

CL-SDC Installation and User Manual

Version 1.0



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Introduction

This document covers the introduction of the CL-SDC (CL-SDC) desktop application for Windows. The following topics are included in this guide:

- ~ System requirements
- ~ Software installation
- ~ Working with Menu items

About

What is CL-SDC?

CL-SDC is a software application gateway interface that contains a secure element and is used to generate an invoice by signing request data received from a POS and to produce audit data. It stores audit data on its own non-volatile memory and enables a local and remote audit.

How Does CL-SDC Work?

CL-SDC is software-based windows application installed and run when computer-based POS launches, user shall login Initially then after login is not required in order to run CL-SDC.

CL-SDC run as a standalone service for one POS device exclusively and this POS can be connected to the same computer or a different one. Communication with CL-SDC is an exchange of JSON messages via web interface.

In order to create fiscal invoices, CL-SDC service requires the use of Smart card containing Secure Element (SE), issued by FRCS.

CL-SDC uses non-volatile memory considered internal memory of CL-SDC which can store internal data before successful proof of audit (P00041).

The average size of an invoice ranges from 20 to 200 kB, depending on the number of the items on it. For computers working in offline mode, for each day of work in off-line mode, it is necessary to have space on the system drive (C:), between audits, as follows:

- ~ 2MB daily, if issued on average 10 standard invoices (invoice up to 20 items)
- ~ 20MB daily, if issued on average 100 standard invoices
- ~ 200MB daily, if issued on average 1,000 standard invoices

It also creates a unique URL for generating QR code provides mean of verifying receipt data integrity and authenticity in accordance with Regulation.

CL-SDC can generate an invoice in both online and off-line mode (no internet connection available).

Who Can Use CL-SDC?

Any taxpayer with a smart card containing Secure Element, issued by FRCS can use CL-SDC.

Section 2- Before Installing the CL-SDC

NOTE: Make sure not to ever change the date and time settings on the computer running CL-SDC service. For it's of the utmost importance regarding the exact date and time of the invoice issuing. If you issue invoices with invalid date and time, you could bear the legal consequences.

Every PC on which CL-SDC is installed contains a Real Time Clock (RTC) implemented in the hardware. This clock runs continuously and provides time to the operating system clock when the computer is booted. The RTC runs off the same power source as the system BIOS. Real-time clock should not differ by more than 3 minutes maximum per year at an ambient temperature of 20 degrees Celsius.

Make sure you have switched on "Set time automatically", before you run the installation package.

~ On Windows 10: Adjust date/time > Time & Language

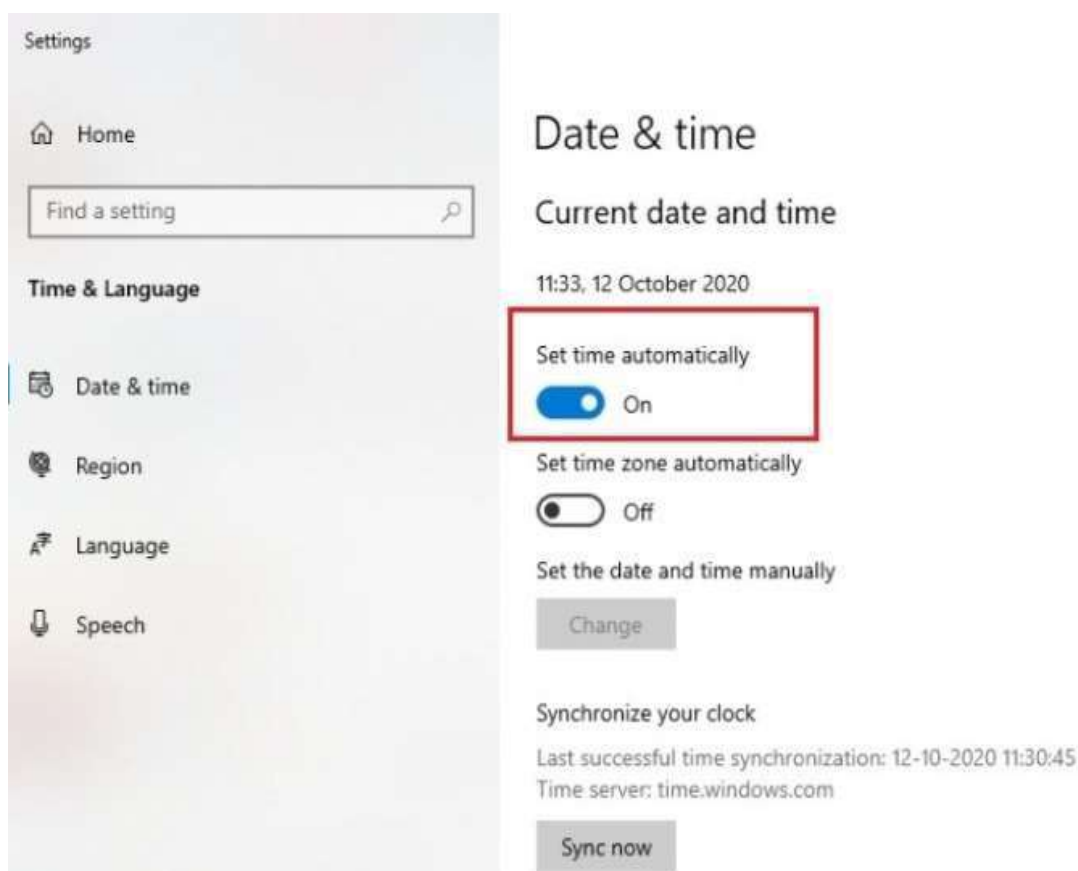


Figure 1 Set time automatically Win 10

- ~ On Windows 8.1: Control Panel > Date and Time > Internet Time

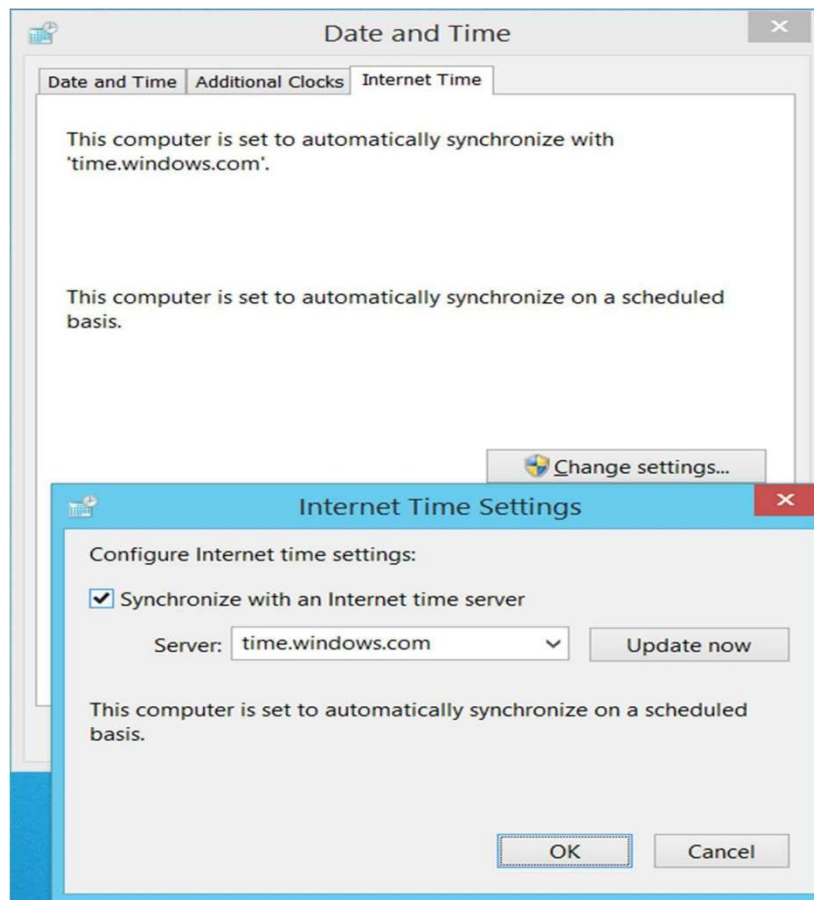


Figure 2 Synchronize with NTP Win 8.1

System requirements

- ~ CL-SDC has minimal requirements and in most cases, matches the requirements for a standard Windows environment.
- ~ Operating System: Windows7 32bit /Windows 8/Windows 10
- ~ .NET 4.6.2
- ~ Smart card reader
- ~ Smart card issued by Tax Authority
- ~ Network connectivity (Periodical Internet access at least once in 48 hours)

Section 3- Installing the CL-SDC

Software installation

Setup Wizard

CL-SDC installation file is a standard Windows setup wizard CLSDCSetup.exe. In order to start the installation, browse for the location of CL-SDC setup file as shown in below figure:



Figure 3 Content of installation file

- ~ You can install only one copy at the time on one machine. Open the selected folder and double click on setup.exe file.

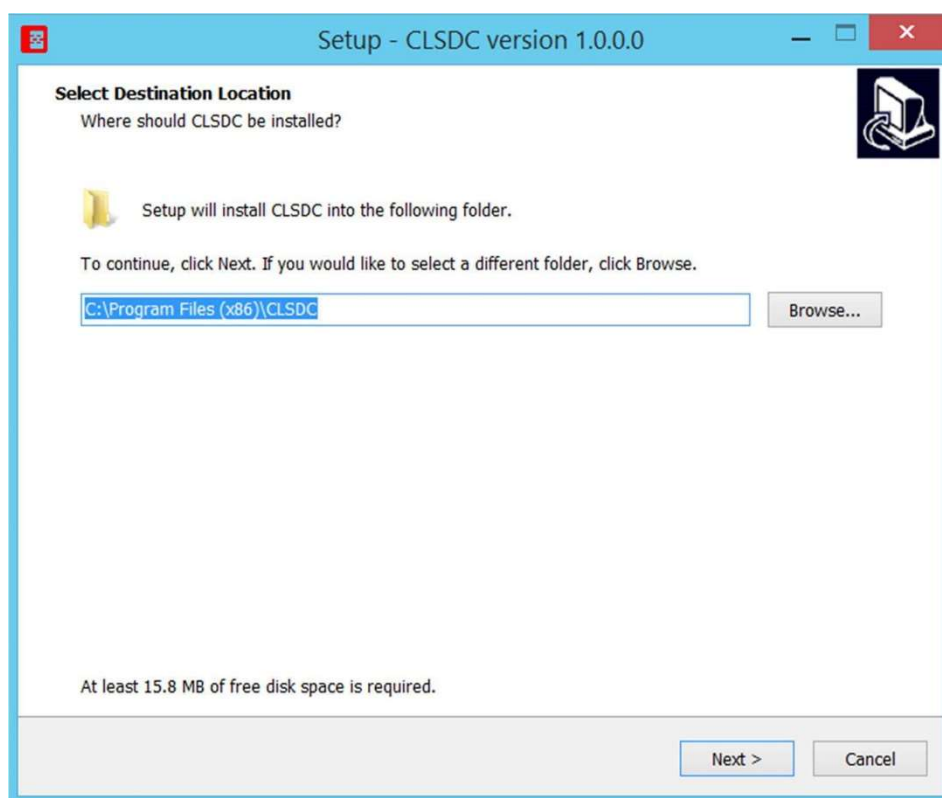


Figure 4 Select Installation Folder

~ Now follow the Wizard to complete the installation.

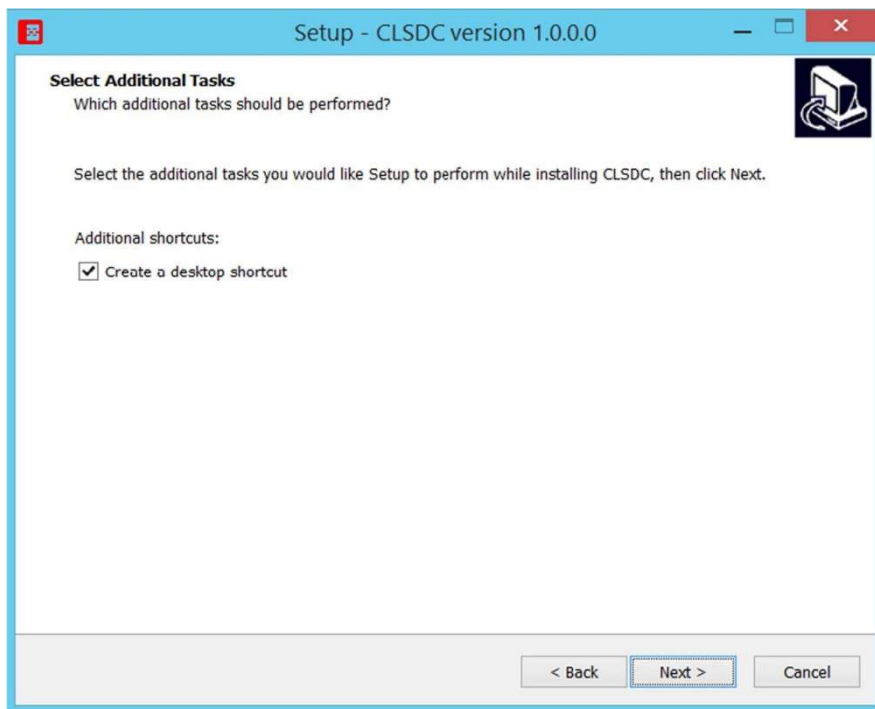


Figure 5 Create desktop shortcut

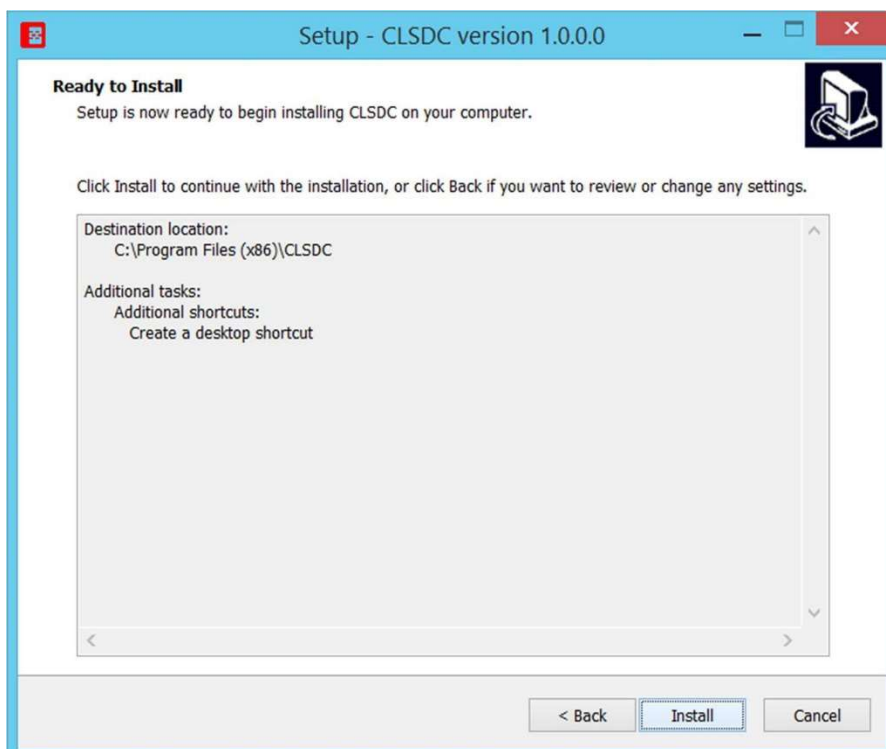


Figure 6 Ready to install

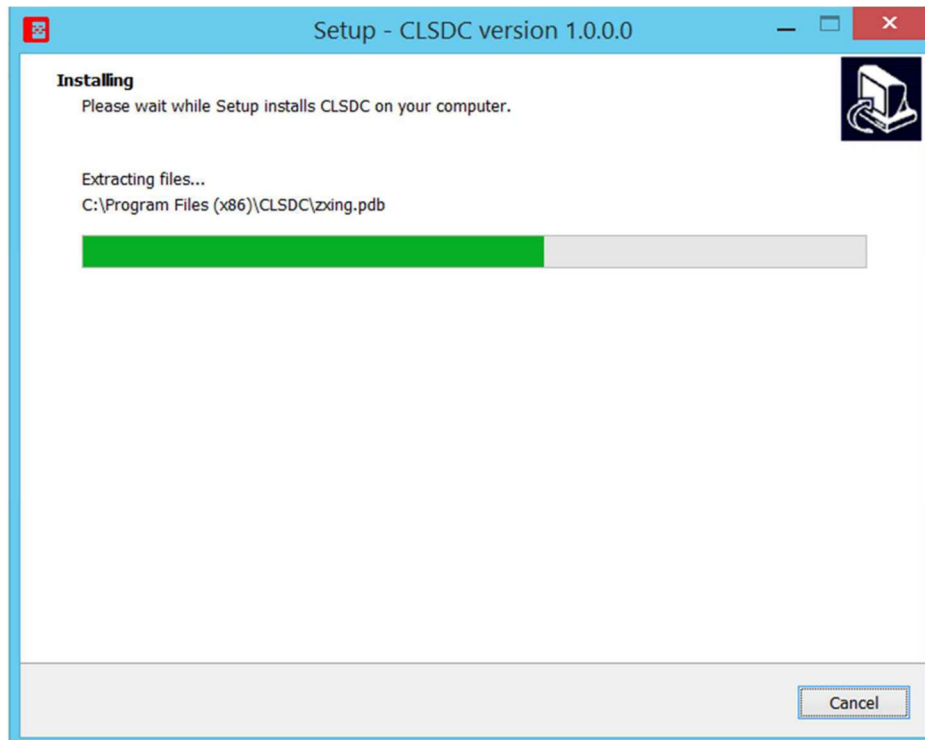


Figure 7 Installation Running

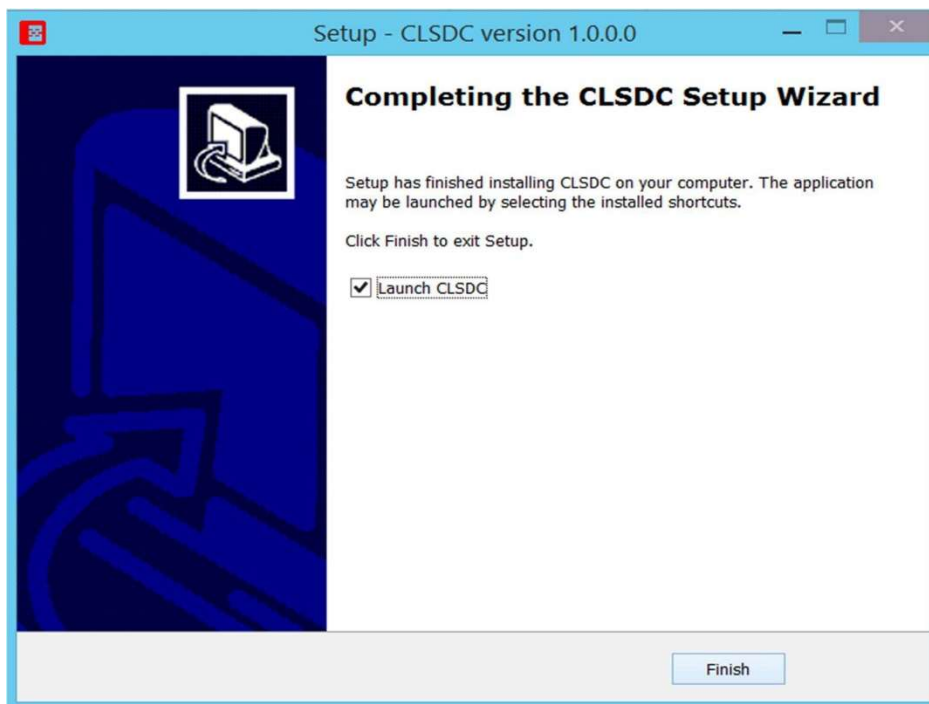


Figure 8 Installation Complete

Section 4- Using CL-SDC

Getting Started with CL-SDC

NOTE: After successful installation, launch the app by clicking on the Desktop shortcut created automatically during the installation.

HINT: You don't have to login each time you restart the computer – the service will start automatically, and API will be available for invoice signing once you insert the smart card and provide PIN.

~ Once you have launched the app, the service will start

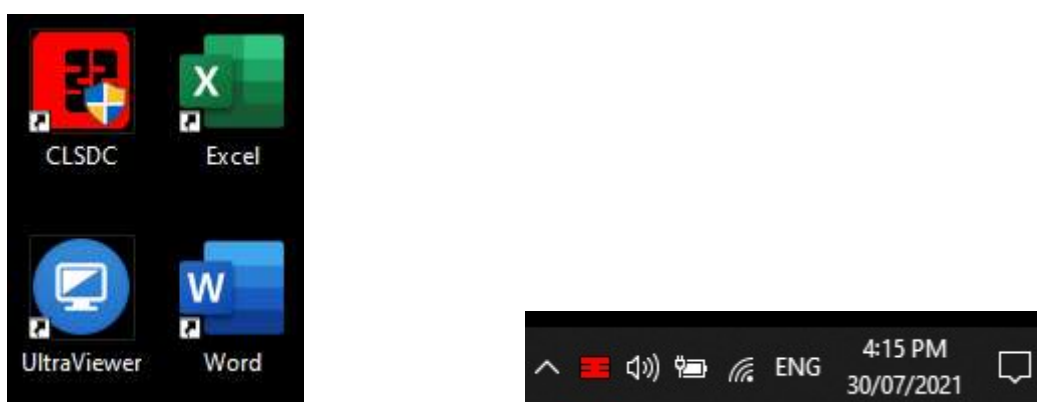


Figure 9: Launch CLSDC; Service has been started

The following section describes CL-SDC context Menu items and their functions.

NOTE: CL-SDC operates via context Menu as a main user interface. In order to access the Menu, right click on the tray icon.

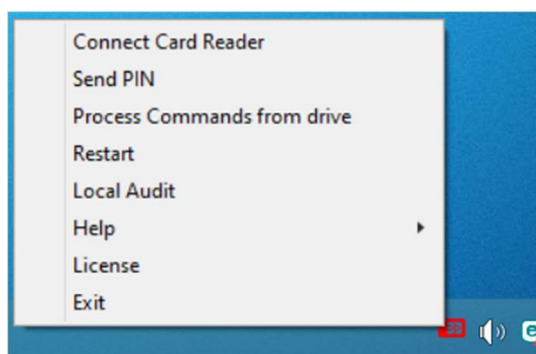


Figure 10 Main Menu

NOTE: If you haven't selected a card reader during the installation, you can do it once the service has started.

Select card reader

Right click on the tray icon and choose menu item Select card reader. When a dialog pops out, select your reader from the list and click Connect.

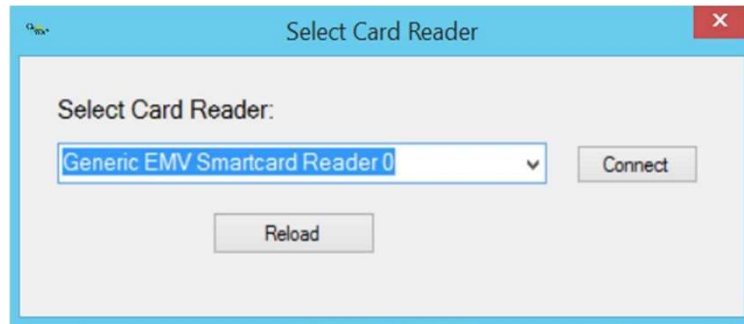


Figure 11 Select card reader

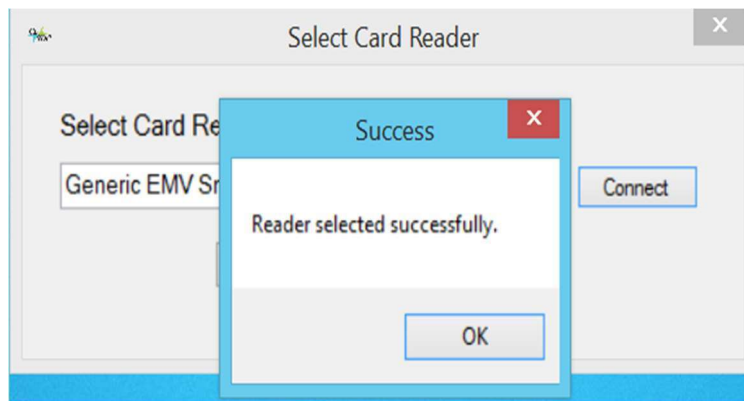


Figure 12 Card reader selected

Send PIN

Next, you have to provide a valid PIN code, and you can do it by choosing menu item Send PIN.



Figure 13 Enter valid PIN

Once you entered correct pin you will get message “PIN Verified Successfully”

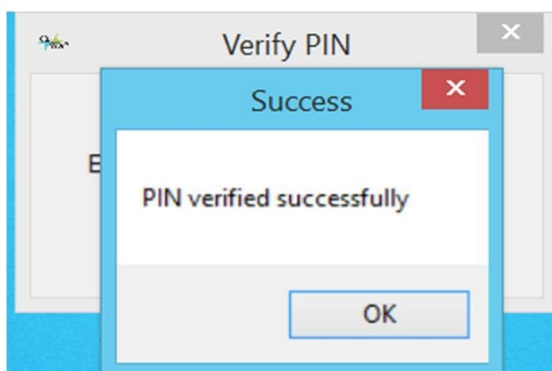


Figure 14 Enter valid PIN

Entering wrong PIN you will get message “PIN is invalid”

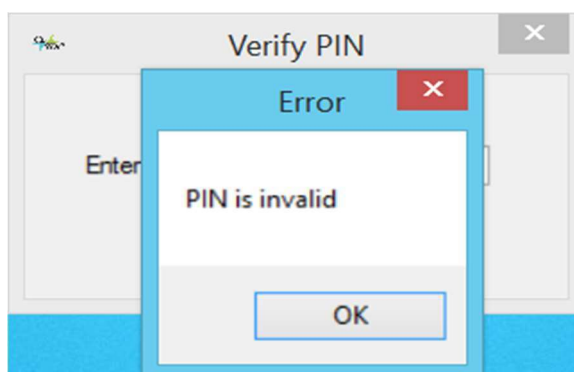


Figure 15 Invalid PIN

Restart Service

Should you experience any problems with the service, browse menu item Restart Service, and CL-SDC will restart. After that, select card reader and enter PIN.

Audit

CL-SDC exports data for Tax Authority in two manners: Local Audit and Remote Audit and it notify the user if remote audit or local audit is complete or error during this operation occurred. All audit data is being encrypted using AES-256 with Encryption Key as per Technical Requirements in the Regulation. Same audit formats are created in case of either local or remote audit.

Remote Audit

CL-SDC shall send unspent audit packages when Remote Audit is performed. The CL-SDC, once it is activated, if connection is available, transmits data from internal memory to the designated server of Tax Authority using Internet connection performing Remote Audit. CL-SDC can operate normally while registering transactions and sending audit data at the same time to Tax Authority's System.

Please Note: Require periodical internet access at least once in 48 hours

Local Audit

Follow given below steps to complete Local Audit process.

- 1) Start Local Audit
- 2) Upload audit package files (ARP.bin)
- 3) Download command files (.commands file)
- 4) Process Commands from Drive
- 5) Upload SDC Commands status. (.results file)

Start Local Audit

In order to start a local audit, choose menu item Start Local Audit and then select the local drive (i.e. SD card or flash memory stick) where you have installed the application. CL-SDC copies all of audit packages to designated drive when Local Audit is performed and creates a file name in the format specified in Technical Instructions.

Note: Command execution takes precedence over local audit.

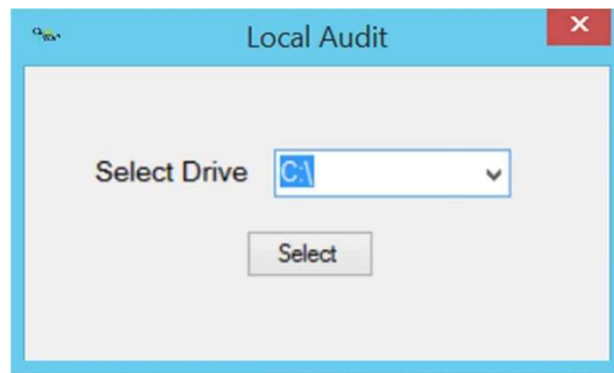


Figure 16 local Audit select drive

Once you click Select and confirm, local audit data copying will start automatically. If Local audit was successful, you will get a success message.

ARP.bin file will be stored in Audit subfolder under UID folder in C (C:\) Drive

Upload Audit Packages

Login <https://tap.vms.fracs.org.fj/Home/Login> using your admin card credentials select Upload audit packages options form menu. Upload all files that you get it from local audit you can even drag and drop all your files. Including ARP.bin and invoices JSON files Once submit successfully you will get message All audit packages uploaded successfully!

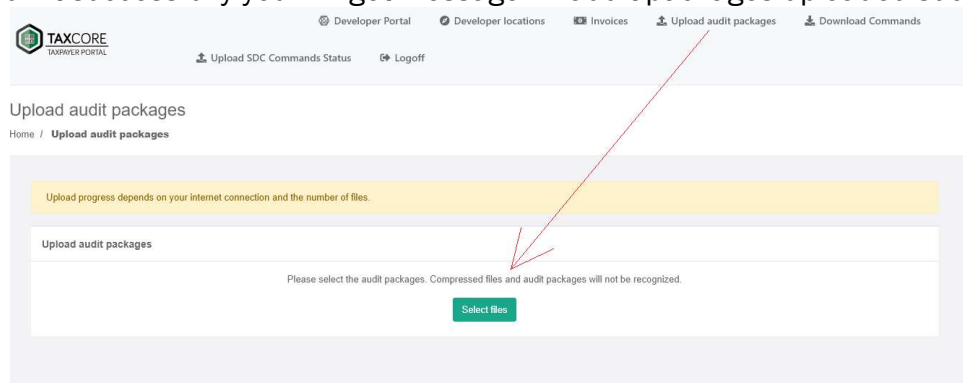


Figure 17 Upload Audit Package

Download command files

<https://tap.vms.frcs.org.fj/Taxpayer/DownloadCommandsWizard>

Go to Download Commands wizard enter your card UID number and follow the steps Upon Finish you will receive commands file in your download folder.

Verify your shop information on step 2.

Select Pending commands option on step 3.

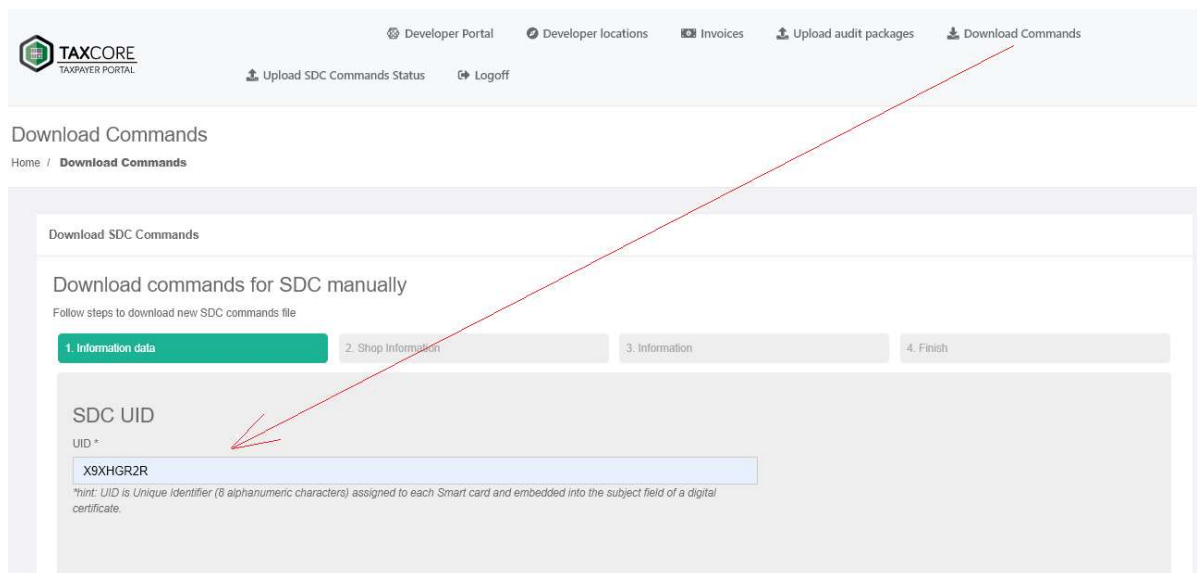


Figure 18 Download Commands

Process Commands from Drive

You will receive one commands file in download folder. Browse menu select Process commands from drive option and upload commands file.

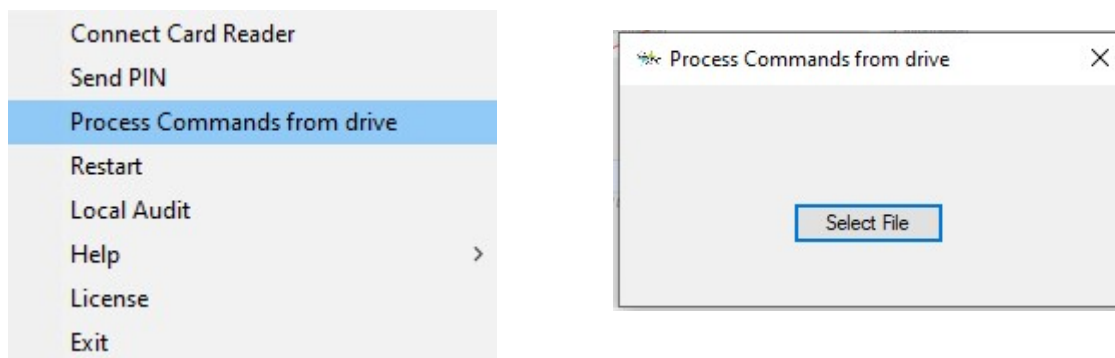


Figure 19 Process Commands from drive

Once commands file successfully upload on CL-SDC you will get notification files successfully uploaded and clsdc will give you result file in the same download folder.

Upload SDC Commands status

Upload SDC commands status on portal

<https://tap.vms.frcs.org.fj/Taxpayer/UploadCommandsStatus>

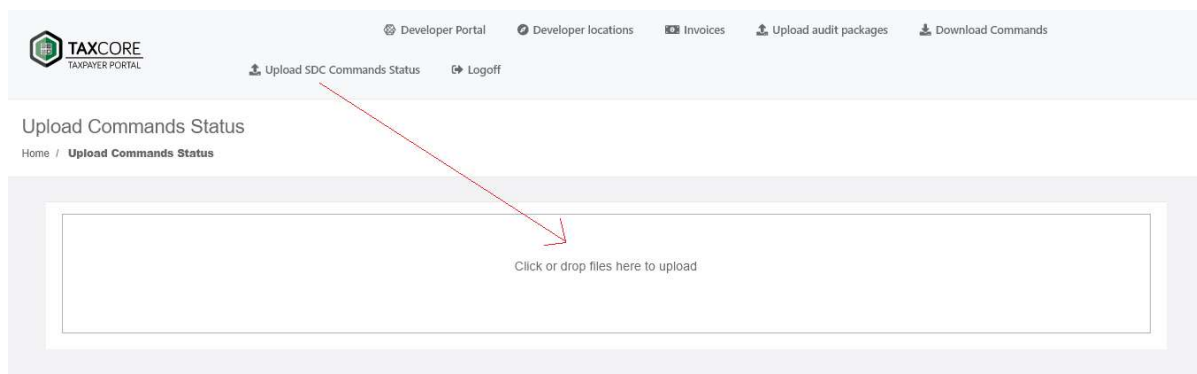


Figure 20 Upload Commands Status

Proof of Audit require and Secure element lock

If you receive message proof of Audit require or Secure element lock follow the Local Audit steps given above. Complete the cycle, your secure element has been start working.

- 1) Start Local Audit
- 2) Upload audit package files
- 3) Download command files
- 4) Process Commands from Drive
- 5) Upload SDC Commands status.

Note: Do not switch your Smart Card between several POS Terminals. Use One Smart Card on One Terminal only, at all times.

If you come across missing invoices your Smart Card may be locked permanently. You will then be required to visit your nearest Tax Authority Office to get this sorted.

Help

There are several items in the Help section.

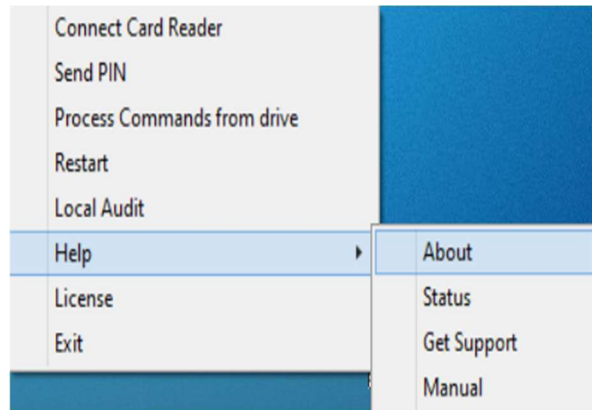


Figure 21 Help sub menu

About

This is the message that shows some basic data regarding your computer and CL-SDC version.



Figure 22 About CL-SDC

Status

This is the message that shows current status of the service.

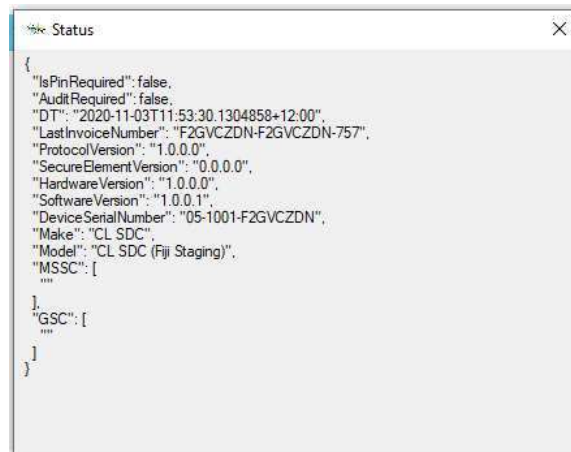


Figure 23 CL-SDC Status

Get Support

Open a Ticket at Support CL-SDC website.

Visit the link <https://tech360fiji.com/help/index.php>



Figure 24 Support ticket link

Manual

For user manual click on Manual option you will get CL-SDC user manual.

Tray icons

Icon (img)	Meaning (tray icon tooltip)
	Desktop icon. SDC app will be open by clicking on icon
	Card not available CL-SDC: Connect card reader
	Enter PIN: Enter Valid PIN
	CL-SDC is connected: Card is ready for use
	CLSDC-not configured. Connect card reader and enter valid pin to configure CL-SDC
	Card Removed. Connect card reader and enter valid pin to connect
	Working Offline. Internet connection require
	Proof of Audit Required. Perform Local Audit

Exit CL-SDC

When you need to close the CL-SDC service, right click on the tray icon and select Exit. Prior to shutting down, CL-SDC will display the following message

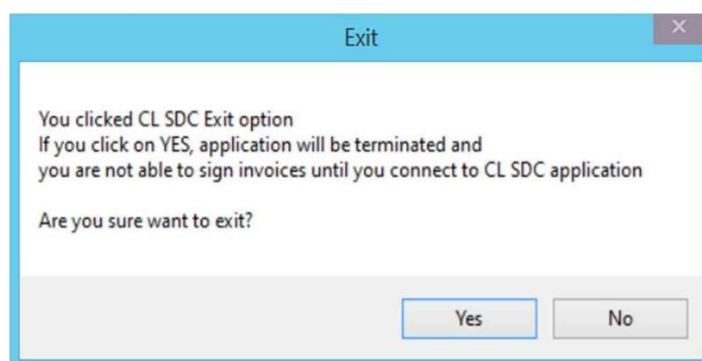


Figure 25 Exit CL-SDC

Uninstalling the app

The client software can be removed through a few simple steps.

- Log into the Windows system as a user with administrator-level access.
- Open the Windows Control Panel and select "Programs and Features".
- Right-click on *CL-SDC* and select Uninstall (or Repair).
-

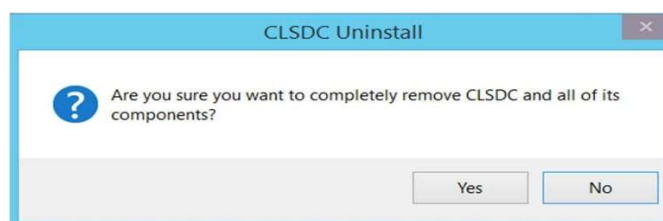


Figure 26 Uninstall CL-SDC

When you try to uninstall CL-SDC, if you have any unsent Audit packages, you will get the message informing you about the number of pending packages and your options. You can either:

- Send them manually by browsing for files located in the folder titled AuditDataOutbox, or
- Reinstall the application so that they can be sent automatically

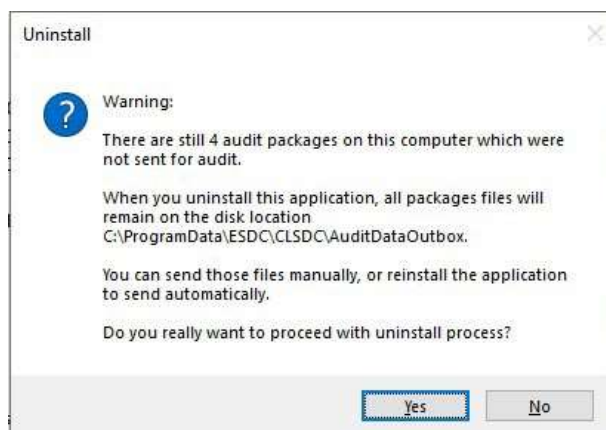


Figure 27 Warning: pending Audit packages

Section 5: API description

This section contains elements from the Technical Instructions for E-SDC developers, published on Tax Authority website, and CL-SDC supports only the part related to JSON via HTTP. It also contains manufacturer specific info.

All commands shall be sent via HTTP protocol, to the IP address of the computer with installed CL-SDC, using the default port 8081.

If there is a firewall on that computer, or between POS and that computer, make sure firewall is not blocking port 8081.

For Local Standalone Installation
IP address and port: 127.0.0.1:8081

For Server or network Installation
IP address and Port [IP ADDRESS]:8081
[IP ADDRESS] = IP address of the SDC Hosting PC eg: 192.168.1.100

you can even check by entering IP address and port number in browser
eg 127.0.0.1:8081

```
{"Message": "Server status online all the CL - SDC services are running"}
```

Section 6: Continuous processes

CL-SDC continuously processes following commands received from Tax Authority server, or locally via drive:

- Configure Time Server URL Command
- Set Tax Rates Command
- Update Verification URL Command
- Proof of Audit Command

Note: Command execution takes precedence over local audit.

Note: CL-SDC shall process all commands received from the Tax Service's system in a consecutive order

- CL-SDC continuously syncs date and time with NTP specified in command received from Tax Authority server.
- CL-SDC submits a proof of audit (POA) requests to SE and Tax Authority server.
- CL-SDC continuously submits audit packages to Tax Authority server.
- CL-SDC continuously notifies Tax Authority server when it is online.

CL-SDC shall authenticate with a valid Digital Accreditation (stored in the PKI applet of the Secure Element) when requesting authentication token from the Tax Authority backend. CL-SDC uses authentication token when calling the Tax Authority backend API web services.

Section 7: Glossary

JSON (JavaScript Object Notation)

Network Time Protocol (NTP)

Point of Sale (POS)

Proof of Audit (POA)

Secure element (SE)

Cross Link Sales Data Controller (CL-SDC / CL-SDC)

Product of
CROSSLINK INVESTMENT PTE LIMITED
info@clsdc.co

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