"):

Se está com problemas a carregar esta página por favor entre aqui.

Portal das Finanças - Certificação

https://www.portaldasfinancas.gov.pt/pt/entregaM24Applet.action

Modelo 24

02 1ª declaração 03 Declaração de substituição

3 Identificação do programa a certificar

04 Nome / Designação comercial do programa

05 Versão do programa 06 N.º de depósito na ASOFT

4 Entrega da chave pública assimétrica, par da chave privada utilizada pelo programa

07 Anexo ficheiro com chave pública assimétrica, par da que é utilizada pelo programa (assinale com x) ☒

08 Número da versão da chave pública assimétrica 1

Ficheiro anexo: public.pem Anexar Remover

5 Declaração de conformidade com os requisitos legais

09 O requerente declara que o programa de faturação, para o qual pede a certificação, verifica todos os requisitos constantes da Portaria n.º 363/2010, de 23 de Junho, comprometendo-se a observá-los nas versões subsequentes (assinale com x) ☒

6 Identificação do representante legal

N.º de Identificação Fiscal (NIF) do representante legal 10

Versão: 1.1.0.15662/2021.06.011

After registration you will receive an email from your fiscal auditor.

7.3 Data Transfer to the Tax Authority

Part of the Portugal ruleset is to periodically (per day or per month) deliver receipt (invoice) data in SAF-T [PT] 1.04_01 format. An appropriate export function is included in EFR and can be found in the user interface <http://localhost:5618>, page "Controle". By now this is a manual task, further process automation is planned in accordance with the Tax Authority.

Appendix

VAT Rates

Following rates are used by default, if only TaxG is delivered, but no tax rate in TaxA element (/EFR/app/PT/cfg/TaxG.cfg):

TaxG	Prc	Description
A	23	Normal
AMA	22	Normal (Madeira)
AAC	18	Normal (Azores)
B	13	Intermédia
BMA	12	Intermédia (Madeira)
BAC	9	Intermédia (Azores)
C	6	Reduzida
CMA	5	Reduzida (Madeira)
CAC	4	Reduzida (Azores)
M01	0	Artigo 16.º n.º 6 do CIVA (ou similar)
M02	0	Artigo 6.º do Decreto-Lei n.º 198/90, de 19 de Junho
M03	0	Exigibilidade de Caixa
M04	0	Isento Artigo 13.º do CIVA (ou similar)
M05	0	Isento Artigo 14.º do CIVA (ou similar)
M06	0	Isento Artigo 15.º do CIVA (ou similar)
M07	0	Isento Artigo 9.º do CIVA (ou similar)
M08	0	IVA – autoliquidação
M09	0	IVA - não confere direito a dedução
M10	0	IVA – Regime de isenção
M11	0	Regime particular do tabaco
M12	0	Regime da margem de lucro – Agências de viagens
M13	0	Regime da margem de lucro – Bens em segunda mão
M14	0	Regime da margem de lucro – Objetos de arte
M15	0	Regime da margem de lucro – Objetos de coleção e antiguidades
M16	0	Isento Artigo 14.º do RITI (ou similar)
M20	0	IVA - Regime forfetário
M99	0	Não sujeito; não tributado (ou similar)

For tax exemptions set the appropriate code in field Pos.TaxG

4.2.1 Motivos de Isenção de IVA

Motivo de isenção ou não liquidação a indicar no campo “1.7.3.4 – Motivo de Isenção (TaxExemptionReason)”:

Código (1.7.3.4)	Menção a constar na fatura	Norma aplicável
M01	<i>Artigo 16.º n.º 6 do CIVA (ou similar)</i>	Artigo 16.º n.º 6 alíneas a) a d) do CIVA
M02	<i>Artigo 6.º do Decreto-Lei n.º 198/90, de 19 de Junho</i>	Artigo 6.º do Decreto-Lei n.º 198/90, de 19 de junho
M03	<i>Exigibilidade de caixa</i>	Decreto-Lei n.º 204/97, de 9 de agosto Decreto-Lei n.º 418/99, de 21 de outubro Lei n.º 15/2009, de 1 de abril
M04	<i>Isento Artigo 13.º do CIVA (ou similar)</i>	Artigo 13.º do CIVA
M05	<i>Isento Artigo 14.º do CIVA (ou similar)</i>	Artigo 14.º do CIVA
M06	<i>Isento Artigo 15.º do CIVA (ou similar)</i>	Artigo 15.º do CIVA
M07	<i>Isento Artigo 9.º do CIVA (ou similar)</i>	Artigo 9.º do CIVA
M08	<i>IVA – autoliquidação</i>	Artigo 2.º n.º 1 alínea i), j) ou l) do CIVA Artigo 6.º do CIVA Decreto-Lei n.º 21/2007, de 29 de janeiro Decreto-Lei n.º 362/99, de 16 de setembro Artigo 8.º do RITI
M09	<i>IVA - não confere direito a dedução</i>	Artigo 60.º CIVA Artigo 72.º n.º 4 do CIVA
M10	<i>IVA – Regime de isenção</i>	Artigo 53.º do CIVA
M11	<i>Regime particular do tabaco</i>	Decreto-Lei n.º 346/85, de 23 de agosto
M12	<i>Regime da margem de lucro – Agências de viagens</i>	Decreto-Lei n.º 221/85, de 3 de julho
M13	<i>Regime da margem de lucro – Bens em segunda mão</i>	Decreto-Lei n.º 199/96, de 18 de outubro
M14	<i>Regime da margem de lucro – Objetos de arte</i>	Decreto-Lei n.º 199/96, de 18 de outubro
M15	<i>Regime da margem de lucro – Objetos de coleção e antiguidades</i>	Decreto-Lei n.º 199/96, de 18 de outubro
M16	<i>Isento Artigo 14.º do RITI (ou similar)</i>	Artigo 14.º do RITI
M20	<i>IVA - Regime forfetário</i>	Artigo 59.º-B do CIVA
M99	<i>Não sujeito; não tributado (ou similar)</i>	Outras situações de não liquidação do imposto (Exemplos: artigo 2.º, n.º 2; artigo 3.º, n.ºs 4, 6 e 7; artigo 4.º, n.º 5, todos do CIVA)

SAF-T Payment Group Codes

Source: Diploma - Portaria n.º 302/2016, de 2 de dezembro (4.1.4.20.6.1. Meios de pagamento)

PayG	EFSTA standard	Description	descrição
CC	creditcard	Credit card	Cartão crédito

PayG	EFSTA standard	Description	descrição
CD	debitcard	Debit card	Cartão débito
CH	check, cheque	Bank cheque	Cheque bancário
CI		International Letter of Credit	Crédito documentário internacional
CO	voucher	Gift cheque or gift card	Cheque ou cartão oferta
CS	creditnote	Balance compensation in current account	Compensação de saldos em conta corrente
DE	loyalty	Electronic Money, for example, on fidelity or points cards	Dinheiro eletrónico, por exemplo residente em cartões de fidelidade ou de pontos
LC	open	Commercial Bill	Letra comercial
MB	atm	Payment references for ATM	Referências de pagamento para Multibanco
NU	cash, change, refund, foreign	Cash	Numerário
OU	rounding	Other means not mentioned	Outros meios aqui não assinalados
PR	deposit	Exchange of goods	Permuta de bens
TB	mobile	Banking transfer or authorized direct debit	Transferência bancária ou débito direto autorizado
TR	title	Non-wage compensation titles regardless of their support [paper or digital format], for instance, meal or education vouchers, etc.	Títulos de compensação extrassalarial independentemente do seu suporte, por exemplo, títulos de refeição, educação, etc.

SAF-T Document Type Codes

Source: 1.3.8. Códigos para o tipo de documento (Comunicação de Séries Documentais - Aspetos Específicos)

DT	description	descrição
FT	Invoice	Fatura, emitida nos termos do artigo 36.º do Código do IVA
FS	Simplified Invoice issued according to article 40 of the VAT code	Fatura simplificada, emitida nos termos do artigo 40.º do Código do IVA
FR	Invoice-receipt (default)	Fatura-recibo
ND	Debit note	Nota de débito
NC	Credit note (default for negative transaction)	Nota de crédito
GR		Guia de remessa
GT		Guia de transporte
GA		Guia de movimentação de ativos fixos próprios
GC		Guia de consignação
GD		Guia ou nota de devolução
CM		Consultas de mesa
CC		Crédito de consignação
FC		Fatura de consignação
FO		Folhas de obra
NE		Nota de encomenda
OU		Outros

DT	description	descrição
OR		Orçamentos
PF		Pró-forma
RP		Prémio ou recibo de prémio
RE		Estorno ou recibo de estorno
CS		Imputação a cosseguradoras
LD		Imputação a cosseguradora líder
RA		Resseguro aceite
RC		Recibo emitido no âmbito do regime de IVA de Caixa
RG		Outros recibos emitidos

Configuration Errors and Refusals

These messages are returned in <TraC><Result> or shown on the web pages. They are configuration issues, not problems of the fiscal authority — EFR refuses the request instead of doing something irreversible.

Message	Meaning	Remedy
#TAXID Faltando NIF (Perfil TaxId)	no TaxId configured in the profile; no communication with AT takes place	enter the merchant NIF (chapter 3.3)
#TAXID reserved	PT999999990 was sent as customer NIF	omit Ctm.TaxId for an unknown customer (chapter 6.2)
#FISCAL_TEST ... Profile attribute Fiscal_test must be set	efsta NIF, placeholder NIF or invalid ApiKey	set Fiscal_test, or configure the merchant's own TaxId, ApiKey and sub-user (chapter 5.7.3)
#FISCAL_TEST on a void or credit note	the referenced document belongs to the other AT environment	set Fiscal_test to match the original document (chapter 4.3.3)
#APIKEY Profile ApiKey not valid - cannot use the production certificate 999999990.pfx	the profile ApiKey (partner token) is wrong or missing	correct the ApiKey (chapter 3.2.3)
NIF mismatch {username}	in production the stored sub-user belongs to a different NIF	use the merchant's own sub-user with WSE profile (chapter 5.6.2)
AT login missing	no login stored for the configured NIF	enter the login once on "Controle", [configurar...] (chapter 5.6.2)
#MISS ATCUD is not available yet	the series has not been registered at AT yet	wait for, or repair, the communication with AT (chapter 5.6.2)

Glossary and Abbreviations

Abbreviation	Description
EFR	EFSTA Fiscal Register
EFSTA	European Fiscal Standards Association (see www.efsta.org)
HTML	Hypertext Markup Language — Markup Language for display of digital documents
JSON	JavaScript Object Notation — data exchange standard; see also: XML
XML	eXtended Markup Language — common formatting standard for data exchange; see also: JSON

Abbreviation	Description
AT	Autoridade Tributária e Aduaneira — tax authority Portugal
SAF-T	OECD: Standard Audit File - Tax
ApiKey	designation of the partner signature certificate to be used

Document Revision History

Revision	Date	Changes	Version
1.00	2020-09-25	initial version	
1.01	2021-06-16	...	
1.02	2022-03-15	...	
1.03	2022-05-11	Void, ApiKey	
1.04	2022-07-06	Manual Recovery of Lost Documents	
1.05	2022-08-26	Automatic generation of series	
1.06	2022-09-13	SAF-T export for all POS systems on location	
1.07	2023-01-20	ATCUD	
1.08	2023-07-14	Integration from Manual Registration Book	2.3.1
1.09	2023-11-20	added usage variants A / B (SimplePOS)	
1.10	2023-11-21	Pos._=Svc for services, full transaction examples	
1.11	2023-12-04	TaxA recommended in first transaction, full list of ESR.DT	2.3.1.7
1.12	2024-02-02	PayG EFSTA standard	
1.13	2024-06-11	rectification wrong TaxG values for Azores/Madeira AM=>AMA, ...	
1.14	2026-04-27	Nonfiscal Documents, Daily Closure / Z Report	
1.15	2026-09-21	Test mode (Fiscal_test) reworked: own TESTE- series, SAF-T per environment, voids per environment; TaxId mandatory; training documents; error reference	2.14.0