HM Customs Customization the Java™ Platform, Standard Edition Runtime Environment (JRE)

May 9
2022

This Guide is to help the HMC ASYCUDA users to maintain a proper working Java client configuration for being used to connect to ASYCUDA server services from MS Windows operating systems.

Familiarisation Document

1   REQUIRED JAVA VERSION

1.1   GENERAL INFORMATION

The current version of ASYCUDA implemented by HM Customs Gibraltar requires on the client side any version of Java SE Runtime Environment version greater than 1.7 update 95 and less than 1.8 last update (update 333 is the last update when this document has been drafted). We highly recommend the installation of last Java 1.8 update.

1.2   DOWNLOADING JAVA SE RUNTIME ENVIRONMENT

You have to carry out the following steps:

1. Verify the architecture of your MS Windows PC. Use the procedures described here
    http://support.microsoft.com/kb/827218
2. Consider to download the Java version corresponding to your system architecture: 32-bit or 64-bit operating system (we recommend 64-bit architecture and at least 8GB of RAM).
3. Access in your browser https://java.com/en/download/manual.jsp and download the corresponding to your Operating System architecture package like in the following picture:
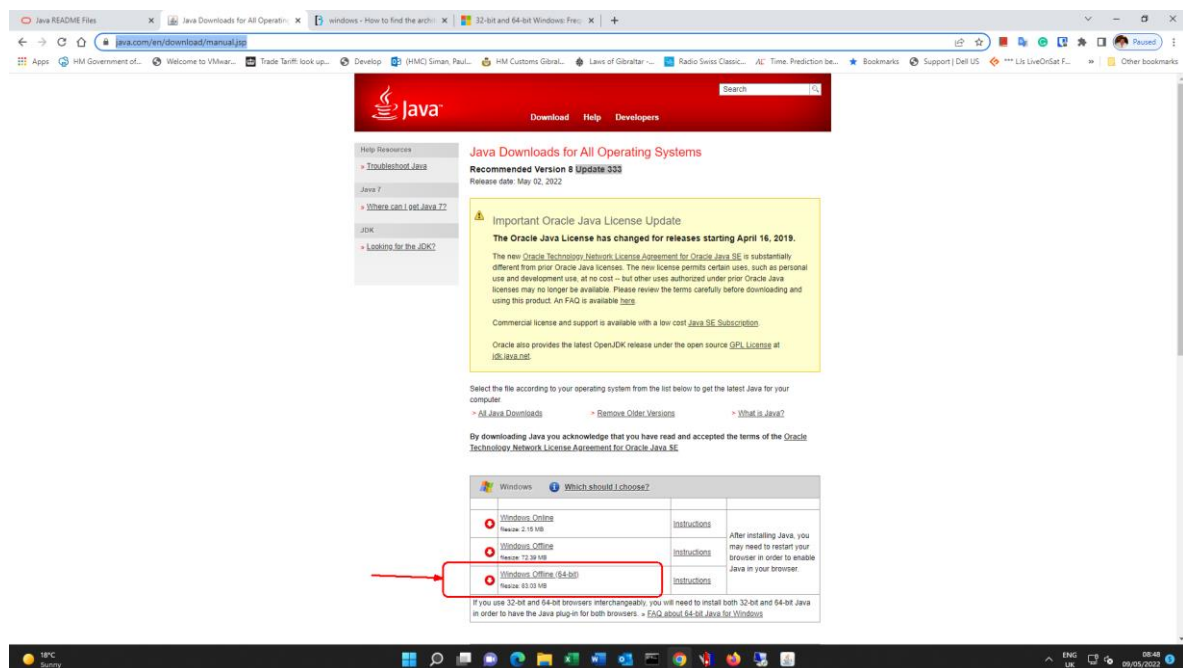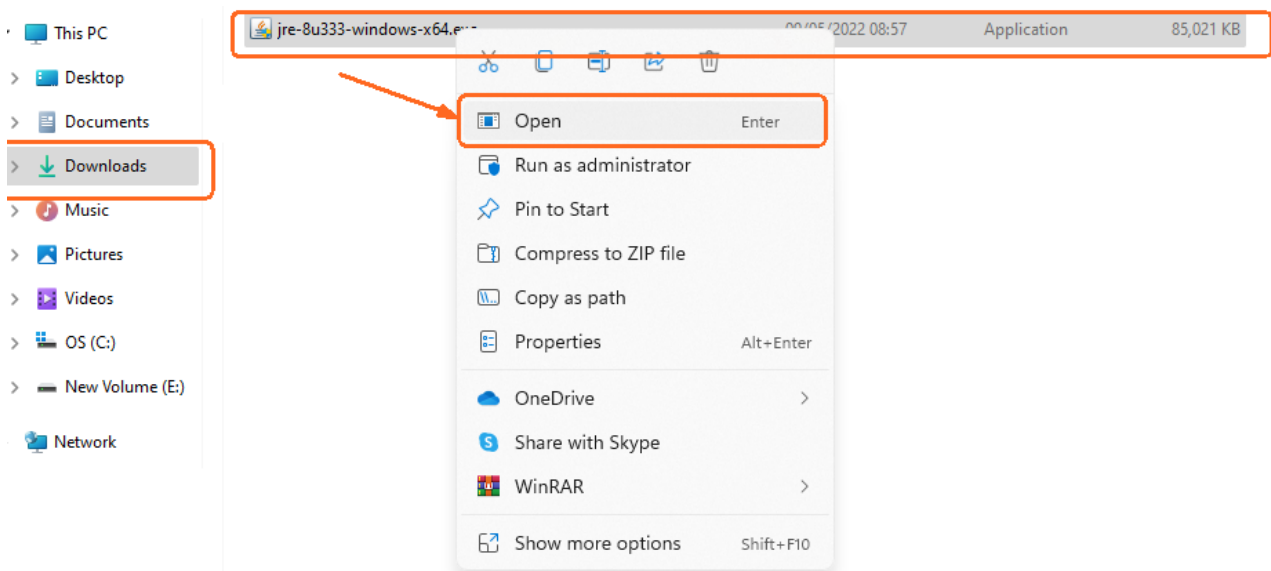

4. Download and store the installation package on your local hard disk.
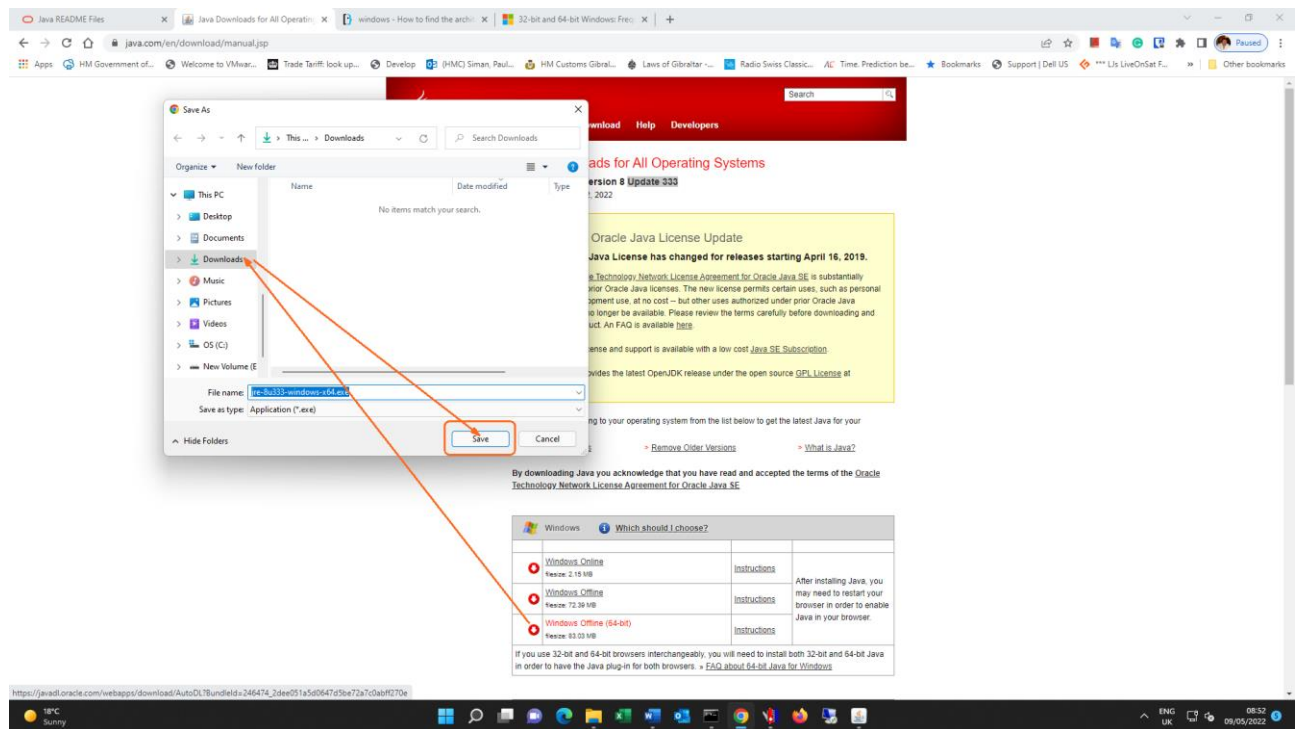
1.3 INSTALL JAVA PACKAGE

Run the java installation package stored at the location mentioned in step 1.2

And follow the procedure in the installation wizard.

# 2 CLEAR THE JAVA CACHE

2.1 GENERAL INFORMATION

When your ASYCUDA Client software components are not automatically updated from the ASYCUDA Web portal with the last versions and patches you may need to do it manually by forcing the download of the full ASYCUDA client components.

For that carry out the following steps:

1. Launch the Java Control Panel by using the instructions in
    https://www.java.com/en/download/help/win_controlpanel.html or
    https://www.javatpoint.com/how-to-open-java-control-panel
2. Select the General tab and press the Settings… button
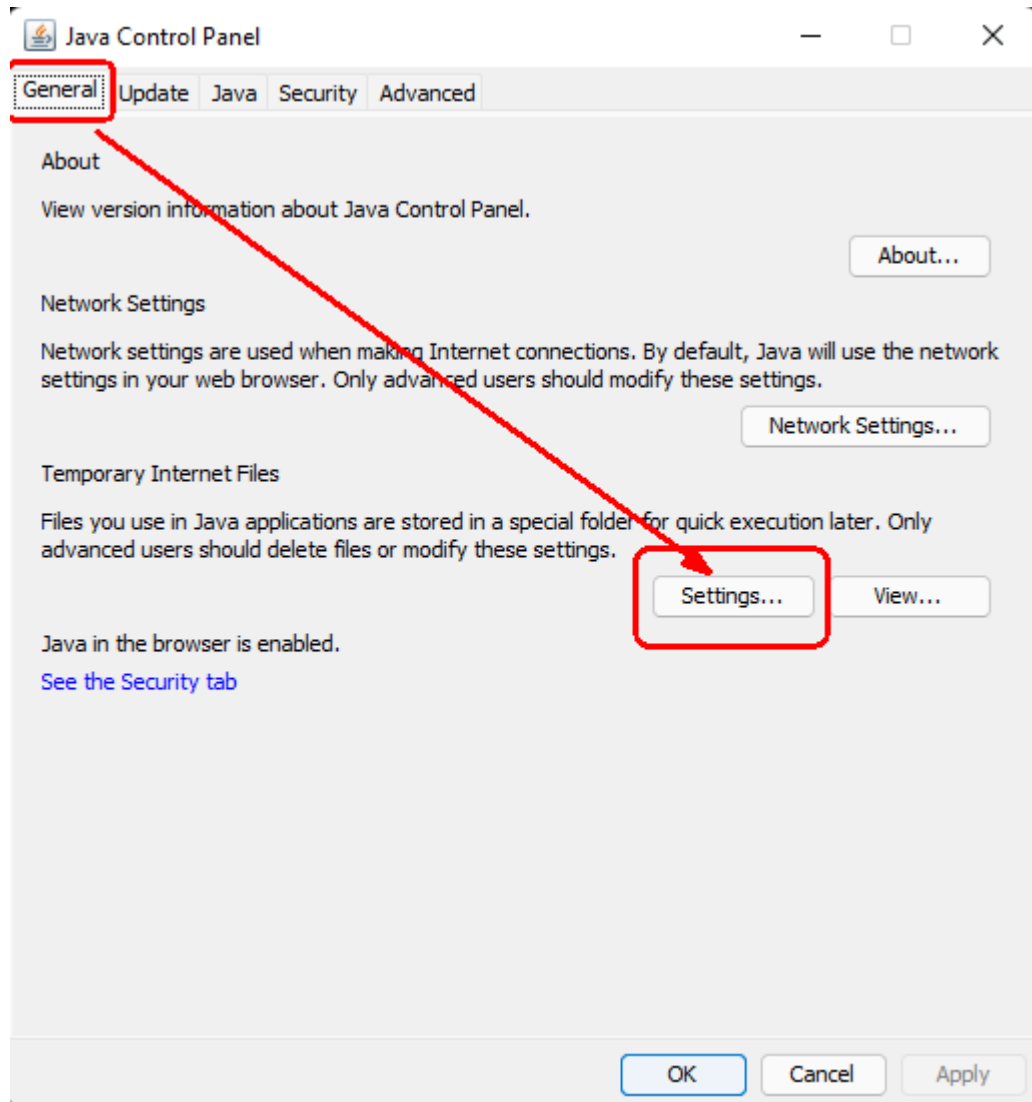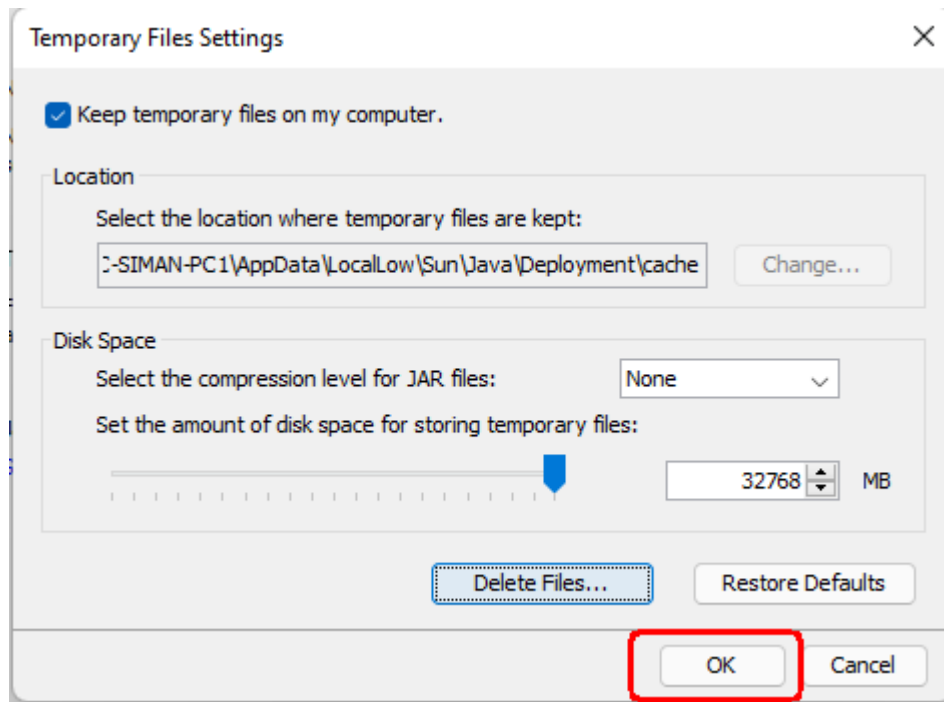

3. In the Temporary Files Settings press Delete Files… button
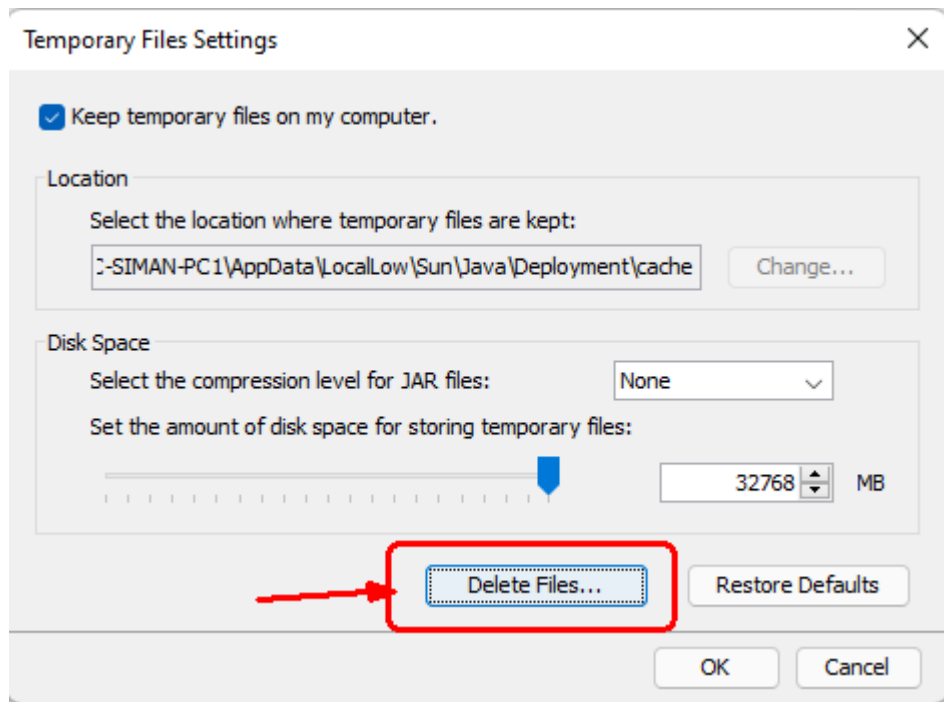
4. In the Delete Files and Applications check all options including "Installed Applications and Applets" and then press button OK
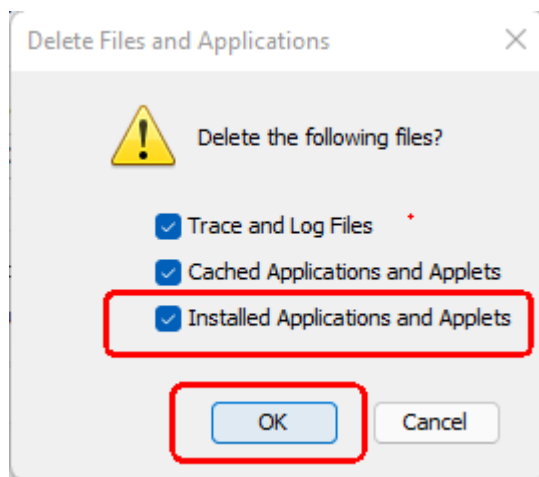

5. Wait until the operation finishes and the window "Temporary Files Settings" is displayed then press OK button

6. On the Java Control Panel window in the General tab press OK button.
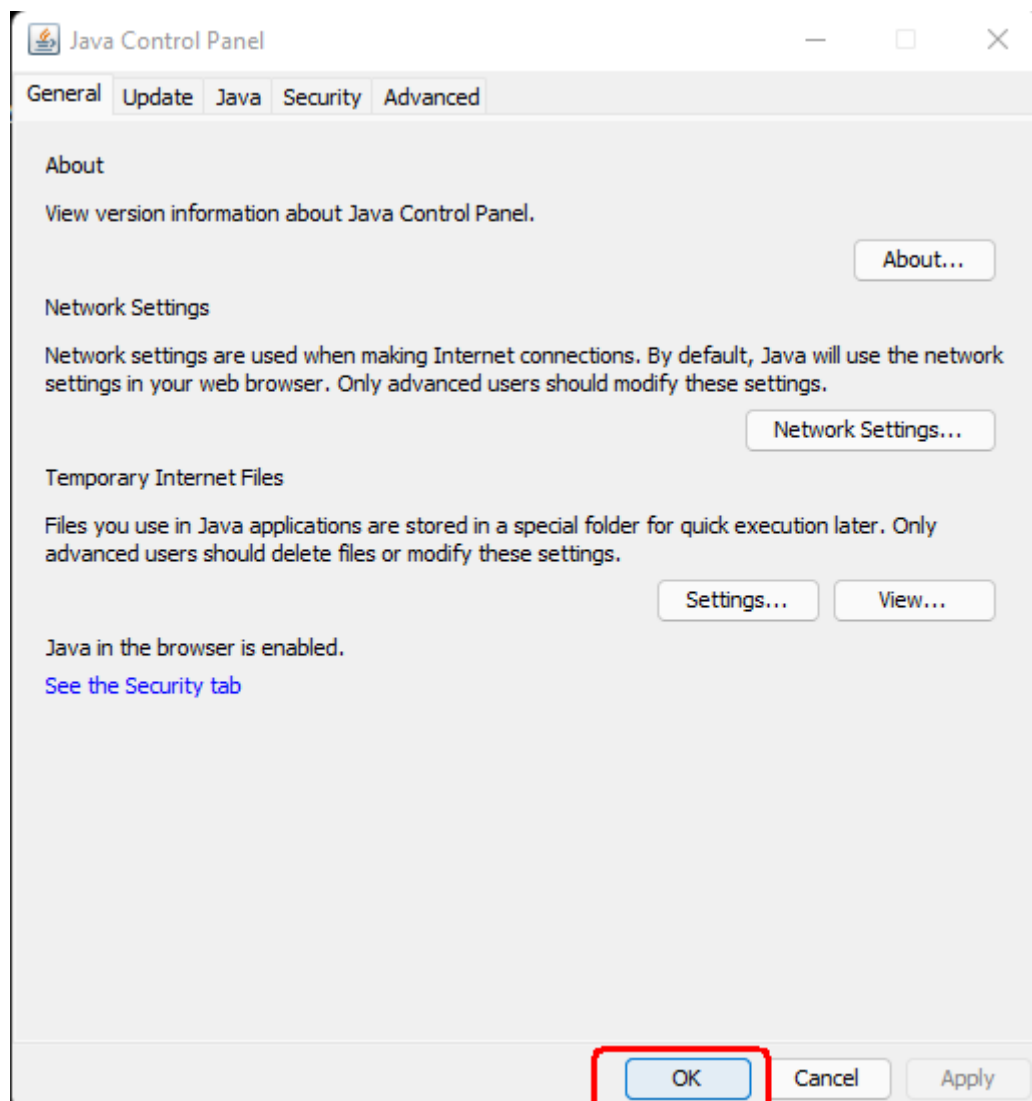
7. Download a fresh installation of the ASYCUDA client by accessing the HM Customs portal on www.hmcustoms .gov.gi and "ICIS Environment" hyperlink (the following screenshots are taken from Goggle Chrome Internet Browser).
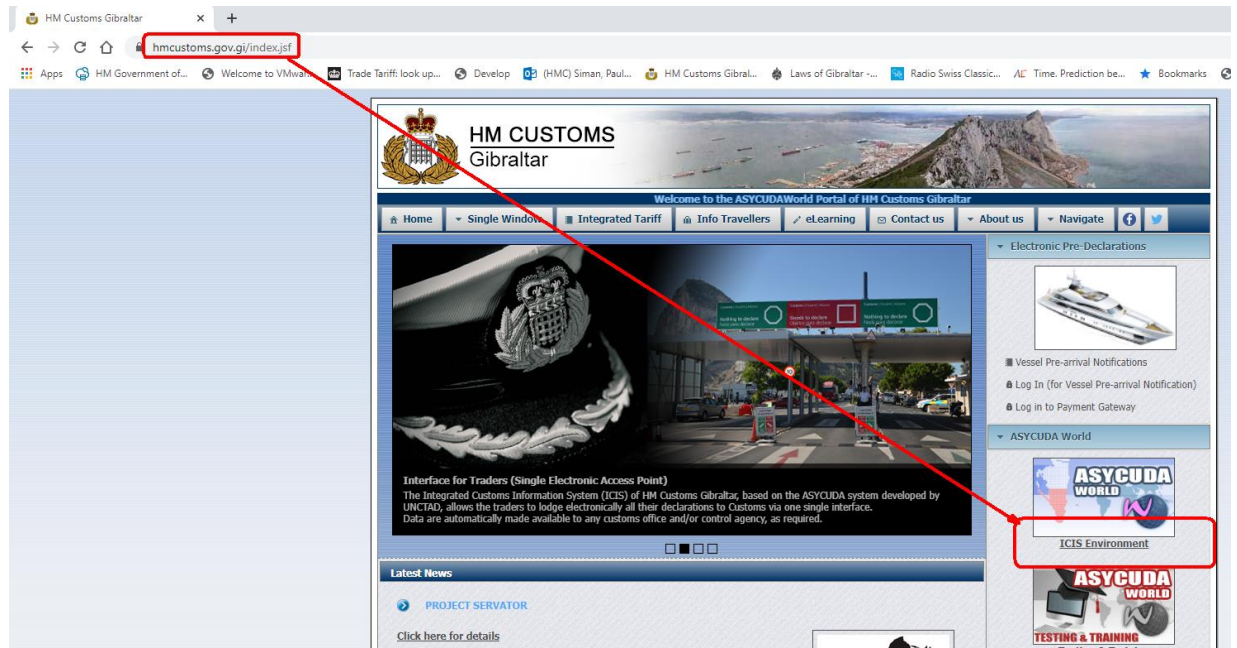

8. Download the ASYCUDAWorld.jnlp Java Web Start configuration file and store it in a location on your local PC.
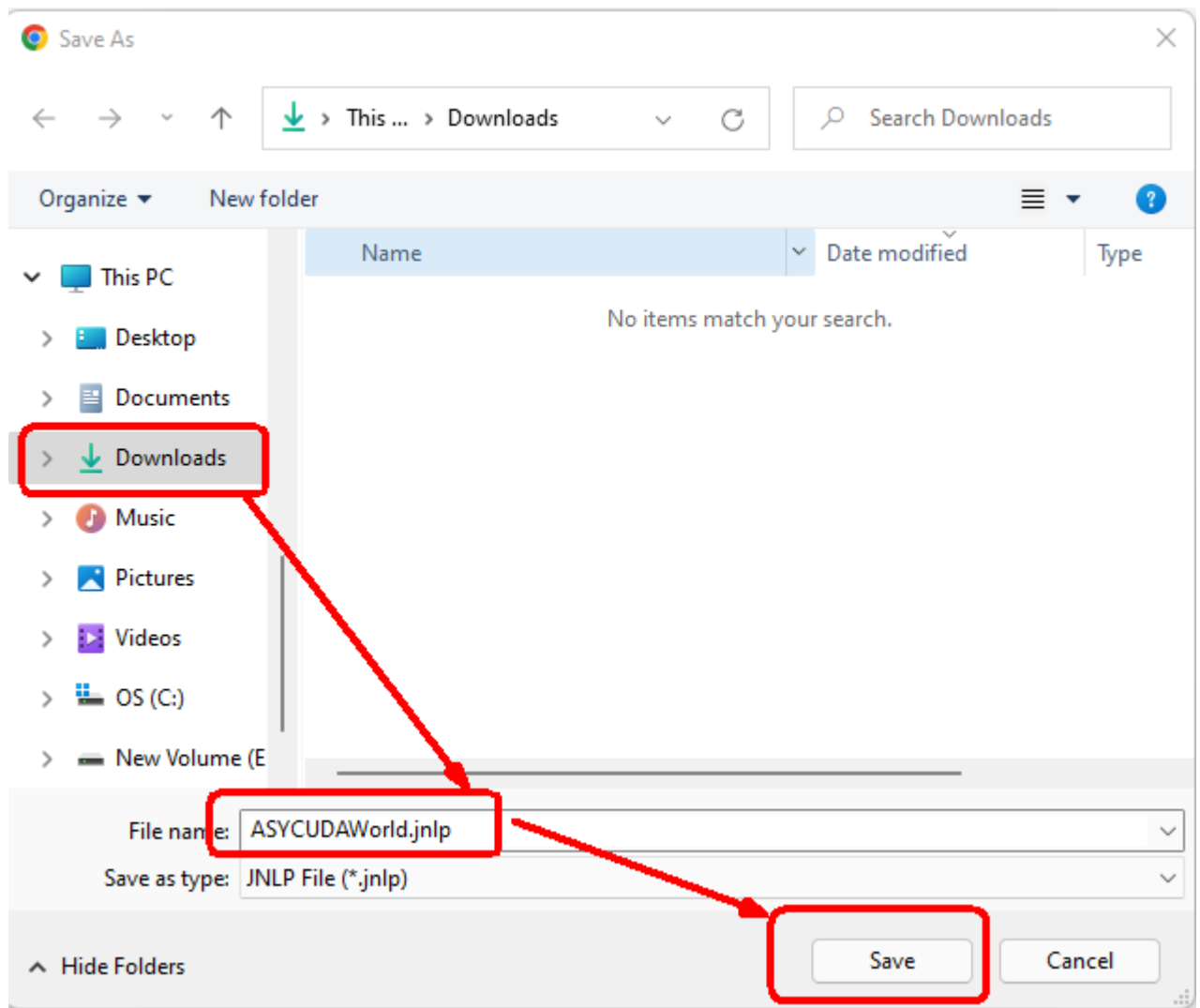
9. The ASYCUDAWorld.jnlp file will be downloaded and a shortcut to it will be displayed in the lower left corner of your Internet browser desktop. By pressing that shortcut, the ASYCUDA client components download will be launched:
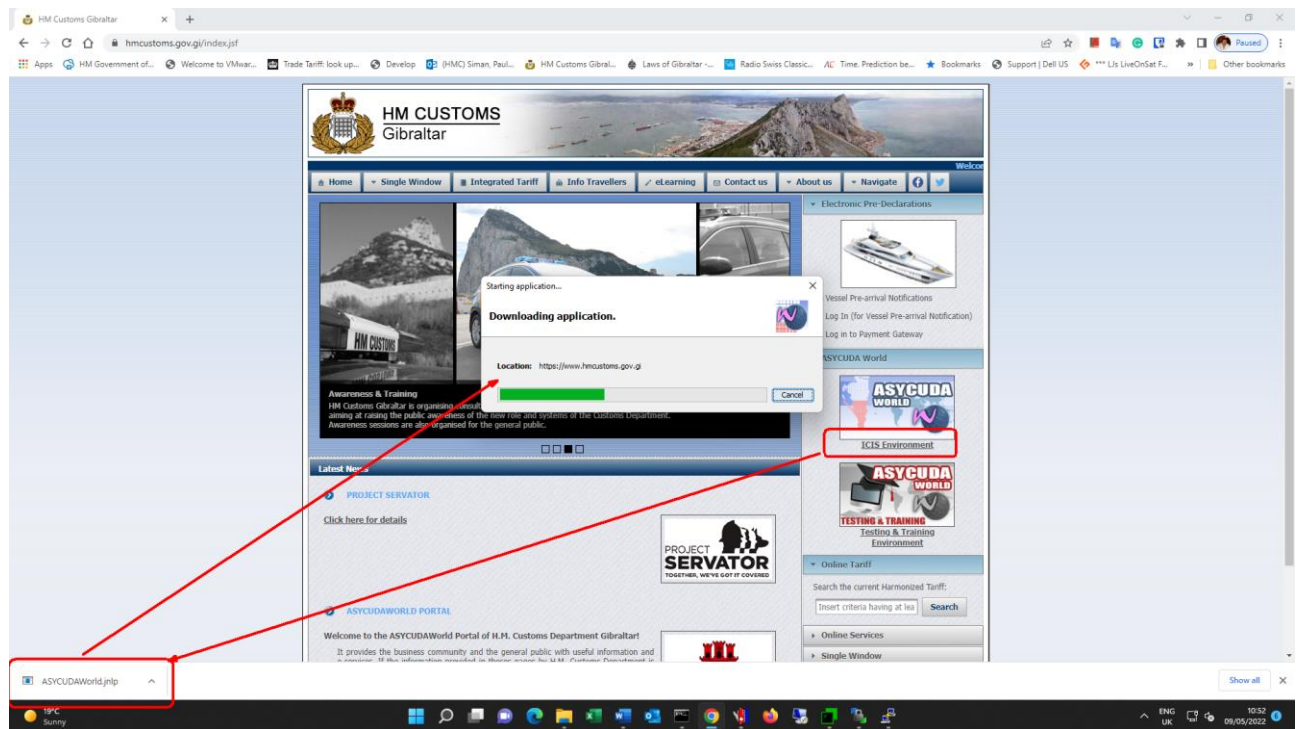
10. The successful download of the ASYCUDA client is done by displaying the ASYCUDA login screen:
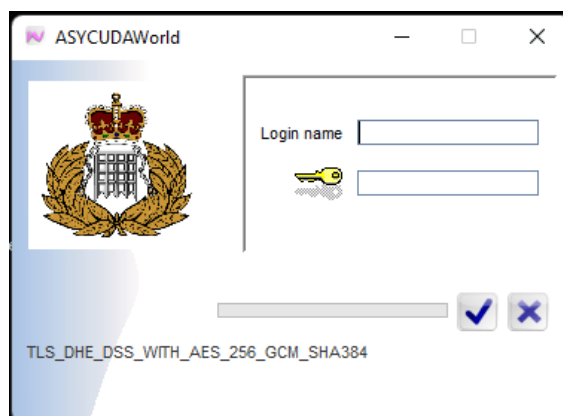
3 CHECK THE SECURITY SETTINGS

3.1 GENERAL INFORMATION

With the new security constraints enforced by the last versions of Java Standard Edition Runtime Environment you must recheck the security settings on your Java client environment in order to be sure that they are in respect with the corresponding settings on ASYCUDA servers

For that you need to check the following

3.2 CHECK THE FILE "JAVA.SECURITY"

1. The file must exist in subfolder "C:\Program Files\Java\jre1.8.0_nnn\lib\security (or "C:\Program Files\Java\jre-1.8\lib\security") with the given name, i.e. "java.security" (nnn is the Java 1.8 update version).
2. Edit the file java.security and check if the variable jdk.tls.disabledAlgorithms has the following value

```
jdk.tls.disabledAlgorithms=SSLv3, TLSv1, TLSv1.1, RC4, DES, MD5withRSA, \
    DH keySize < 1024, EC keySize < 224, 3DES_EDE_CBC, anon, NULL, \
    include jdk.disabled.namedCurves
```
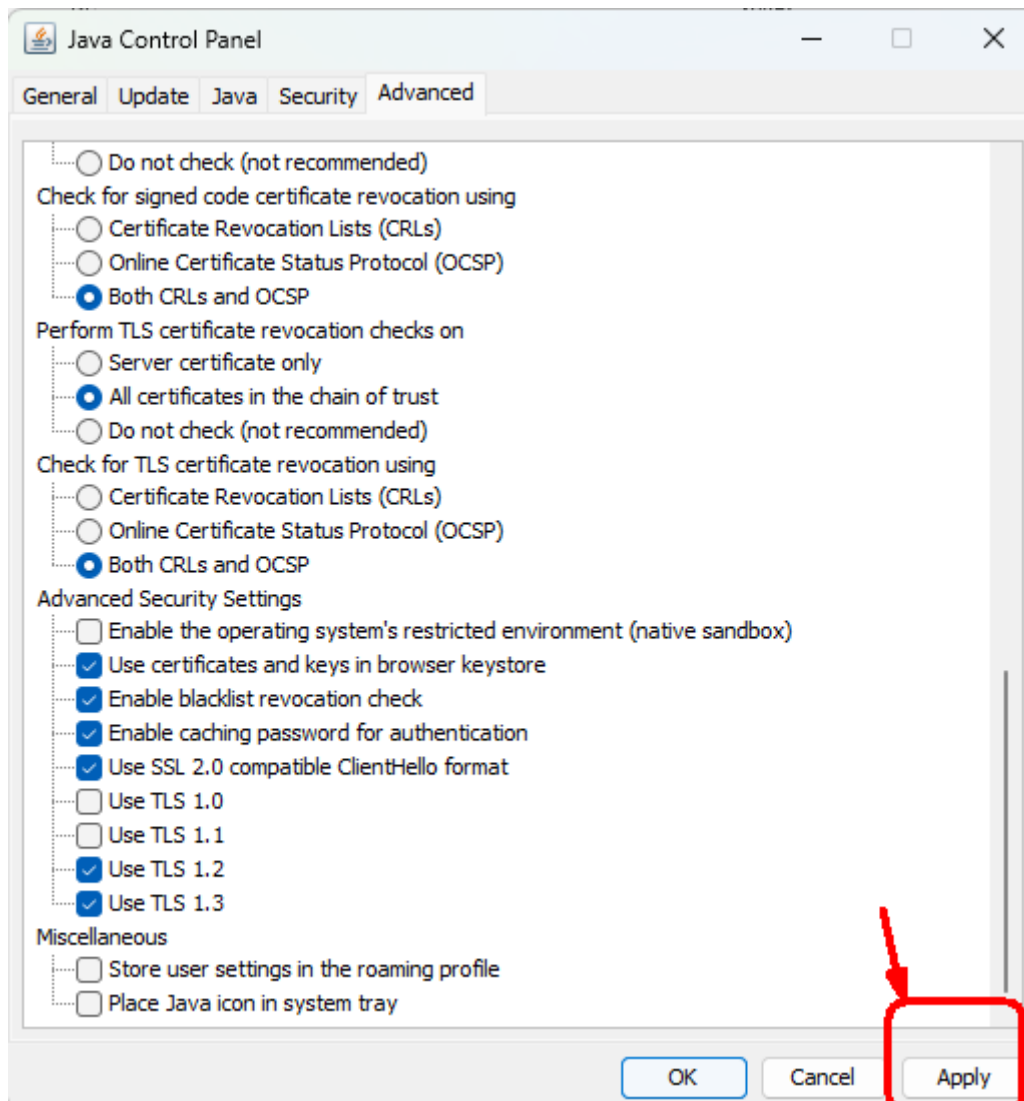
3. Save any changes you apply to the file.
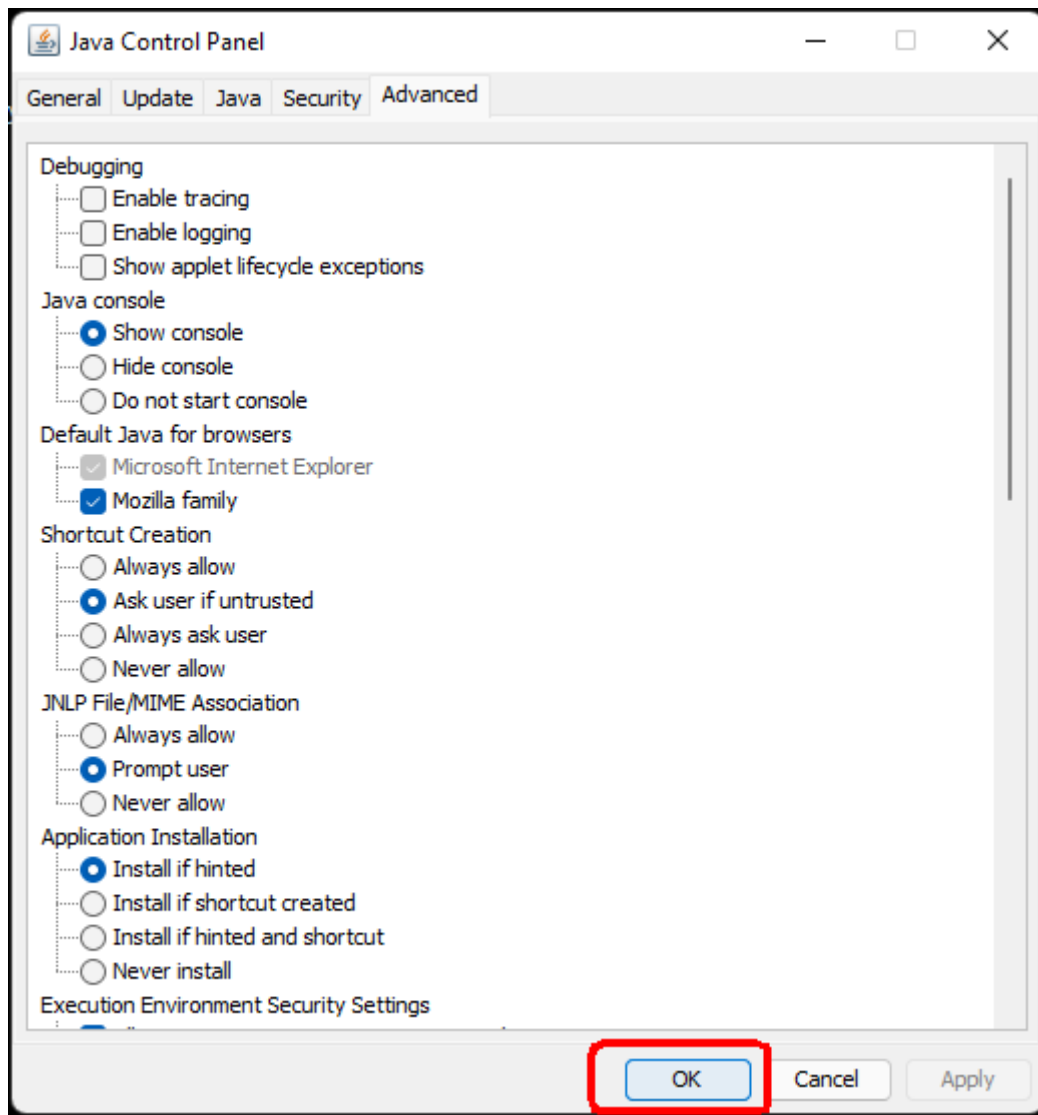
3.3 CHECK THE ADVANCED SECURITY SETTINGS

1. Open the Java Control Panel as described in paragraph 2.1
2. Select Advanced tab and go on Advanced Security Settings section:
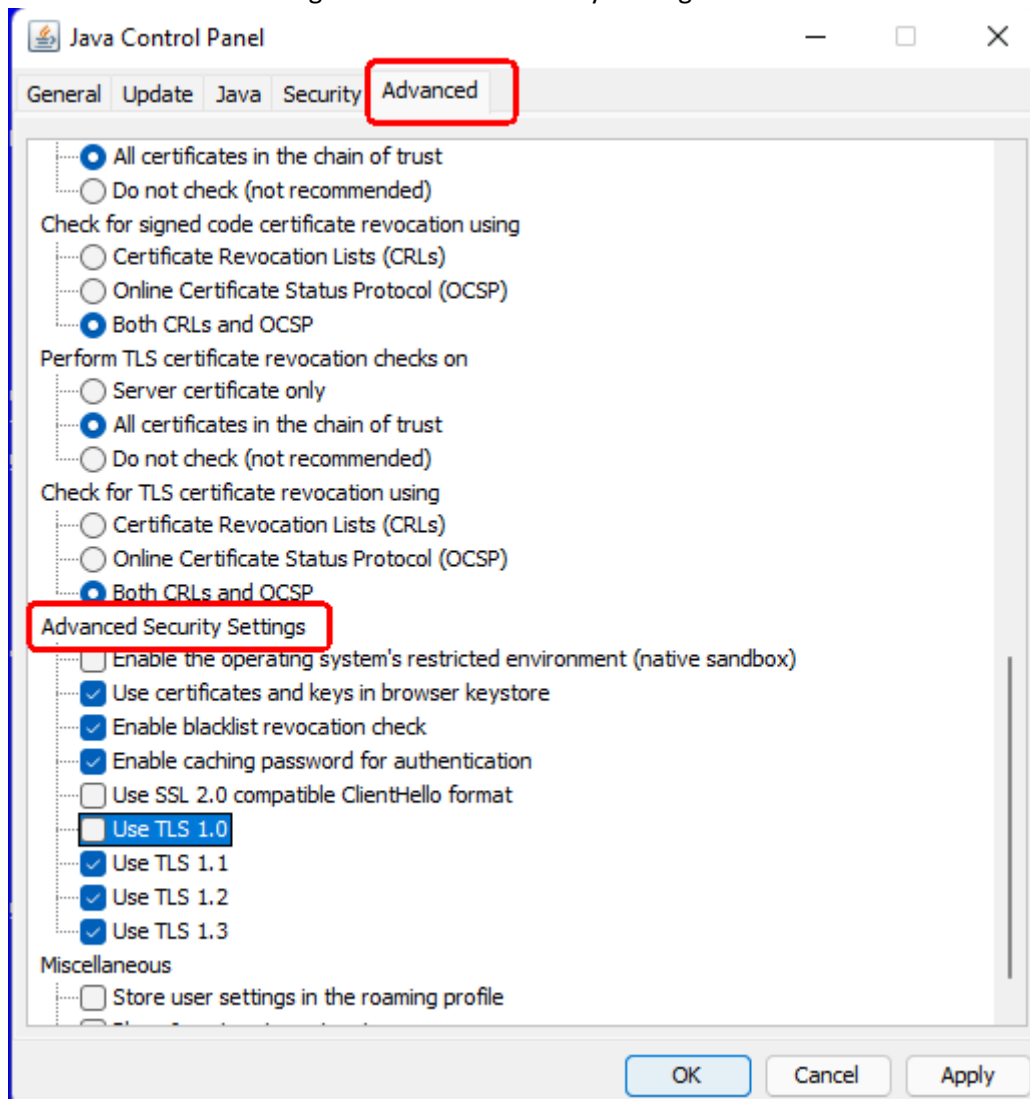
3. Uncheck Use TLS 1.0 and Use TLS 1.1 and check Use TLS 1.2, Use TLS 1.3 as allowed encryption protocols and then press Apply button.

4. Press OK and the Java Control Panel window.

4 UNINSTALL ALL JAVA VERSIONS

4.1 GENERAL INFORMATION

When a Java misconfiguration is supposed to produce unexpected errors, a good practice is to uninstall the versions installed on your PC and to do a fresh reinstallation.

For that you need to go through the following steps:

1. Access in your browser the Java Uninstall Tool on
   https://www.java.com/en/download/uninstalltool.jsp

2. Press the button "I agree to the Terms and Want to Continue" to download the "JavaUninstallTool.exe" utility.
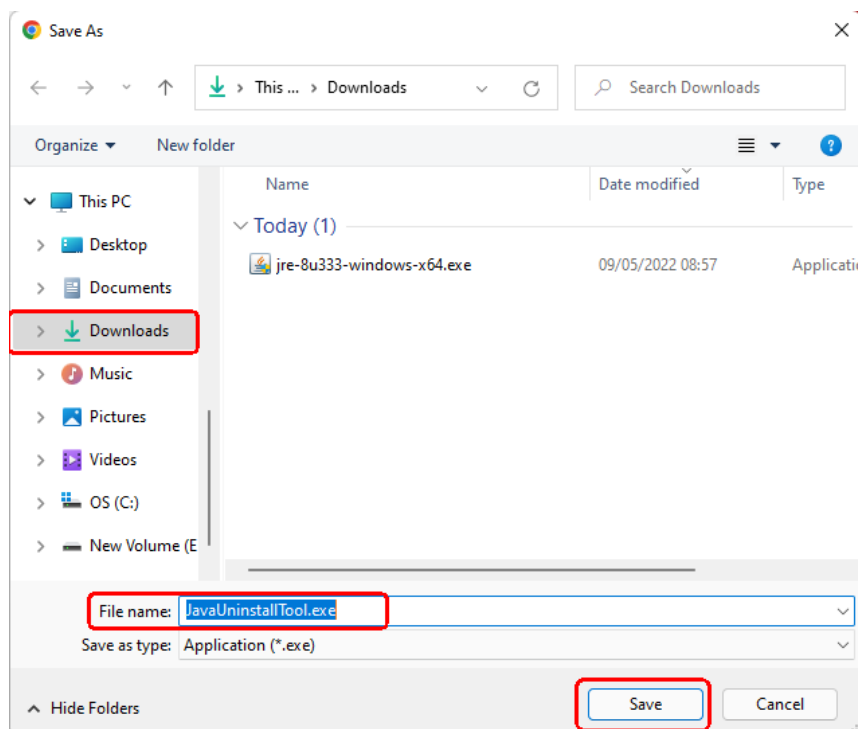
3. After downloading the file press the shortcut to it in the down left corner of your Internet browser desktop to launch the procedure.

5 CLEAR THE ASYCUDA CLIENT CACHE

5.1 GENERAL INFORMATION

ASYCUDA client keeps some information about the configuration of the client, reference tables (nomenclatures) used, etc. in a storage area on each PC and for each Windows user created on the Operating System.

The location where the ASYCUDA client cache is stored can be accessed through the Windows environment variable %USERPROFILE%. The directory pointed at with the environment variable %USERPROFILE% stores personal data of a specific user. The value of %USERPROFILE% usually is c:\Users\username (username being lowercase of %username%)

The clear the ASYCUDA cache (called SOClass cache, SOClass being the application server where ASYCUDA is plugged in) you have to:

1. Log out from ASYCUDA client.
2. Access your Windows File Explorer.
3. In the Address Bar type %userprofile% and press enter.
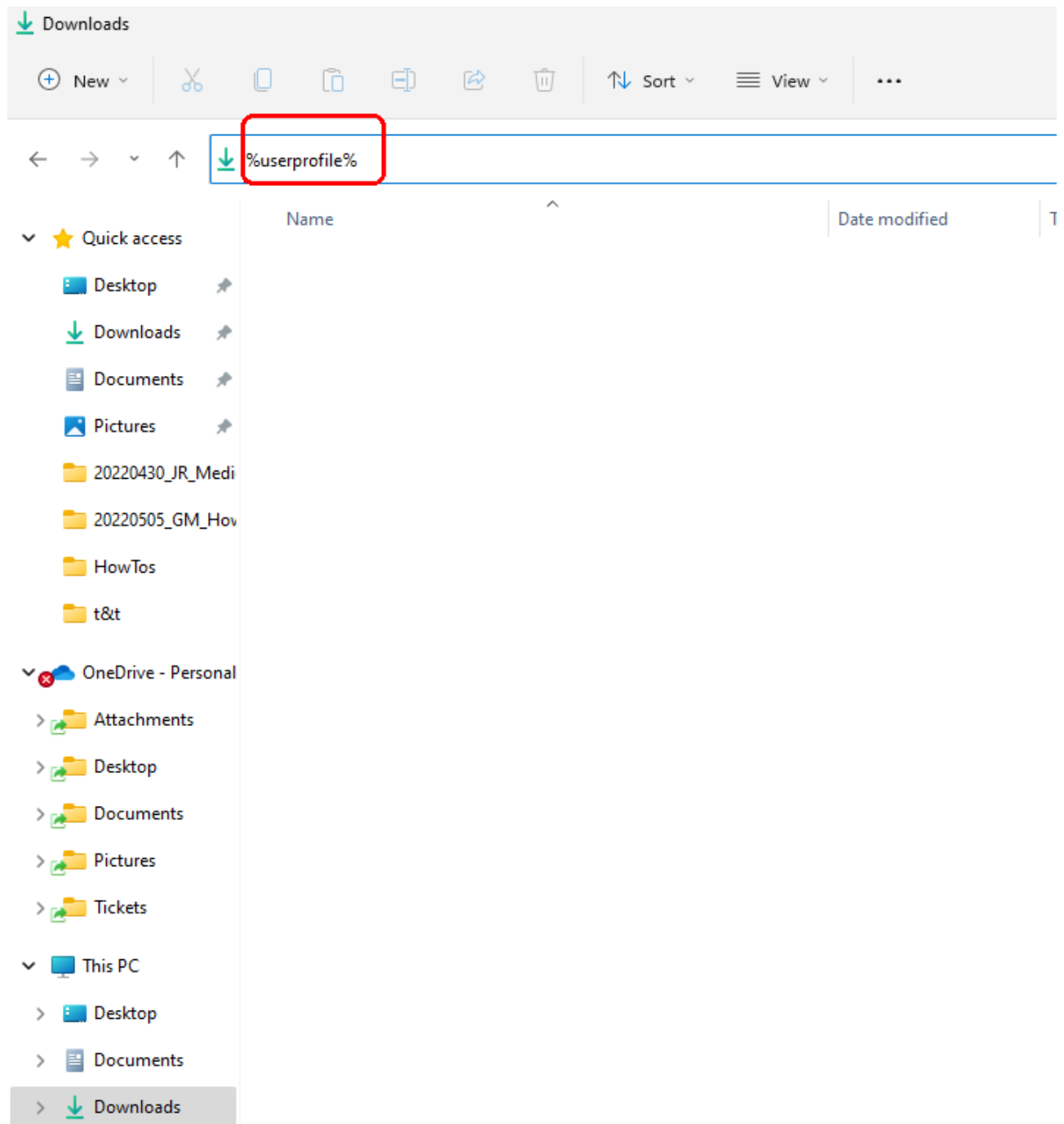
4. You will be redirected to the connected to MS Windows user's profile folder (A typical path is C:\Users\Username)
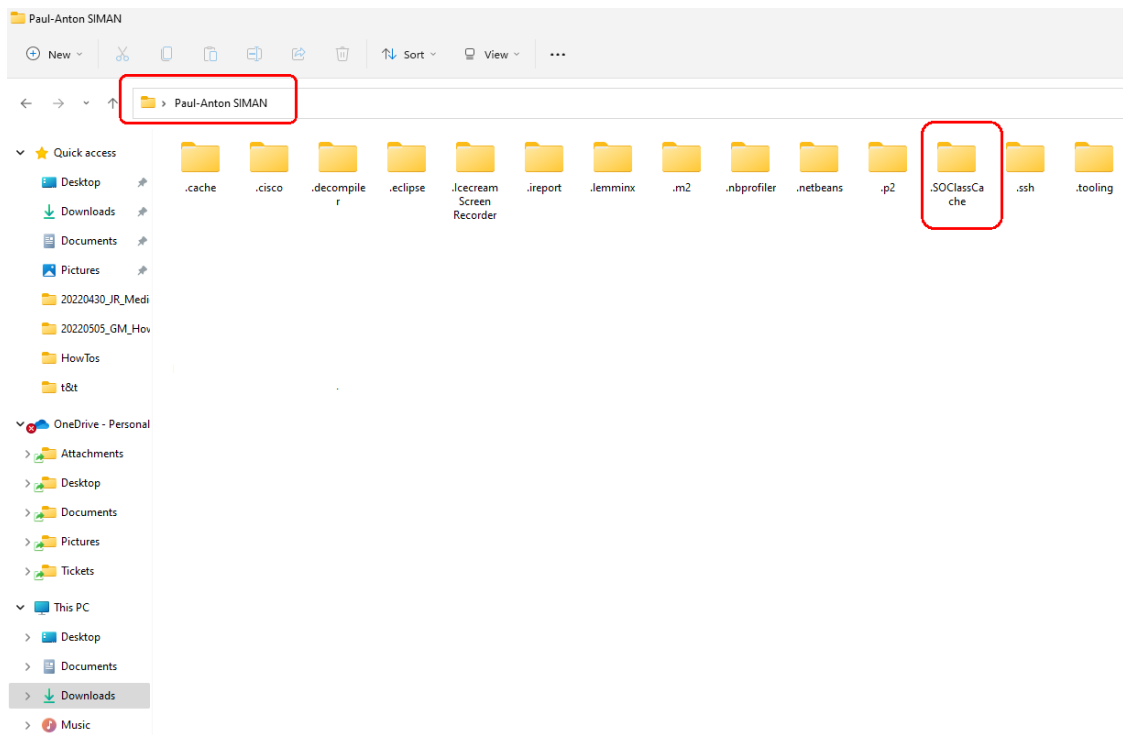
5. In the user's profile folder Identify the folder ".SOClassCache" and delete it.
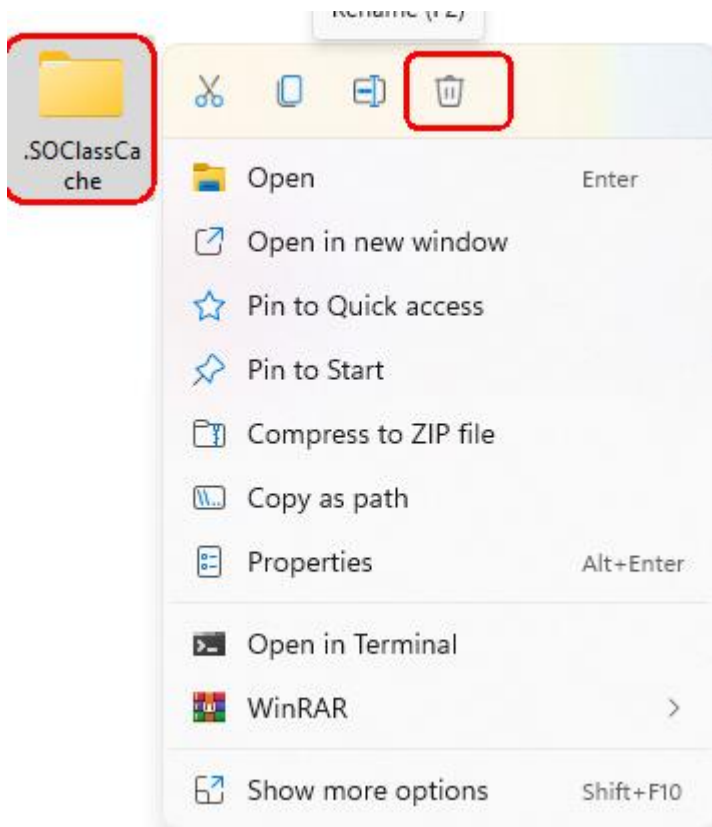
6. On the next ASYCUDA login the subfolder ".SOClassCache" will be recreated and populated with the required data structures.

6 DO A NEW INSTALLATION OF ASYCUDA CLIENT

6.1 GENERAL INFORMATION
In order to perform a new installation of the components required by ASYCUDA client you are advised to carry out the following steps:

1. Clear the ASYCUDA Client cache (paragraph 5).
2. Clear the Java Cache (paragraph 2).
3. Uninstall all Java versions (paragraph 4).
4. Install the required Java version (paragraph 1).
5. Check the security settings (paragraph 3).
6. Download the ASYCUDA client following paragraph 2.1 steps 7, 8, 9, 10.

7 VERIFYING THE JAVA VERSION INSTALLED ON THE CLIENT PC

7.1 GENERAL INFORMATION
Each time a recommendation to check the Java version installed on the client PC is released by the system administrators, the following procedure can be followed:

1. Open the "Command Prompt" by using one of the methods described in
   https://www.howtogeek.com/235101/10-ways-to-open-the-command-prompt-in-windows-10/
2. Type the command java – version
3. The Windows will return to you with the information about the Java version installed (the usual display when only the JRE - Java Runtime Environment is installed is the following):

```
Microsoft Windows [Version 10.0.22000.739]

(c) Microsoft Corporation. All rights reserved.


C:\Program Files\Java\jdk1.8.0_333\jre\bin>java -version

java version "1.8.0_333"

Java(TM) SE Runtime Environment (build 1.8.0_333-b02)

Java HotSpot(TM) 64-Bit Server VM (build 25.333-b02, mixed mode)

C:\Program Files\Java\jdk1.8.0_333\jre\bin>
```

# 8 VERIFYING WHETHER ASYCUDA SERVER IS ACCESSIBLE FROM YOUR NETWORK.

8.1 GENERAL INFORMATION
The ASYUCUDA server is identified in the internet through its hostname "awas.hmcustoms.gov.gi". The access on this hostname is allowed only through two TCP/IP ports: 2006 and 2010 each of them being used for different functions. Mainly during the connection process the port 2006 is used.

This can be easily observed by analysing the Java Console Log, if this option is enabled in the "Configure Java" app (see https://www.java.com/en/download/help/javaconsole.html), like in the following screenshot:

```
…
defaultLocale = en_US
[22-06-20 08:24:31] >>> DesktopMain.init
[22-06-20 08:24:31] Loading, please wait...
[22-06-20 08:24:31] --> Setting look and feel: System
[22-06-20 08:24:31] --> Connecting...
[22-06-20 08:24:31] hostName = "//awas.hmcustoms.gov.gi:2006/"
[22-06-20 08:24:31] >>> DesktopMain.connection
[22-06-20 08:24:32] hostName = "//awas.hmcustoms.gov.gi:2006/"
[22-06-20 08:24:32] >-> Establishing connection...
[22-06-20 08:24:33] Cache: Setting the user id: null and server id 20220201142945281
[22-06-20 08:24:33] <-< Establishing connection...
[22-06-20 08:24:33] >-> Loading client properties...
[22-06-20 08:24:33] <-< Loading client properties...
[22-06-20 08:24:33] <<< DesktopMain.connection
[22-06-20 08:24:33] --> Loading Help...
[22-06-20 08:24:33] >-> Updating language resource definition...
[22-06-20 08:24:33] <-< Updating language resource definition...
…
```

If during the login procedure you receive the following message:
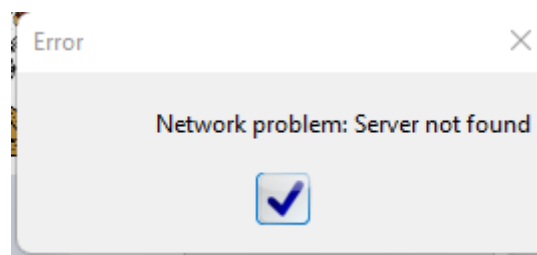
There are mainly three possible causes:

1. The DNS servers configured for the TCP/IP protocol on your PC cannot resolve the hostname "awas.hmcustoms.gov.gi", meaning that it cannot transform (resolve) the hostname to its associated IP address. This can be tested by using the command "nslookup" (https://docs.microsoft.com/en-us/windows-server/administration/windows-commands/nslookup). The "normal" return from your Windows operating system must be:

```
C:\>nslookup
Default Server:  ns1.gibtelecom.net      <= Your DNS server
Address:  195.244.192.66

> awas.hmcustoms.gov.gi
Server:  ns1.gibtelecom.net
Address:  195.244.192.66

Non-authoritative answer:
Name:    awas.hmcustoms.gov.gi
Address:  195.244.194.3
```

When your Domain Server Infrastructure cannot resolve the hostname "awas.hmcustoms.gov.gi" then the message returned by Windows will be the following

```
C:\>nslookup
Default Server:  ns1.gibtelecom.net
Address:  195.244.192.66

> awas.hmcustoms.gov.gi
Server:  ns1.gibtelecom.net
Address:  195.244.192.66
```

```
*** ns1.gibtelecom.net can't find awas.hmcustoms.gov.gi: Non-existent domain
>
```

And this is the cause of why ASYCUDA client returns with "Network problem: Server not found" and your network engineers must be contacted to fix the issue.

2. The ASYCUDA server can be accessed only from workstations having an IP address in the range of addresses assigned to Gibraltar. If your DNS infrastructure is able to resolve the name "awas.hmcustoms.gov.gi" but you still receive the "Server not found" message, then your IP address may not be in the range accepted for Gibraltar.

3. The ASYCUDA server is down.

****