DGITA Direcção-Geral de Informática e Apoio aos Serviços Tributários e Aduaneiros

# Electronic Declarations DGAIEC

## Web Services - User Guide

Version 1.6

ELECTRONIC DECLARATIONS DGAIEC

# Web Services - User Guide

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| 1.1 | 2010-06-25 | Inclusion of the possibility of EORI authentication identifiers | 3.2.2 |
| 1.2 | 2010-09-09 | Submission address updates | 4 |
| 1.3 | 2010-10-13 | Included section about Electronic Declarations Server Certificate | 2.1 |
| 1.4 | 2010-10-22 | Security requirements update | 3.2 |
| 1.5 | 2010-12-09 | Updated public key format that is sent to validation | 2.2 |
| | | Included Public Key export instructions | 8 |
| 1.6 | 2010-12-28 | Updated production addresses for ICS and SDS webservices | 4.1; 4.2 |

# Index

# 1. Introduction

This document describes the procedures and requirements necessary for the use of Web services provided by the DGAIEC - Electronic Declarations Portal [1] .

This document is intended for companies wishing to develop solutions which enable users to the Electronic Declarations, perform certain transactions through Web Services already available.

# 2. Prerequisites for using the service

## 2.1. Server Certificate

The SSL server certificate in use by Electronic Declarations can be reached at: https://www.e-financas.gov.pt/dgaiec/

## 2.2. Client Certificate

The use of the service described in this document requires the prior submission to DGITA (see 7. Contacts) to:

- Company's Public Key Certificate its Certification Chain

  (The certificate public key an certification chain must be sent to validation in the format: Cryptographic message Syntax Standard - PKCS #7 Certificates (.P7B) - with the option: Include all certificates in the certification path if possible)

The public key should be emailed in a Zip file.

The certificate must have the following properties (Key Usage):

- Digital Signature;
- Non Repudiation;
- Key Encipherment;
- Data Encipherment

The client application must have access to the private key of the this certificate.

## 2.3. Test Environment

The test environment should be used to validate the format of the application and submitted data.

To gain access to this environment, valid credentials should be requested in the form of a NIF / Password or EORI Number / Password valid in the test environment for scenarios to be tested.

# 3. Technical Requirements

## 3.1. Connection to Portal of Electronic Declarations

Requests via Web Service to the site of Electronic Declarations must meet the following requirements in regard to their connection:

- Method: **POST**
- Protocol: **HTTPS**

## 3.2. Security

### 3.2.1. Authentication of the client application

As mentioned before, applications must be made via HTTPS protocol, which requires the use of a digital certificate to authenticate the client application to the server.

### 3.2.2. Web Services Security Specification

Web services described in this document were implemented according to the SOAP specification and follow the WS-Security 1.1 OASIS Standard [2].

In the following table it is specified which security requirements are expected for each web service invocation:

| Identificação | Requisitos de segurança |
|---|---|
| SDS System Web Services | • User authentication |
| ICS System Web Services | • User authentication |
| SIC-EU (EMCS) System Web Services | • User authentication<br>• SOAP message integrity and authenticity |

### 3.2.2.1. SOAP Message integrity and authenticity

To ensure the integrity and authenticity of SOAP messages, requests made to Web Services that demand this requirement must meet the following technical specifications:

- Digital Signature of SOAP messages: messages sent by the client applications must include a *security header* containing a digital signature generated with the client certificate's private key. This signature will be validated on the server with the certificate’s public key.

  Example of a SOAP header containing a *security header* with a *signature* element:

```
<soapenv:Header>
  <wsse:Security xmlns:wsse=“...”>
    <ds:Signature xmlns:ds="http://www.w3.org/2000/09/xmldsig#">
      <ds:SignedInfo>
        <ds:CanonicalizationMethod Algorithm=“...”/>
          <ds:SignatureMethod Algorithm=“...”/>
            <ds:Reference URI="...">
              <ds:Transforms>
                <ds:Transform Algorithm=“...”/>
              </ds:Transforms>
              <ds:DigestMethod Algorithm=“...”/>
                <ds:DigestValue>
                  digestValue
                </ds:DigestValue>
            </ds:Reference>
      </ds:SignedInfo>
      <ds:SignatureValue>
        signatureValue
      </ds:SignatureValue>
      <ds:KeyInfo Id="...">
        <wsse:SecurityTokenReference wsu:Id="..." xmlns:wsu="...">
          <ds:X509Data>
            <ds:X509IssuerSerial>
              <ds:X509IssuerName>
                certificateIssuerName
              </ds:X509IssuerName>
              <ds:X509SerialNumber>
                certificateSerialNumber
              </ds:X509SerialNumber>
            </ds:X509IssuerSerial>
          </ds:X509Data>
        </wsse:SecurityTokenReference>
      </ds:KeyInfo>
    </ds:Signature>
  </wsse:Security>
</soapenv:Header>
```

- The digital signature must be created according with the following information:
  - SOAP element to sign*:*

    ***SOAP Body***
  - Canonicalization Method Algorithm:

    **http://www.w3.org/2001/10/xml-exc-c14n#**
  - Signature Method Algorithm:

    **http://www.w3.org/2000/09/xmldsig#rsa-sha1**
  - Key Identifier Type:

    **X509IssuerSerial** (certificate issuer name and serial number)

### 3.2.2.2. User Authentication

All users responsible for submitting the requests must be authenticated on the Electronic Declarations site, assuming the use of valid credentials for this purpose. Thus, all requests must meet the following technical specifications:

- Messages must include a SOAP *security header* with *UsernameToken* containing *Username* and *Password* (matching access credentials to the Electronic Declarations website).

  Example of a SOAP header containing a *security header* with *UsernameToken*:

```
<soapenv:Header>
  <wsse:Security>
    <wsse:UsernameToken wsu:Id="...">
      <wsse:Username>NIF ou identificador EORI</wsse:Username>
      <wsse:Password Type="...">Senha de acesso</wsse:Password>
    </wsse:UsernameToken>
  </wsse:Security>
</soapenv:Header>
```

- The type of password specified in the *Type* attribute of *Password* element, must be:
  - **http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-username-token-profile-1.0#PasswordText**
- The *Username* content can be:
  - A valid NIF with access to Portal DGAIEC

    Example: 123456789

- A sub-user NIF with valid Access to Portal DGAIEC,

  Example: 123456789/2 (sub-user 2 of NIF: 123456789).

- A valid EORI identifier with prior access to Portal DGAIEC

  Example: ES12345676.

- The password must match the password of the user identified by: *Username*.

# 4. Submissions URL's

## 4.1. SDS System Web Services

| Environment | Address |
|---|---|
| Quality / Test | https://www.e-financas.gov.pt:700/jsp-dgaiec/externalWebservice.jsp?external=sdsqualidadews |
| Production | https://www.e-financas.gov.pt:400/jsp-dgaiec/externalWebservice.jsp?external=sdsws |

## 4.2. ICS System Web Services

| Environment | Endereço |
|---|---|
| Quality / Test | https://www.e-financas.gov.pt:700/jsp-dgaiec/externalWebservice.jsp?external=icsqualidadews |
| Production | https://www.e-financas.gov.pt:400/jsp-dgaiec/externalWebservice.jsp?external=icsws |

## 4.3. SIC-EU System Web Services

| Ambiente | Endereço |
|---|---|
| Quality / Test | https://www.e-financas.gov.pt:700/jsp-dgaiec/externalWebservice.jsp?external=siceuws |
| Production | https://www.e-financas.gov.pt:400/jsp-dgaiec/externalWebservice.jsp?external=siceuws |

## 4.4. Web Service WSDL definitions

To obtain a specific Web Service WSDL, please use contacts at Chapter 7 - `Contacts`.

# 5. References

[1] Electronic Declarations (DGAIEC):

http://www.e-financas.gov.pt/de/jsp-dgaiec/main.jsp

[2] OASIS

http://www.oasis-open.org

# 6. Definitions, Acronyms and Abbreviations

| | |
|---|---|
| DGAIEC | Direcção-Geral das Alfândegas e dos Impostos Especiais sobre o Consumo |
| Client Application | Application developed and used to access Web Service |
| Web Service | Web Service available through a network (Internet, Intranet or other) used for exchanging data between applications and systems. |
| OASIS | Organization for the Advancement of Structured Information Standards |
| SOAP | Simple Object Access Protocol |

# 7. Contacts

Phone: 213820603

Email: SI - ASA - Área de Sistemas Aduaneiros (si-asa@dgita.min-financas.pt)

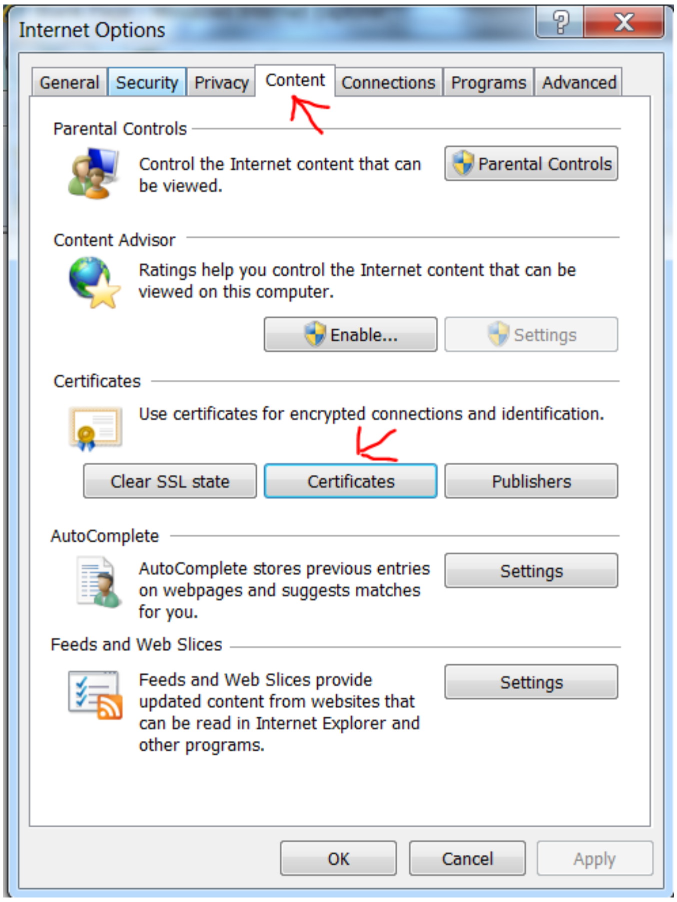
# 8. How to export the certificate public key

We describe the instructions to obtain a certificate public key in a Windows machine.

It is assumed that the certificate was previously imported in the Windows Operative System and an Internet Explorer 8 Browser is being used. For other combinations of OS an browser, the instructions should be adapted accordingly.

## 8.1. Certificate Location

The certificate can be found in the Browser in the Menu: Tools -> Internet Options -> Content -> Certificates



Control the Internet content that can be viewed.

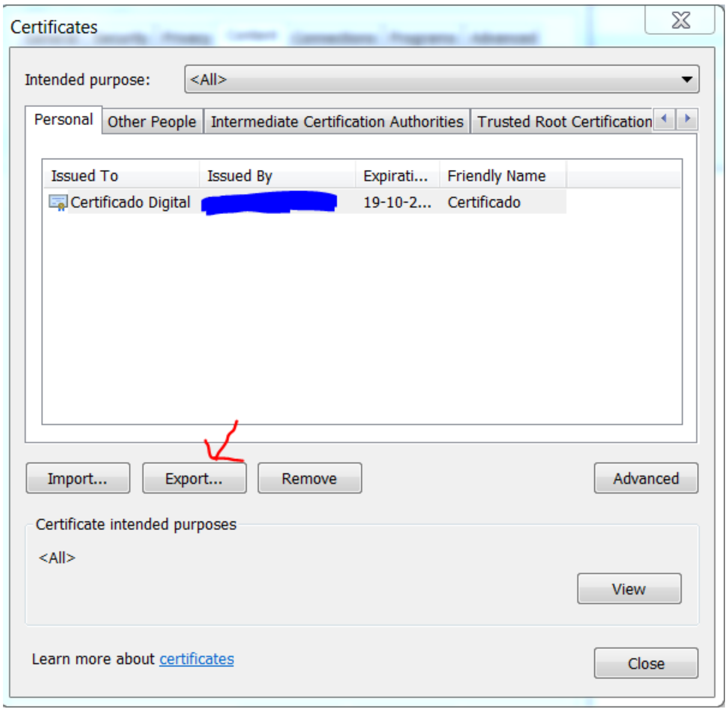
Ratings help you control the Internet content that can be viewed on this computer.

Use certificates for encrypted connections and identification.

AutoComplete stores previous entries on webpages and suggests matches for you.

Feeds and Web Slices provide updated content from websites that can be read in Internet Explorer and other programs.

## 8.2. Export the Public Key



Certificates

Intended purpose: <All>

Personal
Other People
Intermediate Certification Authorities
Trusted Root Certification

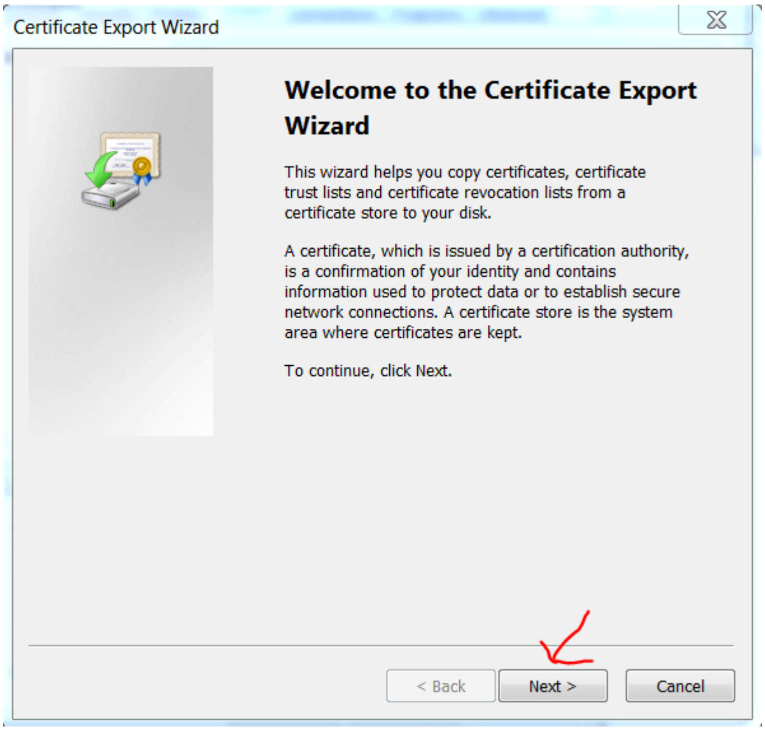
| Issued To | Issued By | Expirati... | Friendly Name |
|---|---|---|---|
| Certificado Digital | [redacted] | 19-10-2... | Certificado |

Import...
Export...
Remove
Advanced

Certificate intended purposes

<All>

Learn more about certificates



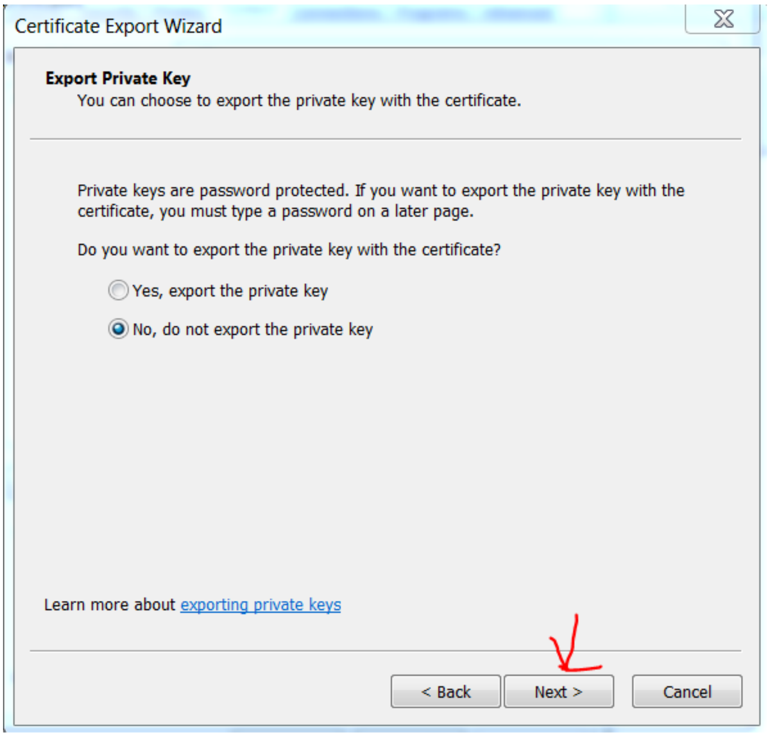
Certificate Export Wizard

**Welcome to the Certificate Export Wizard**

This wizard helps you copy certificates, certificate trust lists and certificate revocation lists from a certificate store to your disk.

A certificate, which is issued by a certification authority, is a confirmation of your identity and contains information used to protect data or to establish secure network connections. A certificate store is the system area where certificates are kept.

To continue, click Next.



Certificate Export Wizard

**Export Private Key**
You can choose to export the private key with the certificate.

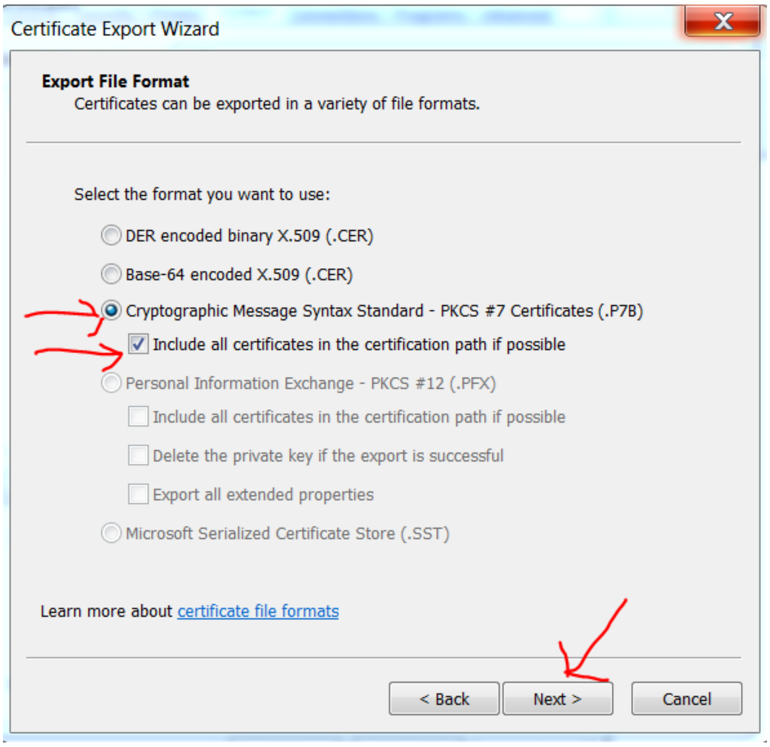
Private keys are password protected. If you want to export the private key with the certificate, you must type a password on a later page.

Do you want to export the private key with the certificate?

○ Yes, export the private key

● No, do not export the private key

Learn more about exporting private keys



Certificate Export Wizard

**Export File Format**
Certificates can be exported in a variety of file formats.

Select the format you want to use:

○ DER encoded binary X.509 (.CER)

○ Base-64 encoded X.509 (.CER)

● Cryptographic Message Syntax Standard - PKCS #7 Certificates (.P7B)

☑ Include all certificates in the certification path if possible

○ Personal Information Exchange - PKCS #12 (.PFX)

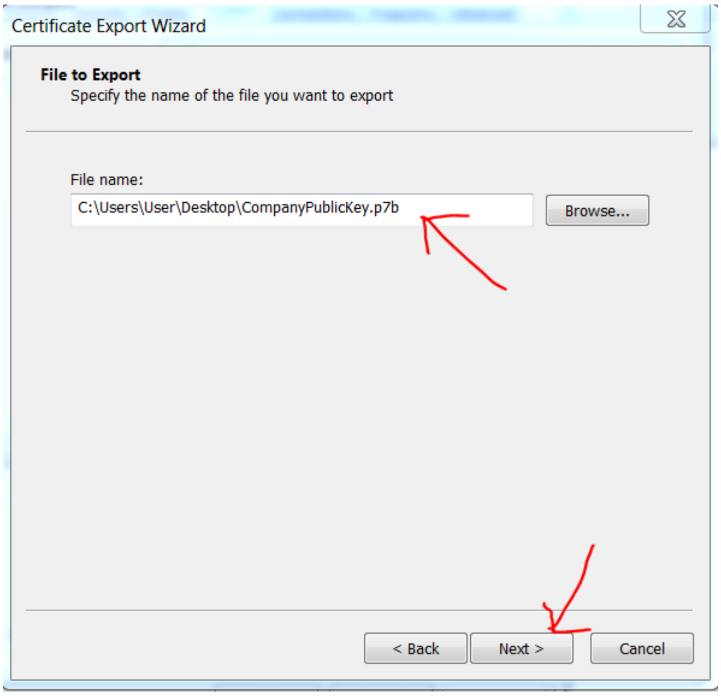
□ Include all certificates in the certification path if possible

□ Delete the private key if the export is successful

□ Export all extended properties

○ Microsoft Serialized Certificate Store (.SST)

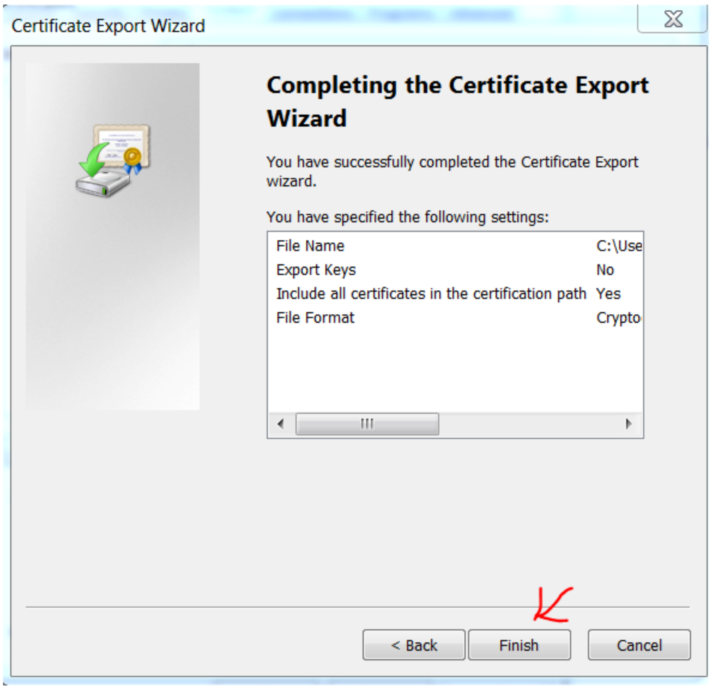
Learn more about certificate file formats



**File to Export**

Specify the name of the file you want to export

File name: C:\Users\User\Desktop\CompanyPublicKey.p7b



**Completing the Certificate Export Wizard**

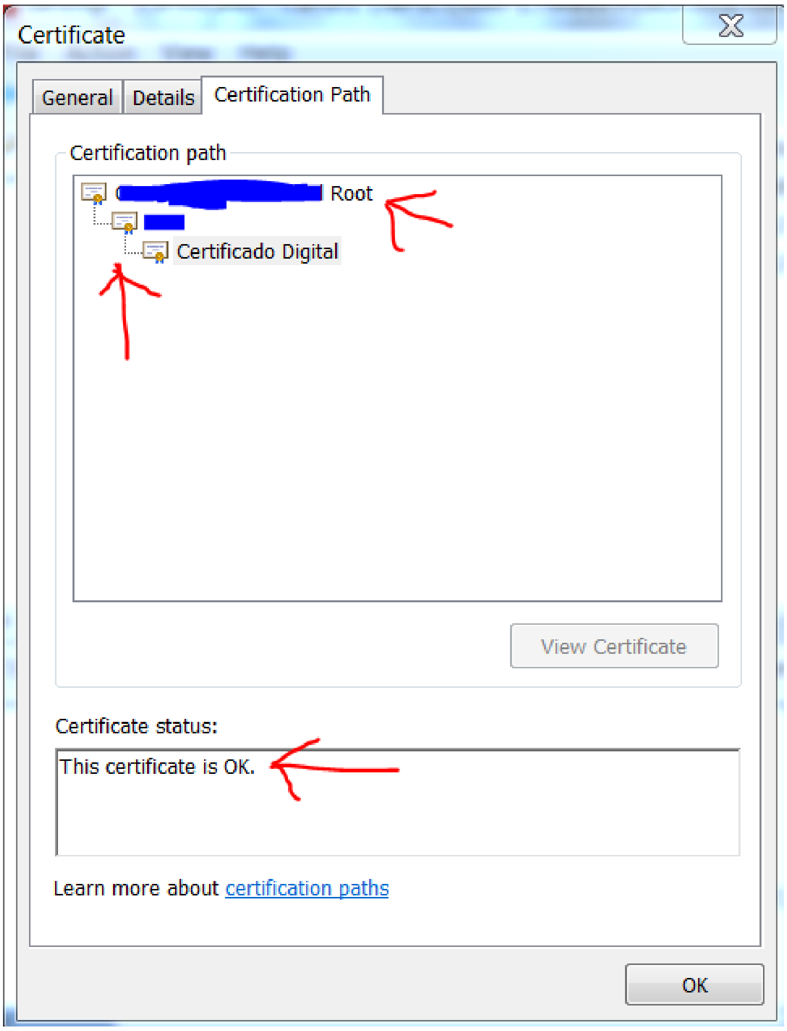
You have successfully completed the Certificate Export wizard.

You have specified the following settings:

| | |
|---|---|
| File Name | C:\Use |
| Export Keys | No |
| Include all certificates in the certification path | Yes |
| File Format | Crypto |

## 8.3. Check the Public Key

The public key must have a valid certification chain and it must be signed by a public and well known Root certification authority



Certificate

General | Details | Certification Path

Certification path

[redacted] Root

[redacted]

Certificado Digital

View Certificate

Certificate status:

This certificate is OK.

Learn more about certification paths

OK

## 8.4. Send the Public Key

The file that was obtained in **Error! Reference source not found.** must be "ziped" and sent by email to validation.

CompanyPublicKey.p7b ⇨ CompanyPublicKey.zip