



QR Credential Generator

for C•CURE9000

Revision A5 - March 2020

https://www.encodelabs.be

QR Credential Generator

for C•CURE9000

Document Number: IM-008

Revision: A5

Release Date: March 2020

This manual is proprietary information of Encode Labs. Unauthorized reproduction of any portion of this manual is prohibited. The information contained within this manual is for informational purposes only. All information is subject to change without prior notice. Encode Labs assumes no responsibility for incorrect information that may be contained within this manual.

All trademarks, service marks, trade names, trade dress, product names and logos appearing in this manual are the property of their respective owners, including Encode Labs in some instances.

Any rights not expressly granted herein are reserved.

© 2018-2020 Encode Labs

All rights reserved.

Contents

INTRODUCTION	4
CONVENTIONS	5
OBTAINING A LICENSE	5
	6
	0
CCURE9000 REQUIREMENTS	6
Server requirements	6
KNOWN LIMITATIONS	6
ARCHITECTURE	7
COMPONENT DETAILS	7
INSTALLATION	8
Pre-requisites	8
Software Package	8
INSTALLATION	8
INSTALLATION OF YOUR LICENSE FILE	
CONFIGURATION	
CONFIGURATION OF THE SERVICE	12
Configuring the appSettings	
Configure the database connection	
Changing the account running the service	
Setting up the correct database rights	
Configuration of the Logging framework	
CONFIGURATION OF THE CCURE9000 AUTOMATED IMPORT	
SAMPLE DEPLOYMENT CONFIGURATION	
Create Visitor Clearances	
Create a Visitor Template	
Create Visit Site (pre-configuration)	
Create a Visit Template	
Configure the Visit Site	
Testing: Creating a visit	
Remarks: Number of cards per person:	
APPENDIX A	26
CONSIDERATIONS FOR SQL EXPRESS	
Avoiding UAC issues	27
DATETIME ISSUES	

Introduction

With the release of CCURE9000 V2.60 SP1, Software House released the Visitor Management Phase III which supports the following:

- QR code identification for visitors registering for a visit
- QR codes are now included in emails sent to visitors for visitor identification during visitor registration

The **QR Credential Generator for CCURE9000** (QRCG) by Encode Labs is a service that will auto generate credentials for visitors that receive a QR code by email. This allows visitors to use their QR code as a credential on designated locations.

This means you can close down your site with Access Control while allowing access to pre-registered visitors through the use of their QR code. This creates a more secured and better controlled site perimeter.

The QRCG service solves the problem of providing a credential to your visitor before he is on site.



Example use case

All your visitors are required to sign in at the front security desk in order to obtain a temporary credential such as an access badge.

You want to close down public access to your visitor parking with a vehicle barrier that is equipped with a QR reader. This way only pre-registered visitors can make use of the visitor parking.

Alternatively, you may want to leave a standard parking available, but provide access for VIP visitors on a reserved VIP parking. With the same QR reader you can now provide access functionality to your VIP visitor.

Conventions

(Eq.)

The following pictograms are used to indicate important information



Obtaining a license

A license can be purchased through your certified CCURE9000 Integrator.

Field	Example
System Serial Number	9-12345
CCURE9000 Version	2.80
End User Name	Encode Labs
End User Site Location	Gent*
Integrator Name	ABC Integrated Security

You will need to provide the following information with your purchase:

Alternatively, you can navigate to the Encode Labs website for registering your copy. Your license file will be sent to you by email once your purchase has been confirmed:

https://www.encodelabs.be/support/software-registration/

Specifications and Compatibility

CCURE9000 Requirements

- Supported CCURE9000 version
- Visitor Management license option
- CCURE9000 Web Portal installed

Server requirements

This is a CCURE9000 Addon Service. Supported Versions:

CCURE9000 V2.60 SP1 -> CCURE9000 V2.80

The requirements are those of the CCURE9000 system that is installed:

OS - Server Series L/M/N/SAS	Version	V2.60	V2.70	V2.80
Windows 7 Professional & Enterprise SP1 or later	64-bit	~	~	~
Windows 8.1 Professional & Enterprise SP1 or later	64-bit	~	~	~
Windows 10 Professional & Enterprise	64-bit	~	~	~
Windows Server 2008 R2 Standard & Enterprise SP1 or later	64-bit	~	×	×
Windows Server 2012 R2 Standard SP1 or later	64-bit	~	~	~
Windows Server 2016 Standard & Enterprise	64-bit	×	>	>
Windows Server 2019 Standard & Enterprise	64-bit	×	×	~
OS - Server Series P/Q/R/R+/S/S+/T/SAS	Version	V2.60	V2.70	V2.80
Windows 10 Professional & Enterprise	64-bit	×	~	~
Windows Server 2008 R2 Standard & Enterprise SP1 or later	64-bit	~	×	×
Windows Server 2012 R2 Standard	64-bit	~	~	
Windows Server 2016 Standard & Enterprise	64-bit	×	~	~
Windows Server 2019 Standard & Enterprise	64-bit	×	×	~
DBMS - Server Series L/M/N/SAS		V2.60	V2.70	V2.80
SQL Server 2008 R2 Standard Enterprise SP2 or later	64-bit	~	×	×
SQL Server 2012 Express Standard Enterprise SP2 or later	64-bit	~	~	
SQL Server 2014 Express Standard Enterprise SP1 or later		~	~	~
SQL Server 2016 Express Standard Enterprise All SP's		~	~	~
SQL Server 2017 Express Standard Enterprise All SP's	64-bit	×	×	~
DBMS - Server Series Standalone P/Q/R/R+/S/S+/T/SAS	Version	V2.60	V2.70	V2.80
SQL Server 2008R2 Standard & Enterprise SP2 or later	64-bit	~	×	×
SQL Server 2012 Standard & Enterprise SP2 or later	64-bit	~	~	~
SQL Server 2014 Standard	64-bit	~	~	
SQL Server 2014 Standard All Service Packs	64-bit	×	~	
SQL Server 2014 Enterprise SP1 or later	64-bit	~	~	~
SQL Server 2016 Standard & Enterprise SP1 or later	64-bit	~	~	~
SQL Server 2016 Standard & Enterprise All Service Packs	64-bit	×	~	~
SQL Server 2017 Standard & Enterprise	64-bit	×	×	~

Known limitations

No known limitations



Architecture

6

Component Details

1	The QR Credential Generation service is usually installed on the CCURE9000 Server. But this is not a requirement. It can actually reside anywhere on the network with access to the database server.
2	A host will pre-register a visitor on the CCURE9000 Web Portal.
3	The CCURE server will receive the visit registration and create a new visit.
4	If the visitors' email address was provided and the configuration was done for sending QR codes, an invitation containing a QR code will be e-mailed to the visitor.
5	The QR Credential Generation Service will pick up the visit configuration and all visitor data from the database.
6	The QR Credential Generation Service will push out an XML import file to the CCURE9000 Server to add the credentials to the visitor record.

Installation

Pre-requisites

The following items are required for installation

- A valid license file for running the QR Credential Generation Service
- Local Administrative account for the installation of the service
- A functional account if required, to run the service
- Read Access to the CCURE9000 ACVSCore database

Software Package

The software package contains the following files:

Name	Туре
Documentation EncodeLabs QR Credential Generator.msi setup.exe	File folder Windows Installer Package Application

Installation

Run setup.exe

Select "Next"





1. Change the location of the installation if required

2. When done, click "Next"

뤻 EncodeLa	abs QR Credential Generator - InstallShi	eld Wizard	×
Destinati Click Ne	on Folder xt to install to this folder, or click Change to	install to a different folder.	Đ
	Install EncodeLabs QR Credential Genera C:\Program Files (x86)\Encode Labs\Enco Generator\	tor to: odeLabs QR Credential	Change 1
InstallShield		2	
	< E	ack Next >	Cancel

Click "Install"

(G)

🕼 EncodeLabs QR Credential Generator - InstallShield Wizard 🛛 🗡
Ready to Install the Program The wizard is ready to begin installation.
Click Install to begin the installation.
If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.
InstallShield < Back

Click "Finish"



The service should have been installed:

(F)

^				
Name	Description	Status	Startup Type	Log On As
			1 21	5
Encode Labs QR Credential Generation Service	Service for generating credentials from QR codes on CCURE9000		Automatic	Local System

The installation should contain the following files:

📜 > This PC > Local Disk (C:) > Program Files (x86) > Encode Labs > Enco	odeLabs QR Credential Generator
Name	Туре
CcureImports	File folder
📙 Logging	File folder
CCURE9000_ImportDefinition.xml	XML Document
Dapper.dll	Application extension
🖀 Dapper.xml	XML Document
EncodeLabs.Ccure.QrCardGenerator.DataAccess.dll	Application extension
EncodeLabs.Ccure.QrCardGenerator.lic	LIC File
EncodeLabs.Ccure.QrCardGenerator.Objects.dll	Application extension
EncodeLabs.Ccure.QrCardGenerator.Service.exe	Application
EncodeLabs.Ccure.QrCardGenerator.Service.exe.config	XML Configuration File
EncodeLabs.Xtras.Data.Verification.dll	Application extension
Newtonsoft.Json.dll	Application extension
Newtonsoft.Json.xml	XML Document
🟳 NLog.config	XML Configuration File
NLog.dll	Application extension
🖹 NLog.xml	XML Document

Installation of your license file

Just copy the license file into the directory of the installation. The service will pick it up and run normally.

Configuration

(Eq.)

Configuration tasks:

- Configuration of the service on page 12
- Configure the database connection on page 13
- Changing the account running the service on page 14
- Setting up the correct database rights on page 15
- Configuration of the Logging framework on page 16

Configuration of the service

The configuration of the service is done by editing the config file:

LincodeLabs.Ccure.QrCardGenerator.Service.exe.config XML

XML Configuration File

Configuring the appSettings

<appSettings>

</appSettings>

Setting Key	Description
PollIntervalSeconds	The time in seconds between polling the database for new visits to be processed.
ExportFileName	The name of the file to write the QR credentials to.
CredentialActivationBuffer	The number of minutes to activate the credential before the official visit start. For example, a visit starting at 9am, with an activation buffer of 60 minutes, will allow the QR credential to have an activation time of 8am.
CredentialExpirationBuffer	The number of minutes to add to the visit end date for the expiration of the QR credential. For example, a visit ending at 10am, with an activation buffer of 120 minutes, will allow the QR credential to have an expiration time of 12pm.
DateTimeFormat	The DateTime Format to use by the application for querying the database.

Credential Activation and Expiration times have been limited to the time window of the visit to ensure no credentials remain active within the system in case of no-shows.

Configure the database connection

As show in the Architecture on page 7, the service requires a connection to the database. The connection string needs to be configured for this.

These settings can be found under connectionStrings.

Sample configuration:

(Eq.)

```
<connectionStrings>
        <add name="CcureConnectionString"
            providerName="System.Data.SqlClient"
            connectionString="
            Data Source=localhost\SQLEXPRESS;
            Initial Catalog=ACVSCore;
            Integrated Security=false;
            User Id=ccure_qr_read;
            Password=aZuc5é314;"/>
```

</connectionStrings>

Setting Key	Description
name	The connection name. Do not change this value.
ProviderName	Driver value. Do not change this value.
Data Source	The database server address. In case you are not using the default named instance ([ServerName]\Default) then you MUST add the instance name of the server. This is the case for example for SQLEXPRESS. This value can either be the server name or IP address.
Initial Catalog	The name of the database to use. Do not change this value.
Integrated Security	Whether or not to use the credentials of the account running the service for logging onto the database. In case your service is being run by the <i>Local System</i> account, maure to give the correct access rights to that account on the ACVSCore database. Refer to Setting up the correct database rights on page 15 for more information.
User Id	When the SQL server is configured for SQL authentication, you can specify the user account name through this tag.
Password	When the SQL server is configured for SQL authentication, you can specify the user account password through this tag.

For more information on how to configure a connection string, navigate to the following resources: https://docs.microsoft.com/en-us/dotnet/framework/data/adonet/connection-string-syntax https://www.connectionstrings.com/sql-server/

Changing the account running the service

Open the services (services.msc from the command line)

- 1. Right-click the service
- 2. Select "Properties"

6

Name	1	Description		
Encode Labs QR Credential Generation Service	-	Service for generating		9 (
Encrypting File System (EFS)		Start		e
🎑 Enterprise App Management Service		Stop		р
🧟 Extensible Authentication Protocol		Pause		ht
🧛 Fax		Resume		ar
🧛 File History Service		Restart		n
🤹 FreeSWITCH Multi Protocol Switch		Restart		or
🤹 Function Discovery Provider Host		All Tasks	>	h
🤹 Function Discovery Resource Publication		Pofrach		te
🤹 GameDVR and Broadcast User Service_6349f93		Kellesli		e
🤹 Geolocation Service		Properties	2	tł

- 1. Select the "Log On" tab
- 2. Enter the account details for running the service
- 3. Click "OK"

Encode Labs QR Credential Generation Service Properties ((Local Co $ imes$				
General Log On Relovery Dependencies					
Log on as:					
◯ Local System account					
Allow service to interact with desktop					
This account: CURE_QR_ACCOUNT	Browse				
Password:	2				
Confirm password:					
3 OK Cancel	Apply				

Setting up the correct database rights

(G)

In case you use integrated authentication, you need to make sure the account running the service has got Read access to the ACVSCore database. In our example, the service is being run under the Local System account.

In MSSQL, this is the NT AUTHORITY\SYSTEM account. We will need to provide this account with read access:

- From SQL Server Administrator, navigate to Security -> Logins
- Right-click the NT AUTHORITY\SYSTEM account and select properties



- 1. Select "User Mapping"
- 2. Check "ACVSCore"
- 3. Check "db_datareader"
- 4. Click "OK"

General Server Roles User Mapping Users mapped to this login: Map Database User Default Schen ACVSAudt ACVSBIRS ACVSUJournal_000100 ACVSUJournal_		
Server Roles 1 User Mapping 1 Map Database User Default Schen ACVSAudt ACVSAudt ACVSBIRS ACVSUBIRS ACVSUBURS NT AUTHORITY\SYS ACVSUBURI ACVSUJournal_000100 master Image: Connection Berver: Build account enabled for: ACVSCore Image: Connection Server: ECL1014 Education properties Connection: ECL1014 vsefc Image: Connection properties Vir Mew connection properties Image: Connection properties Progress Image: Connection properties Image: Connection properties Progress Image: Connection properties Image: Connection properties Image: Connection properties Image: Connection properties Image: Connection properties Image: Connection properties Image: Connection properties Image: Connection properties Image: Connection properties Image: Connection properties Image: Connection properties Image: Connection properties Image: Connection properties Image: Connection properties Image: Connection properties Image: Connection properties Image: Connection properties <th></th> <th></th>		
User Mapping 1 Securables Status Status ACVSAudt ACVSBIRS NT AUTHORITY\SYS ACVSUJournal_000100 master model model server: SWHSystemAudit ECL1014 Guest account enabled for: ACVSCore Oranection: Guest account enabled for: ACVSCore Wiew connection properties 3 Idb_adcaeader 3 Idb_datareader 3 Idb_adcupoperator 3 Idb_adcupoperator 3 Idb_adcupoperator 1 Idb_adcupoperator 3 Idb_adcupoperator 1 Idb_adcupoperator 3 Idb_adcupoperator 3 Idb_adatawnter 1 Idb_adcupoperator 3 Idb_addumin 1 Idb_adcupoperator 3 Idb_adcupoperator 1 Idb_adcupoperator 1 Idb_adcupoperator 1 Idb_adcupoperator 1 Idb_adcupoperator 1 Idb_adcupoperator 1		
Securables Map Database User Default Schen Status ACVSAudit		
Status ACVSAudit ACVSBIRS ACVSUJournal_000100 master model model msdb SWHSystemAudit Status Guest account enabled for: ACVSCore Connection: ECL1014 Connection: ECL1014 Connection: <	a	
ACVSBIRS ACVSCore ACVSUJournal_000100 master model model model model model SWHSystemAudit SWHSystemAudit tempdb Guest account enabled for: ACVSCore Database role membership for: ACVSCore Database role membership for: ACVSCore Database role membership for: ACVSCore Output db_accessadmin db_datareader db_datareader db_denydatareader db_denydatareader db_decutyadmin db_securityadmin public		
ACVSCore NT AUTHORITY\SYS ACVSUJournal_000100 master model model msdb Struer: ECL1014 Connection: ECL1014 Connection properties View connection properties View connection properties ACVSUJournal_000100 master model model model model Server: ECL1014 Connection: ECL1014/stefc vir View connection properties ACVSCore O Ready Ready NT AUTHORITY\SYS ACVSUJournal_000100 master model model SWHSystemAudit Umbd Database role membership for: ACVSCore Omega db_datareader db_datareader db_denydatareader db_denydatareader db_denydatareader db_denydatareader db_securityadmin public		
ACVSUJournal_000100 master model msdb SWHSystemAudit SWHSystemAudit tempdb Guest account enabled for: ACVSCore Database role membership for: ACVSCore Database role membership for: ACVSCore Onnection: ECL1014 Connection properties db_accessadmin db_datareader db_datareader db_datareader db_denydatareader db_owner db_securityadmin public		
Image: master Image: master <t< td=""><td></td><td></td></t<>		
Image: model Image: model <td></td> <td></td>		
Image: mark the mar		
SWHSystemAudit tempdb Connection Server: ECL1014 Connection: ECL1014 Connection: ECL1014/stefc vir View connection properties View connection properties View connection properties Progress Image: Connection properties Progress Image: Connection properties Im		
Connection Server: ECL1014 Connection: ECL1014\stefc		
Connection Guest account enabled for: ACVSCore Server: ECL1014 Connection: ECL1014/stefc Connection properties db_accessadmin Cb_accessadmin db_datareader Connection properties db_datareader Connection properties db_datareader Connection properties db_datareader Connection properties db_denydatareader Connection properties db_denydatareader Connection properties db_oenydatareader Connection properties Database contryadmin Connection properties Datatawriter Connection properties Descurityadmin		
Guest account enabled for: ACVSCore Server: ECL1014 Database role membership for: ACVSCore Connection: ECL1014\stefc \u03c4 backupoperator \u03c4 backupo		
Server: ECL1014 Database role membership for: ACVSCore Connection: ECL1014\stefc \u00ed backupoperator		
Connection: Database role membership for: ACVSCore Connection: db_accessadmin ECL1014\stefc db_backupoperator View connection properties db_datareader db_datareader 3 db_datareader 3 db_datareader 3 db_datareader 3 db_datareader 4 db_denydatareader 4 db_denydatawriter 4 db_owner 4 db_securityadmin 9 public 9		
Connection: db_accessadmin ECL1014\stefc db_bckupoperator V# View connection properties db_datareader db_datawriter db_ddladmin db_denydatareader db_denydatareader db_denydatareader db_denydatareader db_denydatareader db_denydatareader db_denydatareader db_denydatawriter db_securityadmin V public		
Idb backupoperator Idb backupoperator Idb_datareader Idb_datawriter Idb_ddadwriter Idb_ddadwriter Idb_ddadwriter Idb_db_denydatareader Idb_ob_denydatareader Idb_ob_denydatareader Idb_ob_denydatareader Idb_ob_ob_enydatareader Idb_ob_enydatareader Idb_ob_enydatareader <td></td> <td></td>		
View connection properties Idb_datateader Idb_datawriter Idb_datawriter Idb_denydatareader Idb_denydatawriter Idb_denydatawriter Idb_denydatawriter Idb_denydatawriter Idb_denydatawriter Idb_denydatawriter Idb_denydatawriter Idb_denydatawriter Idb_denydatawriter Idb_denydatawriter Idb_denydatawriter Idb_denydatawriter Idb_owner Idb_securityadmin Idb_securityadmin		
'rogress @ db_ddladmin @ db_denydatareader @ db_denydatawriter @ db_owner @ db_securityadmin > public		
Image: Constraint of the second se		
Progress db_owner db_securityadmin public		
Ready public		
public		
745 ⁷		

Configuration of the Logging framework

The service makes use of the NLog framework for logging its activity. Configuring the logging is done by editing the NLog.config file:

NLog.config XML Configuration File

By default, when starting the service for the first time, a Logging folder will be created in the installation directory:

> This PC > Local Disk (C:)	> Program Files (x86) > Encode	e Labs >> EncodeLabs QR Credential Generator
Name	^	Туре
CcureImports		File folder
📙 Logging		File folder

By default, the logfile is written to the Logging directory under the name:

EncodeLabs.Ccure.QrCardGenerator.Log Text Document

The file will be archived when it reaches 4Mb in size. A maximum of 10 files will be archived per day.

For changing the logging options, please refer to the NLog documentation:

https://github.com/NLog/NLog/wiki

Configuration of the CCURE9000 Automated Import

In order to import the QR credentials, an automated import must be configured.

- 1. Select Configuration
- 2. Select Data Import
- 3. Click "New"

(F)

Com	guration	**
New	Data Import 2	✓ ∃ -
3	Search	
Quick		
<u>ans</u>	лле.	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
🍐 Purs 🖗 Hard	nnie. ware	~~~~~~~
A Purs Hard	Jule, ware guration 1	~~~~~

Click "Manual Import"

🕒 Data Import -	- 0	\times
🔚 Save and Close 📓 Save and New	v	
Name:]
Description:	^	
E	✓ Enabled	
General Data Conversion Match F	Fields Templates Triggers	
Source type:	XML file import source	
Automation mode:	Manual only V Manual Import	
Data Source Configuration		

Select the import file that was provided with the installation. The import definition will automatically be imported, no mapping should be required.

Importing data	
Import started at 16/07/2018 04:19:39 Processed records: 1 (Inserted: 1; Updated:0; Deleted:0; Rejected:0). Completed 100.00% Importing data Import completed at 16/07/2018 04:19:40	
OK Print Email View logs	

The service will generate the files to be imported by the CCURE in the path where the service is installed, under a folder called CcureImports. By default this is:

C:\Program Files (x86)\Encode Labs\EncodeLabs QR Credential Generator\CcureImports.

Should you encounter any issues importing the definition file, make sure the path in the import definition file exists. You can edit the default path of the file:

1	<pre><?xml version="1.0" encoding="utf-8" standalone="yes"?>@RLF</pre>
2	<pre>P<crossfire culture-info="en-GB" platform-version="2.70.0" product-version="2.70.0">@RUE</crossfire></pre>
3	🖕 <softwarehouse.crossfire.common.objects.import importmode="Default">CRLF</softwarehouse.crossfire.common.objects.import>
4	<pre><name>Encode Labs QR Credentials Generation Import</name>GRLF</pre>
5	<pre><automationmode>ListeningOnData</automationmode>CRLE</pre>
6	<defaultimportmode>Set</defaultimportmode> CRLE
7	<defaultimportpartitionid>0</defaultimportpartitionid> CRLE
8	<pre>cec.<enabled>True</enabled>@RLF</pre>
9	<pre><xmlencodeddataschema><ArrayOfDataSelector xmlns:xsi="http://www.w3.org/2001/XMLScheme-instanc</xmlencodeddataschema></pre>
10	🖕 😳 <softwarehouse.crossfire.common.objects.importxmlfilesource importmode="Default">CRUY</softwarehouse.crossfire.common.objects.importxmlfilesource>
11	<pre>condent condent c</pre>
12	MainConfig> xml version="1.0" encoding="utf-16"?&et;<ImportXmlFileSource.ConfigInfo xml</th
13	C:\Program Files (x86)\Encode Labs\EncodeLabs QR Credential Generator\CcureImports
14	<pre>%it;/serverFolder>⁢/importXmlFileSource.ConfigInfo>GKLF</pre>
15	<pre><</pre> OwnerID>5000 0wnerID CRLF
16	<pre>content content c</pre>
17	<pre>CRLF</pre>
18	<pre>GRLF</pre>
19	L

It is possible to configure the import manually by letting the system generate a sample file from the service and then mapping the data manually.

From the import view you should be able to see the QR import listening on data:

🗅 Data Import 🛛 🖌			
Views 🛛 🖧 🔁 📄 🖶 🔁 🍸 🛠 🕼			
Drag columns to group by here			
Name	Enabled	Automation Mode	Status
Encode Labs QR Credentials Generation Import	\checkmark	Listening on data	Listening

In case your import status is showing "Disconnected", make sure you have the Import Watcher running:

Open the Server Configurator and activate the Import Watcher

🏶 Serve	er Configuration A	pplication					-		\times
Services	Server Compone	ents Database	Settings	Backup/Restore					
Framew	ork Services								
	Stop	Name: CrossFir Status: Runnin Description Pri Location: C:\Pr Version: 3.70.5	re Framew ig ovides sup ogram File 39.289	ork Service port for applications us rs (x86)\Tyco\CrossFire	ing the CrossFire Framework technolog	y.			
	Stop Stop Stop Stop Stop Stop Stop Stop								
Extensio	on Services								
	Stop	Name: Softwar Status: Runnin Enabled: 🗸	reHouse Ci Ig	ossFire Import Watcher		Description Windows Service for CrossFire Import Watcher Location: C:\Program Files (x86)\Tyco\CrossFire\ServerComponents Version: 2.70.539.289			
	Start	Name: CrossFir Status: Not Lic Enabled:	re GPI Serv : ensed	ice		Description Windows Service for CrossFire GPI Location: C:\Program Files (x86)\Tyco\CrossFire\ServerComponents Version: 3.70.539.289			

(Ei)

Sample deployment configuration

By default, visitors don't have any clearances. They are assigned manually upon check-in, or automatically if the visit itself had any clearances associated with it.

In most cases when deploying the QR Credential Service, you will want your visitors to have a clearance that will allow them to enter the first site perimeter, or any other location such as a dedicated visitor parking before they check in. The QR Credential Service is specifically designed for these use cases.

Working Method

(Eq.)

The following method will describe a situation where the visitor receives an initial clearance to access the site perimeter.

When they are checked in, they will receive an additional clearance providing access inside the site as well.

The advantage of this principle is that you do not provide any internal access before the visitor is checked in at the reception desk. They can only use their QR credential at the designated locations for entry.

Tasks

The following tasks need to be performed to set up our example:

- Create Visitor Clearances on page 19
- Create a Visitor Template on page 19
- Create Visit Site (pre-configuration) on page 20
- Create a Visit Template on page 21
- Configure the Visit Site on page 22
- Testing: Creating a visit on page 23

Create Visitor Clearances

We need to configure two Clearances: a Perimeter Clearance and an internal Site or Building Clearance.

Perimeter clearance

Holds the door of the perimeter only. This will be the entry that has the QR reader on which the visitor will be able to badge.

Site Clearance

Holds the doors that the visitor can access after he is checked in and received a normal credential.

Create a Visitor Template

From the Personnel menu, select the down arrow next to new and create a new Personnel template.



→ This template will allow you to specify the default clearance that you will give your visitors, without being checked in: the perimeter clearance.

On the General tab, enter the name of the template

(Ei)

🙎 Pers	onnel (Tem	plate) -				
🔚 Save a	and Close 🚦	Save Cu	urrent View	Default Personnel	Edit Viev	N
General	Credentials	Clearances	Customer	Customer Extended	Images	Badging
		First N	ame:			
		Middle N	ame:			
		Circuit	10-11			
		Last N	ame: Visito	or Penmeter Template		

On the Clearance tab, add the Visitor Perimeter Clearance



Save the template.

Create Visit Site (pre-configuration)

Create a new Visit Site

Perso	nr	nel				~
🔎 New	-	Visit Site	~	€	•	
			Search			

At this stage, just enter the name and save it.

(Eq)

We will get back to this after we created the visit template.

🔎 Visit Site - Encode Labs	- 0	×
🔚 Save and Close 📲 Save and New 🗎 Create Copy		
Name: Encode Labs	EC	Π
Description:		
General Active Fields Hosts Documents		
Visit Site Default Visitor Partition:	Visitor Template:	
Default V	· · · · · · · · · · · · · · · · · · ·	~
☑ Email QR Codes to Visitors	Visitor Label Layout:	v
Visit Templates	,	- 11
P Add =→ Remove		

Create a Visit Template

The visit template will hold the clearance the visitor will receive automatically after he is checked in, along with some other configuration you may want to add.

Create a new visit template:



- 1. Uncheck the auto generated name
- 2. Enter a name for your visit template
- 3. Select the site you created earlier

🔮 Visit (Template) - QR Visit Template	- 0	×
📙 Save and Close 🔚 Save 🗈 Create Copy 🛱 Save and Check In		
Name QR Visit Template		
Description:		< >
General Instructions Clearances Documents Status User Defined Fields		
Visit Site Encode Labs		
Visit Start: 2019-06-21 00:00		

Add the internal visitor clearance (that provides access to the doors on site)

🐓 Visit (Template) - QR Visit Template			-		×
🔜 Save and Close 🔚 Save 💼 Create Copy 🛱 Save and Check In					
Name: QR Visit Template					
Description:				~ ~	
General Instructions Clearances Documents Status User Defined Fields					
Clearances					
♥ Add 등 Remove					
Clearance Name	Clearance Partition	Description			
Visitor Internal Access	Default				

Save the template

(Ei)

Configure the Visit Site

The previously configured objects are now combined into the site configuration:

- 1. Check the option to email the QR codes to the visitors
- 2. Select the visitor perimeter template (this provides default perimeter access to the visitors for use with their QR code)
- 3. Select the visit template (This holds the internal clearance they receive upon checkin)

P Visit Site - Encode Labs	– 🗆 X
🔚 Save and Close 🔚 Save and New 🗎 Create Copy	
Name: Encode Labs Description:	
General Active Fields Hosts Documents Visit Site Default Visitor Partition: Default Email QR Codes to Visitors Visit Templates PAdd Er Remove	Visitor Template: Visitor Perimeter Template, v Visitor Label Layout: v
R Visit Template	Description

Testing: Creating a visit

(Ei)

- 1. Click "New Visit"
- 2. Select the template you created (holding the perimeter clearance)

6 4	C+CURE Portal	>	< + ~								-	
$\leftarrow \rightarrow$	0 ŵ	ා loc	alhost/CCURE_Portal/#/ccure/visits/c	alendar/m	onth?selectedSite=5000					□ ☆	\$	e
	Cornells, Stef Encode La	bs 👻					O Refresh	III Change App	Change Password	O Logout	🕄 Help	3 About
after 🗸	6/20/19				day	week	month			(10	New Visit
O Add	Filter		Clear Filter		June 2019					2	<no tem<br="">QR Visit</no>	plate> Template
					Sun	Mon	Tue	Wed	Thu	Fri	1	Sat
												1

Now you can complete the visit details.

When you completed entering the visitor data, select Save and Email

(Cornelis, Stefaan) (modified)		Save and E-mail
Details		· · · ·
Hosts		0
Visitors		0
Add Visitor	Enter Visitor Name or email	
Cornelis, Stefaan		Edit 👻
Instructions		>
Attachments		0

The visitor will receive the email containing the QR code:



The QR service will generate the credential for that person (log extract from the service log):

```
Received 1 upcoming visitor records for processing
Stefaan Cornelis - Adding QR credential with Activation on 2019-06-21 21:15:00Z
```

And the person will have been created inside the CCURE with the QR badge number.

(Eq)

.

- The badge holds the validity of the visit +/- the configured buffer time
 - This is configured in the configuration file of the service. Refer to Configuring the appSettings on page 12 for more information)
- Notice how the badge has the status "EXPIRED", because this visit is for the next day, and our test system is configured to activate the badge 2 hours before the official start of the visit, and 2 hours after.

and Close 📗	📑 Save and New 层 S	ave Current View: Defa	ault Personnel Edit View	-		
Credentials	Clearances Customer	Customer Extended Imag	ges Badging Custom Clearance	Previous Doors User-defined Fields	Documents Personnel Triggers	Web and Mobile
dd Card Acces	s = ™≣ Add PIN Only A	Access 📇 Remove 🔀	Validate CHUID Uniqueness	Assign Temporary 0 Lost and	0 Stolen Cards	
	Credential Id	Card Number	Access Type	CHUID Format	Credential Status	
	5001	3783714444	Card Access	Card Only	Expired	
eral User-defin	ned Fields				- Card Status	
eral User-defir Standard Fields	ned Fields Card Number: 378	3714444	Activa	ion: 2019-06-21 21:15	Card Status	
eral User-defir Standard Fields	Card Number: 378	3714444	Activa	ion: 2019-06-21 21:15	Card Status	
eral User-defin Standard Fields	ned Fields Card Number: 378 Facility Code: 0	3714444	Activa	ion: 2019-06-21 21:15	Card Status	

You can also see the visitor has the QR Perimeter Clearance as was configured on the visit template:

🙎 Personnel - Cornelis, Stefaan						
🔚 Save and Close 📓 Save and New 🔚 Save Current View: Default Personnel Edit View 🗸						
General Credentials Clearances Customer Customer Extended Images Badging Custom Clearance Previous Doors User-defined Fields Documents Personne	Triggers Web and Mo	bile				
Clearances						
* Add 📑 Remove						
Clearance Name Description Start Date End Date Notes						
Visitor Entrance						

When the visitor arrives, you can open the scheduled visit and check in the visitor. You can also assign a temporary credential to the visitor for use during the visit:

🐓 Ch	ck In Visitors - S	cheduled at 2019	9-06-20 20:15 for 17 hour(s) at Encod	e Labs (Cornelis, Stefaan_2019-06-20	-22:15_2625.6602)			- 0	×	
	Check In	On Watchlist	First Name	Last Name	Number of Visits	Last Visited	Card Number			
•			Stefaan	Comelis	1		3783714444	Edit		_
							1	Assign Te Request A	mporary Credential) tor

When you open the visitor record, you will now see he also received the "Visitor Internal Access" clearance that was assigned to the visit template:

2 Per	sonnel - Coi	rnelis, Stefaa	n									-		Х
🔚 Save	and Close 📗	Save and	New 📙 S	ave Current View:	Default	Personne	el Edit View		-					
General	Credentials	Clearances	Customer	Customer Extended	Images	Badging	Custom Clearance	Previous Doors	User-defined Fields	Documents	Personnel Triggers	Web and M	obile	
Cle	arances Add 📇	Remove												
	Clearance	ce Name	Descriptio	n Start Date			Er	nd Date		Note	es			
▶	Visitor Er	trance												
	Visitor Int	temal Acce												

Remarks: Number of cards per person:

E)

If you provide a badge to your visitor for Access Control, you need to make sure the system allows more than one credential from the system variables:

Name	Description	Value	Minimum	Maximum
Maximum Cards Per Person	The number of cards that users will be able to add to a single person record.	5	1	5

Appendix A

Considerations for SQL Express

(Eq)

When using SQL Express, you must enter the named instance of the server as well. The default value is (local)\SQLEXPRESS

If you can't connect to the SQL server instance, try the following steps:

- Open SQL Server Configuration Manager
- Open the TCP/IP properties (also make sure this is enabled)



- Find your local interface (localhost) this is IP12 in the example below
- On the TCP Port add 1433 as the default port for accepting connections

_	TCP Port		^
E	IP11		
	Active	Yes	- 6
	Enabled	No	
	IP Address	::1	
	TCP Dynamic Ports	0	
	TCP Port		
Ξ	IP12		
	Active	Yes	
	Enabled	Yes	
	IP Address	127.0.0.1	
	TCP Dynamic Ports	0	
	TCP Port	1433	
Ξ	IP13		
	Active	Yes	
	Enabled	No	
	IP Address	fe80::5efe:192.168.64.1%7	
	TCP Dynamic Ports	0	~
т	CP Port		
TO	P port		

Then restart the SQL service from the configuration manager

	Sql Server Configuration Ma	nager	
File Action View Help			
🗢 🔿 🖄 🖾 📓 🗟 🛛 🖲 🕐			
SQL Server Configuration Manager (Local)	Name	State	Start Mode
SQL Server Services	SQL Server (SQLEXPRESS81)	Stopped	Manual
SQL Server Network Configuration (32bit)	SQL Server (SSRSTEST)	Stopped	Manual
SQL Native Client 11.0 Configuration (S2t)	SQL Server Reporting Services (SSRSTEST)	Stopped	Manual
SQL Server Network Configuration	SQL Server Agent (SQLEXPRESS81)	Stopped	Other (Boot, S)
B_ Protocols for SCREET	SQL Server Agent (SSRSTEST)	Stopped	Manual
SOL Native Client 11.0 Configuration	🔊 SQL Server Browser	Stopped	Manual

Avoiding UAC issues

(E₁`

When performing the installation on a system that has User Account Control (UAC) activated, you need to run the installer as an administrator.

But this is not possible by default from an msi installer package:



There is a setup.exe containing the same msi installer inside of it, so you can run the installation as admin.



You can also run the msi installer manually from an Administrative command prompt to force it to run with admin privileges:

Command Providence	ot		
резктор арр	5	Run as administrator	
Search suggestions		Open file location	
🔎 cmd - See web r	ŝ	Unpin from Start	

If not launched as an admin, the installer will fail due to missing access rights:

뤻 Encodel	abs QR Credential Generator Installer Information	\times	
	Error 1939. Service " (QrService) could not be configured. This could be a problem with the package or your permissions. Verify that you have sufficient privileges to configure system services.		
	ОК		

DateTime issues

Windows 10 and Windows Server 2016 changed the date and time formatting settings for some cultures. Of particular concern are seven cultures for three different regions:

- Finnish
- Norwegian Bokmål ("Norway" and "Svalbard and Jan Mayen" variants)
- Serbian (variants "Cyrillic, Kosovo", "Latin, Montenegro", "Latin, Serbia" and "Latin, Kosovo")

For these cases, it is possible to change the used DateTime format in the settings file under appSettings. You can see this issue generating the following log entry as well in the application:

System.Data.SqlClient.SqlException (0x80131904): The conversion of a nvarchar data type to a datetime data type resulted in an out-of-range value.

In a particular Norwegian support case the time separator ":" (colon) was replaced with "." (period) resulting in a format HH.mm.ss even when specified to be a colon.

You can force a colon by using "\:" as a separator.

Sample ISO DateTime format:

```
<add key="DateTimeFormat" value="yyyy-MM-dd HH:mm:ss"/>
```

Sample DateTime format to bypass the locale issue:

<add key="DateTimeFormat" value="yyyy-MM-dd HH\:mm\:ss"/>

To help you find formatting issues, you can run the DateTimeCheck application that can be downloaded from our website under the support section.

The application will show different conversions on your target system to help provide insights into how to fix the issue.

(G)



© 2018-2020 ENCODE LABS BVBA

6