CardOS API V5.1 for Mac OS X

Installation Manual

Contents

Installing CardOS API

The CardOS API distribution provides several setup packages for Mac OS X:

Package	Platform
CardOS_API_<version>_MacOSX_10_5.dmg	Mac OS X 10.5 ppc, i386
CardOS_API_<version>_MacOSX_10_6.dmg	Mac OS X 10.6 i386, x86_64
CardOS_API_<version>_MacOSX_10_7.dmg	Mac OS X 10.7 i386, x86_64

For details on system requirements refer to the CardOS API - Release Notes for Mac OS X.
Select the appropriate CardOS API installation package and open it in the Mac OS X Finder to start the installation.
If the Finder does not open you can find the package on the CD at `/Packages`.

> **Note**
> The CardOS API installation for Mac OS X 10.5 and Mac OS X 10.6 provides a CardOS API Tokend as optional package. Please check the Known Issues section of the CardOS API - Release Notes - Mac OS X before installing CardOS API Tokend.

CardOS API installs the following files on your system:

Path	File	Version	Description
/private/etc	cardos_api.conf	n/a	CardOS API configuration file (see Configuring CardOS API)
/usr/local/bin	cardospn	n/a	CardOS API PIN Utility
/usr/local/lib	libcardossc.dylib	n/a	CardOS API Card Interface Library
	libcardosui.dylib	n/a	CardOS API GUI Library
	libcardos11.dylib	n/a	CardOS API PKCS#11 Library
	libcardos15.dylib	n/a	CardOS API PKCS#15 Library
	libcardosxc.dylib	n/a	CNS file system support library
	libcardosxg.dylib	n/a	GDOv1 file system support library

	libcardostkn.dylib	n/a	CardOS API Token Library
	libiplasn1.dylib	ipl3	IPL ASN.1 Library
	libiplcsp.dylib	ipl3	IPL Crypto Algorithm Library
	libiplutils.dylib	ipl3	IPL Utility Library
	libgmp.dylib	n/a	Symbolic link to `libgmp.3.5.2.dylib`
	libgmp.3.dylib	n/a	Symbolic link to `libgmp.3.5.2.dylib`
	libgmp.3.5.2.dylib	4.3.2	GNU Multiple Precision Arithmetic Library
	libcardoscl.dylib	n/a	Symbolic link to `libcardoscl.1.1.5.dylib`
	libcardoscl.1.dylib	n/a	Symbolic link to `libcardoscl.1.1.5.dylib`
	libcardoscl.1.1.5.dylib	2.5.1	Software implementation of cryptographic algorithms.
	CardOSAPIPKCS11.bundle	n/a	CardOS API PKCS#11 Module (Mac OS X bundle)
/System/Library/Security/tokend	CardOS.tokend	n/a	CardOS API Tokend
/Applications/Utilities/CardOS API	Change PIN.app	n/a	CardOS API Change PIN Application
	Change PUK.app	n/a	CardOS API Change PUK Application
	Unblock PIN.app	n/a	CardOS API Unblock PIN Application
/usr/local/cardos_api/icns	cardos.icns	n/a	CardOS API icons
	question.icns	n/a	
/usr/local/cardos_api/scripts	InitToken*????*.cpd	n/a	Initialization script for CardOS smart cards. *????* identifies the type of the CardOS smart card. The availability of CardOS API initialisation scripts for the individual CardOS smart card types depends on the CardOS API version. C804 = CardOS/M4.01a C808 = CardOS V4.3 B C809 = CardOS V4.2 B C80A = CardOS DI V4.2 B C80B = CardOS V4.2 C C80C = CardOS DI V4.2 C C80D = CardOS V4.4
	InitToken*????*.sig	n/a	Signature file for the respective InitToken*????*.cpd file.

In case you want to install to a different location you may extract the archive to a temporary folder and copy the libraries to a different location.

Configuring CardOS API

Configuration information is retrieved from the file `/private/etc/cardos_api.conf`.
The configuration settings are given as attribute name and value pairs:

```
Attribute=Value
```

A detailed description for the available attributes is given below. Follow this <u>link</u> for an example configuration file.

Enable Logging for CardOS API

> ⚠️ **Warning**
> For security reasons the CardOS API logging should be disabled during normal use of the API. However, log files may help you during testing and to track down errors.

> ❗ **Note**
> It is recommended to use absolute path names for your log files. Otherwise the log files are created relative to the location of the calling application and may be hard to find. Grant sufficient write access rights for all users that shall be able to create log files.

PKCS#11 Logging

CardOS API PKCS#11 logging is controlled by the following configuration attributes:

Attribute	Description
P11LogFile	PKCS#11 log file location.
P11LogLevel	PKCS#11 logging level
TokendLogFile	CardOS Tokend log file location.
TokendLogLevel	CardOS Tokend logging level

P11LogFile can contain the following wildcards:

Wildcard	Description
&u	Logon name of current user.
&p	Process Id of the current process.

E.g. setting the log file name to `/tmp/pkcs11.&u.&p.log` creates a log file `/tmp/pkcs11.user23.0123.log` assumed that the current user is `user23` and the process that created the log file has the process id `0123`.
P11LogLevel can be used to set the log level to one of the values defined in the table below.

Level	Meaning	Description
0	No Logging	No logging is written.
1	Minimal	An absolute minimum of logging information is written.
2	Error	Critical errors and exceptions are logged.
3	Warning	Critical errors, exceptions, and warnings are logged.
4	Additional	Critical errors, exceptions, warnings and additional information are logged.

	Information	
5	Trace	API external function call arguments are logged.
6	Debug	Additional internal debugging information is written. This is the recommended log level that should be used if you attach log files to an error report.
7	ASN.1	ASN.1 structures read from the smart card are logged. This setting increases the size of your log files significantly. It is not recommended to use this log level unless requested by your support contact.

Smart Card Interface Logging

CardOS API smart card interface logging is controlled by the following configuration attributes:

Attribute	Description
SCardLogFile	Smart card interface log file location.

SCardLogFile can contain the following wildcards:

Wildcard	Description
&u	Logon name of current user.
&p	Process Id of the current process.

PKCS11 Options

Attribute	Description
P11Flags	n/a
P15ScriptDir	Location of the PKCS#15 token initialization scripts required for `C_InitToken()`.

Registering CardOS API PKCS#11 with Third Party Applications

In order to use the CardOS API PKCS#11-module with third party applications (e.g. Firefox, Thunderbird, Adobe Reader) you need to register the new PKCS#11 module with your applications. How this is done depends on the individual application - please refer to the applications documentation.

During the registration process you will usually be prompted for the location of the PKCS#11 module. Depending on the third party application you either need to specifiy the name of the dynamic library module or a Mac OS X bundle name.

The dynamic library module name for the CardOS API PKCS#11 module is:

`libcardos11.dylib`

The Mac OS X bundle name for the CardOS API PKCS#11 module is:

`CardOSAPIPKCS11.bundle`

The default installation path for the CardOS API PKCS#11 module is `/usr/local/lib`.