

# EXgarde Suprema Integration

User Manual

UM0102\_3

## Foreword

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## Cautions and Notes

The following symbols are used in this guide:



**CAUTION!** This indicates an important operating instruction that should be followed to avoid any potential damage to hardware or property, loss of data, or personal injury.



**NOTE:** This indicates important information to help you make the best use of this product.

## Document Control

Issue	Date Issued	Change Summary	Issued by
1	23/02/2017	Initial Release	GFH
2	08/05/2017	Updates to include new features	GFH
3	11/03/2021	Updates document to separate license options	TBA

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# 1. Overview

The EXgarde Suprema integration module allows the latest Suprema Biometric technology to integrate with the latest EXgarde access control software, providing a high level of security with confidence.

The integration module provides the following features.

- Biometric Enrolment using Suprema W2 readers
- Template distribution to readers
- Monitor reader online/offline status.
- Display reader events in EXgarde including template download progress
- Integration with EX series and MICROgarde controllers using Wiegand reader channels

## 1.1 Compatibility

The EXgarde Suprema integration module is compatible with all Suprema readers running the Suprema SDK 2 interface.

# 2. Prerequisites

The follow criteria must be met for the integration to function correctly.

- EXgarde 4.6 pro or higher installed
- .Net 4.5 installed
- An additional network user
- Suprema BioEntry finger License feature enabled
- All connections to Suprema readers have been established and all IP addresses recorded
- All reader serial numbers recorded
- BioStar2 software installed for reader configuration.

### 3. Setting Up Suprema

This part of the setup will need to be carried out in accordance with the Biostar2 software provided. The screenshot below is an example of the All Devices page of the Biostar2 software.

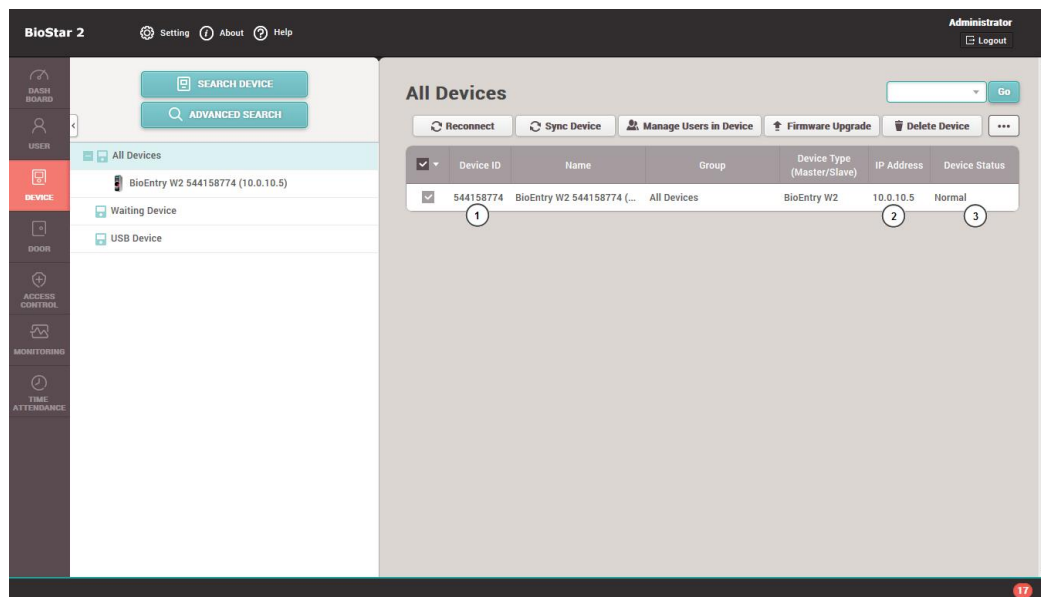


Figure 1

The numbered item are required by EXgarde to complete the setup.

- 1- Serial number of the reader
- 2- IP address of the reader
- 3- Status of the reader



**NOTE:** This indicates important information to help you make the best use of this product.



**CAUTION!** Ensure the Wiegand Input / Output mode in the reader advanced settings is set to OUTPUT

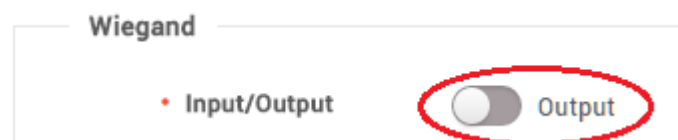


Figure 2

In the following example we are setting the output to 37-bit Wiegand.

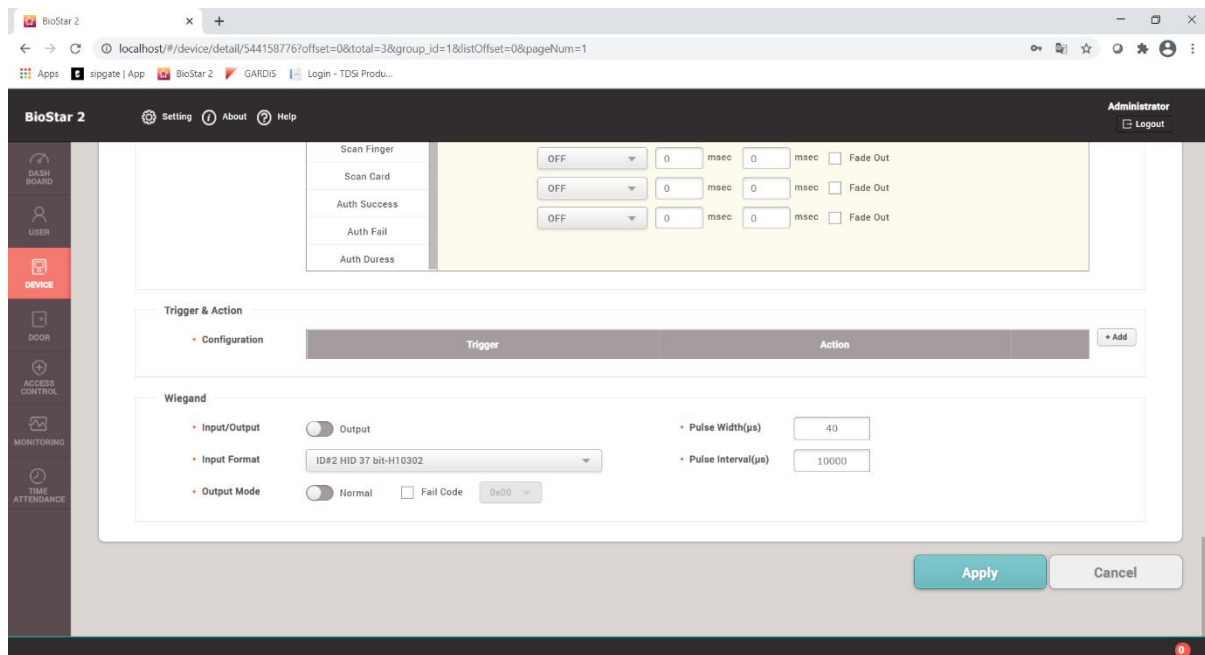


Figure 3

Go to Setting->Card Formats in the Biostar Software. Take note of the format used for the output.

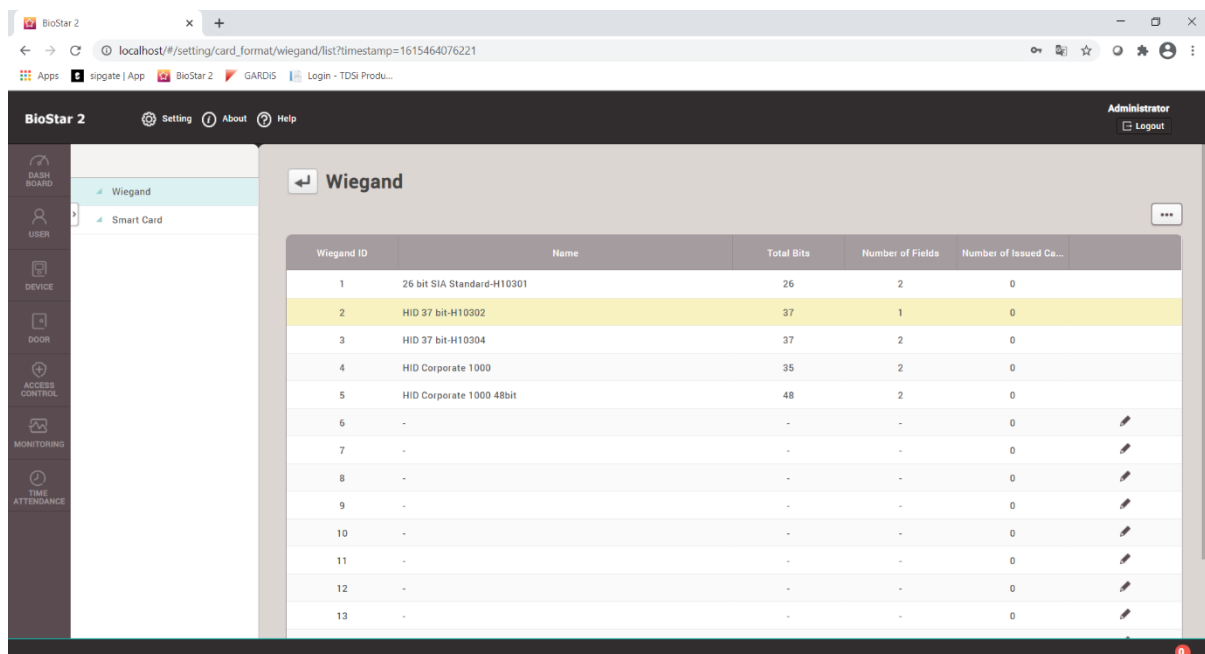


Figure 4

Go into the TDSi Suprema folder and edit the following configuration file :-  
SupremaW2Integration.exe.config. Ensure the SetTDSiWiegandConfig value equals the 37-bit Wiegand format in Figure 4 e.g. in the following example it is set to 2.



```
<?xml version="1.0" encoding="utf-8"?>
<configuration>
  <configSections>
    <!-- For more information on Entity Framework configuration, visit http://go.microsoft.com/fwlink
    <section name="entityFramework" type="System.Data.Entity.Internal.ConfigFile.EntityFrameworkSec
  </configSections>
  <startup>
    <supportedRuntime version="v4.0" sku=".NETFramework,Version=v4.5" />
  </startup>
  <connectionStrings>
    <add name="EXgarde" connectionString="Server={0}; Database={1}; User ID={2}; Password={3}" prov
  </connectionStrings>
  <appSettings>
    <add key="AccessControlSystem" value="EXgarde" />
    <add key="DatabaseServer" value=".\EXGARDE" />
    <add key="Database" value="EXGARDE" />
    <add key="DatabaseUserId" value="ExgardeUser" />
    <add key="DatabasePassword" value="GV72JPrY6YzICxowhREkpa3E4U+u0tb34Q0KJer6ys=" />
    <add key="KeyType" value="6" />
    <add key="SetTDSiWiegandConfig" value="2" />
    <add key="WiegandFormatId" value="42" />
    <add key="DesfirePrimaryKey" value="5WT7QuLQ30y4YudepuemT8wY5mV3YD2kJrx/dpXslPYxTVZ+3hk+etNre8a
    <add key="DesfireAppId" value="1" />
    <add key="DesfireFileId" value="1" />
    <add key="TCMClientType" value="11" />
    <add key="SSLEnabled" value="0" />
    <add key="RootCertificatePath" value="Certificates/ca.cert.pem" />
    <add key="ServerCertificatePath" value="Certificates/server.cert.pem" />
  </appSettings>
</configuration>
```

Figure 5

Once the readers have been configured correctly, ensure the BioStar 2 Service has been stopped. Failure to do so will prevent EXgarde from connecting to the biometric readers.

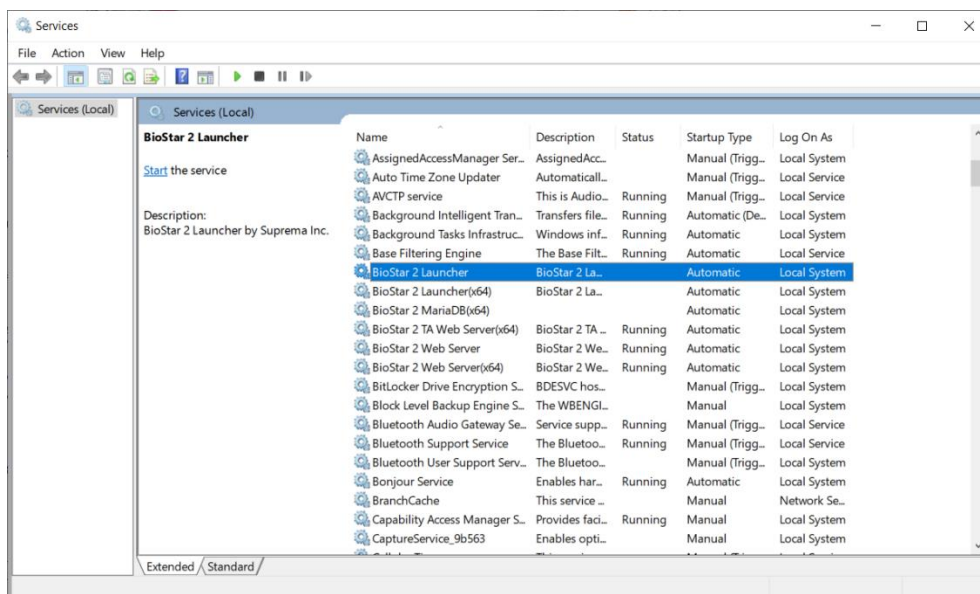


Figure 6



**CAUTION! Ensure the BioStar 2 Service has STOPPED before running EXgarde Communications**

## 4. Suprema W2 service

To enable communications between EXgarde and the Suprema W2 readers, the Suprema W2 Service installed must be running.

The Suprema W2 Service Manager can be used to install the service and set the start-up method. This can be found in C:\Program Files (x86)\TDSi\Exgarde\Suprema W2\SupremaW2IntegrationServiceManager.exe

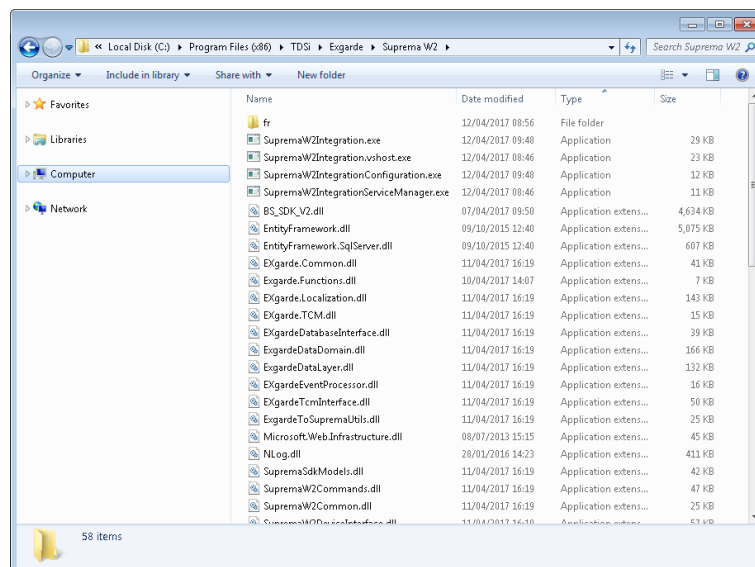


Figure 7

The Suprema Service Manager can be used to control/configure the Suprema Service; the start/stop buttons can be used to start or stop the service. When you first run EXgarde, the Suprema Service will be set to run in manual mode by default. This can be changed to run in Automatic mode by right clicking on the shortcut you have just created and selecting Run as administrator, click yes on the next screen to accept running as Administrator.

The Suprema Service Manager will open and 'Start-up type' will default to Manual. To enable Automatic start-up of the service, click Stop then Uninstall, then select Automatic from the dropdown list and click Install, next click on Start. From now on every time the PC running EXgarde is started the Suprema Service will start.

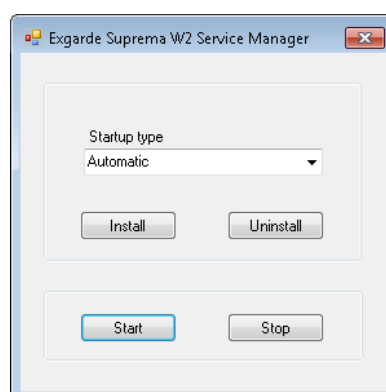


Figure 8



## 4.1 Suprema W2 Service Configuration

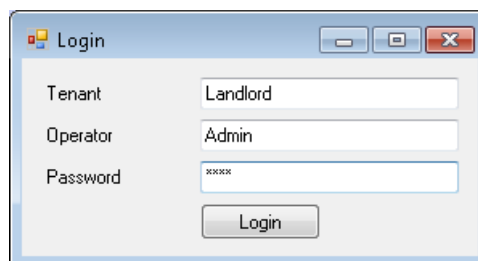
If a client installation of EXgarde is being used or if EXgarde is connecting to a custom database, the connections will need to be set up for the service to function correctly.

This can be found in C:\Program Files (x86)\TDSi\Exgarde\Suprema W2\SupremaW2IntegrationConfiguration.exe



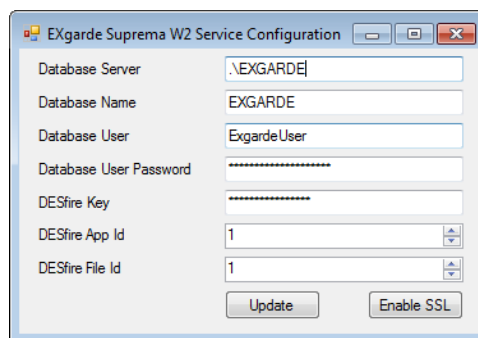
**NOTE: The configuration tool will need to be run as administrator**

To access the service configuration tool, complete the login details



A Windows-style dialog box titled "Login". It contains three text input fields: "Tenant" with the value "Landlord", "Operator" with the value "Admin", and "Password" with masked characters "xxxxx". Below the fields is a "Login" button.

Figure 9



A Windows-style dialog box titled "EXgarde Suprema W2 Service Configuration". It contains several text input fields and two dropdown menus. The fields are: "Database Server" (value: ".\EXGARDE"), "Database Name" (value: "EXGARDE"), "Database User" (value: "ExgardeUser"), "Database User Password" (masked with asterisks), and "DESfire Key" (masked with asterisks). The two dropdown menus are "DESfire App Id" and "DESfire File Id", both with the value "1". At the bottom are "Update" and "Enable SSL" buttons.

Figure 10

**Database server** – This needs to be the address of the server.

**Database Name** – This needs to be the name of the server .

**Database User** – This need to be the user login.

**Database User Password** – This needs to be the database password.

**DESfire Key** – Encrypton key used to access the DESfire cards

**DESfire App ID** – Location of data stored on DESfire card

**DESfire File ID** – Location of file store within the application

Once the information entered is correct click on **Update**

## 4.2 SSL (Secure Socket Layer) control

The SSL control feature will allow the data communicated between the service and the readers using a 4096 bit encrypted RSA key. This can also be configured to use custom certificates.

### 4.2.1 Enable SSL

To enable SSL between readers and the service, login in to the service configuration tool and click on the **Enable SSL** button at the bottom of the page.

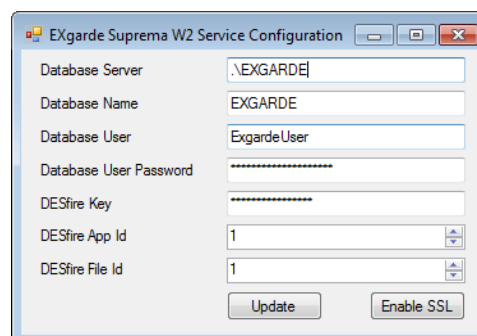


Figure 11

A message box will appear informing that the service will need to be restarted.

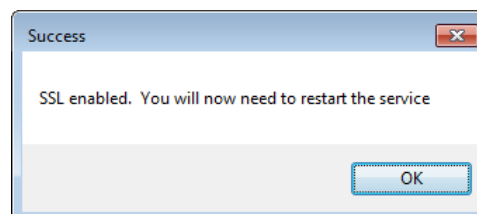


Figure 12

Click on the **OK** button and restart the service to complete the process.

### 4.2.2 Disable SSL

To disable the SSL feature, log in to the configuration tool and click on the **Disable SSL** button.

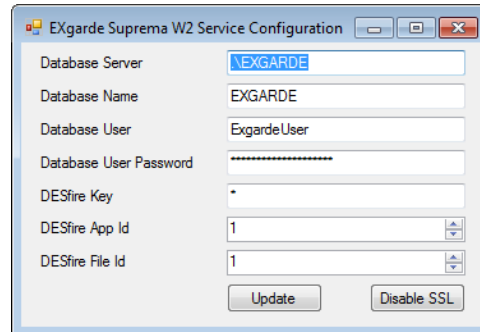


Figure 13

A message will appear informing of disabled readers and the requirement to restart the service.

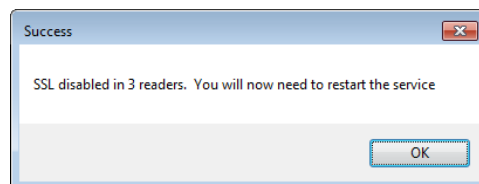


Figure 14

## 4.3 DESFire Card Configuration

The current encryption method use by Suprema is the Triple DES format, therefore the Suprema Service Configuration tool can also be used to allow the readers to operate with the Triple DES card technology.

For the Triple DES cards to function with the Suprema readers, the Master key, Application ID and the File ID must be available.

To set the application and file id's, log in to the configuration tool.

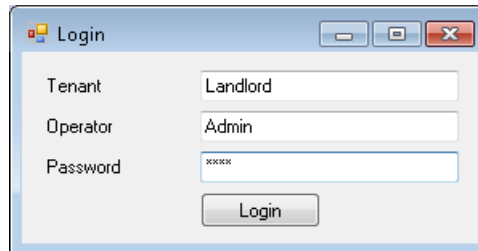
A Windows-style login dialog box titled "Login". It contains three input fields: "Tenant" with the text "Landlord", "Operator" with the text "Admin", and "Password" with masked characters "xxxxxx". Below the fields is a "Login" button.

Figure 15

The DESFire Key application and file ID's will now be available to amend.

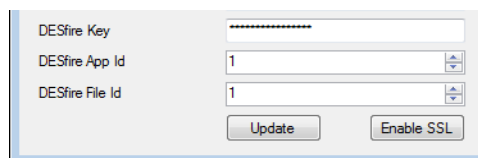
A configuration dialog box for DESFire keys. It has three input fields: "DESFire Key" (masked with asterisks), "DESFire App Id" (containing the number "1"), and "DESFire File Id" (containing the number "1"). At the bottom are two buttons: "Update" and "Enable SSL".

Figure 16

Perform the necessary changes and click on the **Update** button.



**NOTE:** The service will need to be restarted and an ACU reset will need to be performed

## 5. Setting up Suprema in EXgarde

### 5.1 Suprema W2 Readers connected to controllers

Log into the EXgarde using the default password **tdsi**. This can be changed at a later date if required.

Once logged in, you will be presented with the EXgarde Home Page. From here you will be able to add the Suprema readers to the system.

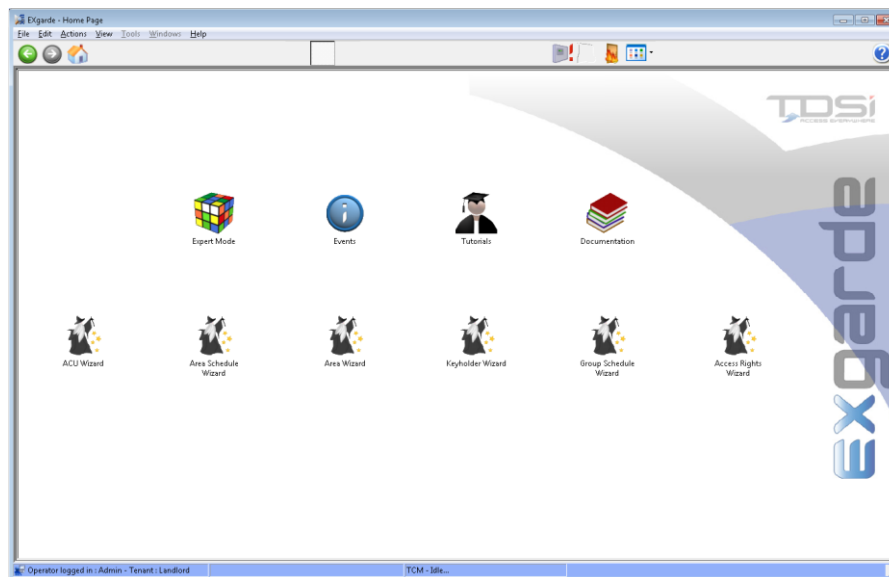


Figure 17

To begin adding the first reader, click on the ACU Wizard icon. This will guide to through the necessary steps for you to get the first reader online.

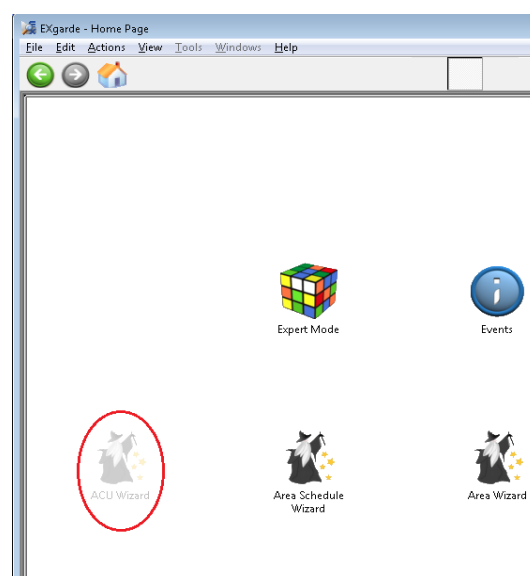


Figure 18

Follow the step through the process and when prompted to select the type of reader, select Suprema from the list.

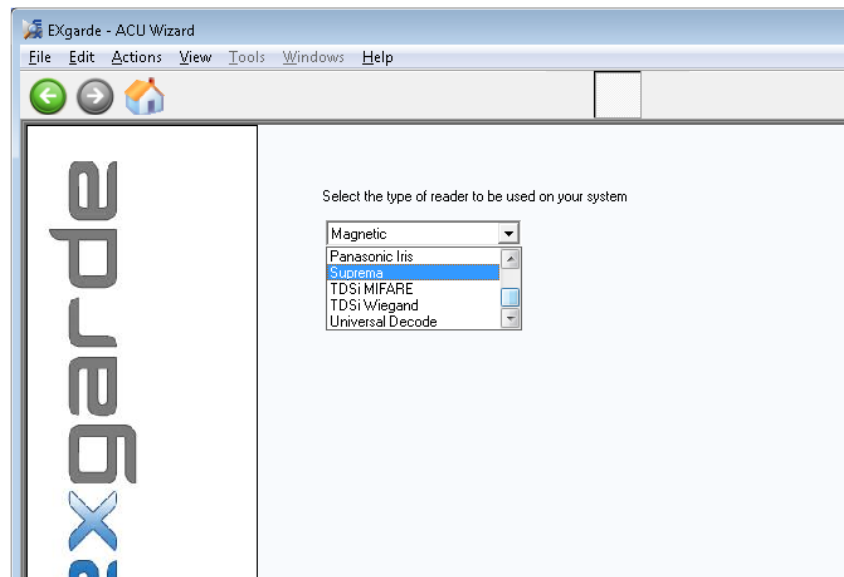


Figure 19

To add further door controllers as required, click the Start Again button. When all the readers have been added, click on the finished button.

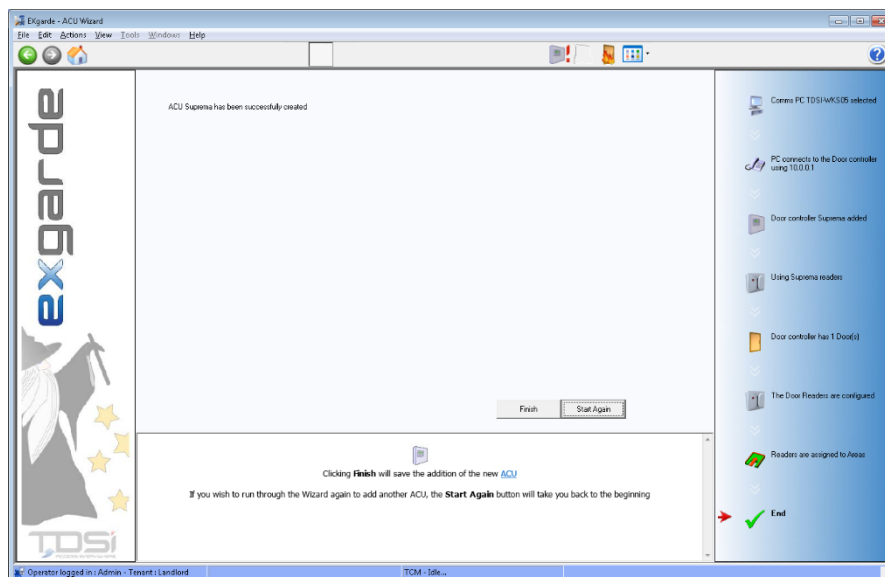


Figure 20

You will now need to set up the readers in the system. Click on the Expert Mode icon on the home page.

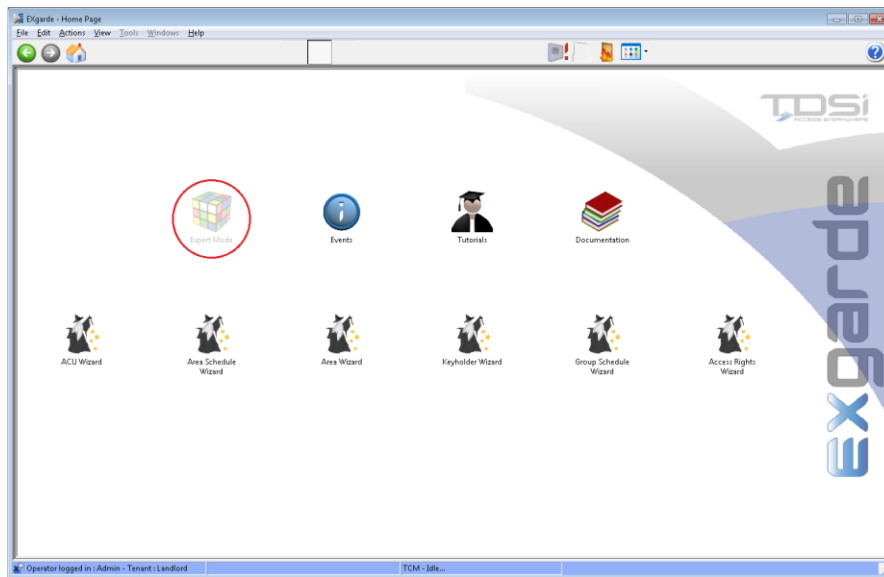


Figure 21

From the Shortcut bar on the left-hand side, click on the **Equipment** button.

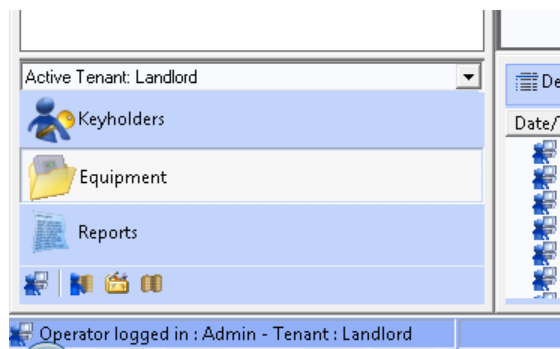


Figure 22

To create a portal for the Suprema BioEntry W2 or BioStation readers, click on the Summary button and the select **Portals**.

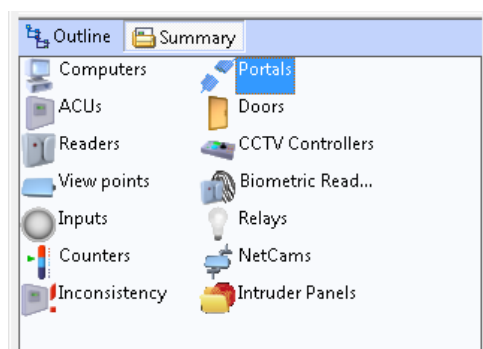


Figure 23

In the middle of the screen, click on the **New** button. Enter the name of your portal in the Name field

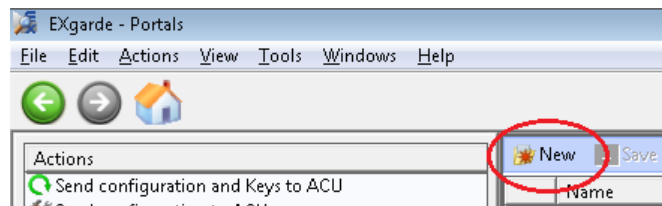


Figure 24

Select the Type of Portal to be Biometric

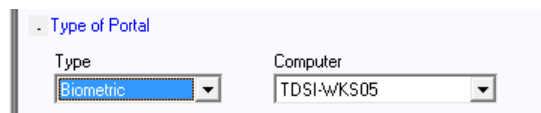


Figure 25

Select the Biometric Reader Model to be Suprema W2.

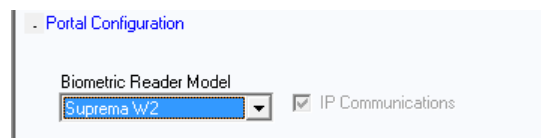


Figure 26

Check the IP communications Box and the click on **Save**.

Next in the Summary List on the left-hand side of the screen, select the Biometric Readers from the list.

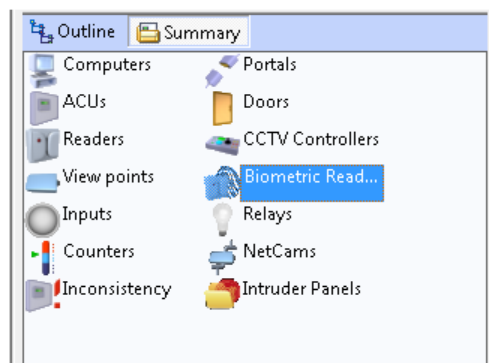


Figure 27

Click on the **New** button to create a new Biometric reader.

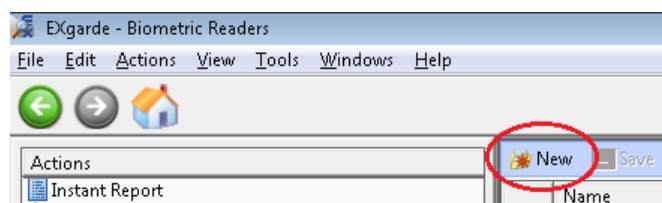


Figure 28

In the Reader properties window, complete the following fields



New Bio Reader 1

Information

Long Name Comment

Biometric Type

Biometric Reader Type Biometric Reader Model

Suprema W2 BioEntry W2

Unit number

☐ Do not distribute templates to reader

Communication

Portal

TDSI-WKS05 : Suprema W2

Connected to ACU: Reader

None

IP Address IP Port

0 . 0 . 0 . 0 51211

- Type the name for the reader into the Name field.
- Select the Biometric Type as Suprema W2 and the model as BioEntry W2.
- Enter the Unit Serial Number as specified in the Suprema BioStar2 software.
- Select the Controller and reader to which the reader is physically connected to
- Finally, enter the IP address for the Suprema reader and the port to 51211
- Once done, click **Save**.

To add more readers to the system, repeat this process until finished.

Finally, Start the EXgarde Communications application to establish connect to the door controllers and readers.

## 6. Biometric Enrolment Reader

To specify a reader for enrolment, Click on **Tools** and select **Options**

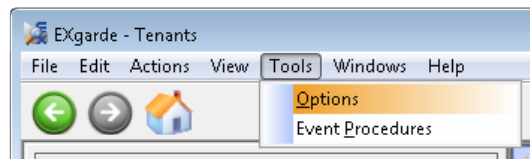


Figure 29

From the options, select **Biometric Enrolment**.

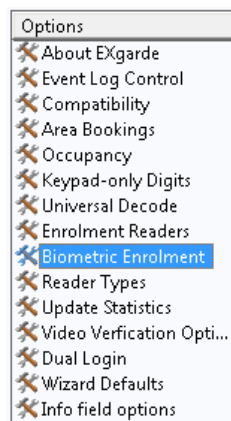


Figure 30

Next, scroll the top bar until the **Suprema BioEntry Finger** option appears.

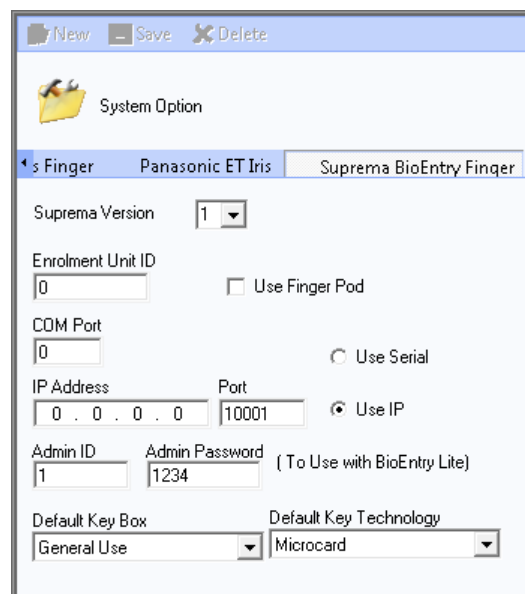


Figure 31

Enter the following details into the fields

- Suprema Version - Set to 2
- Enrolment Unit ID – Reader Serial number
- IP address – Reader IP Address
- Port – set to 51211

The screenshot shows the 'System Option' window for the 'Suprema BioEntry Finger' device. The 'Suprema Version' dropdown is set to '2'. The 'Enrolment Unit ID' text field contains '544158774'. The 'IP Address' text field contains '10 . 0 . 10 . 5' and the 'Port' text field contains '51211'. The 'Default Key Technology' dropdown is set to '37-bit Wiegand'. Red circles highlight the 'Suprema Version' dropdown, the 'Enrolment Unit ID' text field, the 'IP Address' and 'Port' text fields, and the 'Default Key Technology' dropdown.

Field	Value
Suprema Version	2
Enrolment Unit ID	544158774
IP Address	10 . 0 . 10 . 5
Port	51211
Default Key Technology	37-bit Wiegand

Figure 32

## 7. Adding a Keyholder to EXgarde

To set up and keyholder on the EXgarde system, click on the **Keyholders** button on the Shortcut Bar.



Figure 33

Click on the **Keyholders** tab and select the **All keyholders** from the list

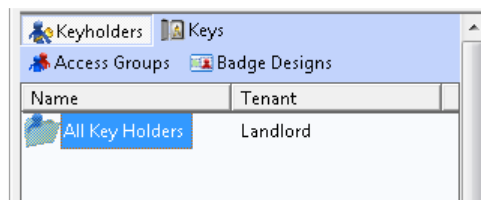


Figure 34

Click on the **New** button to create a new Keyholder. This will allow full access to the Biometric integration features of the software.

- Enter the user's name into the **Name** field.
- Enter **Key to issue** number in the **Keyholder Keys** section.
- Change the **Type** to 37-bit Wiegand and type in a key number. This is the number used to identify that keyholder in both the fingerprint template and also door controller.

Click on the **Save** button when done.

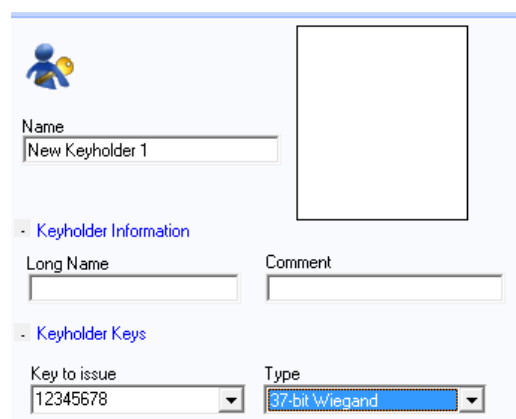
The screenshot shows the 'New Keyholder' form. It has a header with a person icon. Below the header, there is a 'Name' field with the text 'New Keyholder 1'. To the right of the name field is a large empty box. Below the name field, there is a section titled 'Keyholder Information' with a minus sign. This section contains a 'Long Name' field and a 'Comment' field. Below this, there is a section titled 'Keyholder Keys' with a minus sign. This section contains a 'Key to issue' field with the value '12345678' and a 'Type' dropdown menu set to '37-bit Wiegand'.

Figure 35

## 8. Adding a Keyholder Biometric Template

With the Keyholder entered into the system, click on the **Biometrics** tab at the top of the screen.

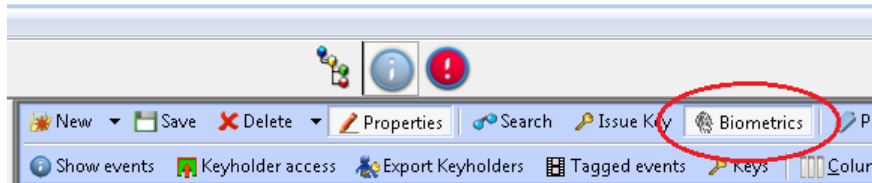


Figure 36

With the Biometric window now open, click on the **Type of biometrics** and select **Suprema Finger** and from the **Associate Key** drop down, select the keyholders 37-bit Wiegand key

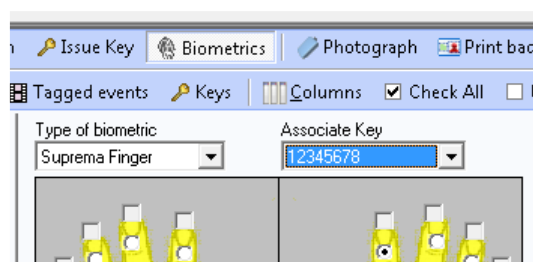


Figure 37

Next, click on the radial button of the finger to be enrolled and then click **Capture**.

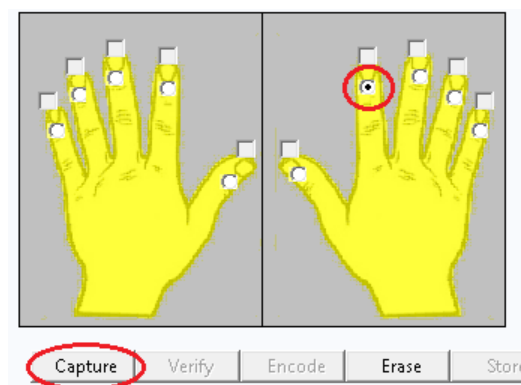


Figure 38

The window below will pop up prompting you to present the finger twice on the reader to enrol

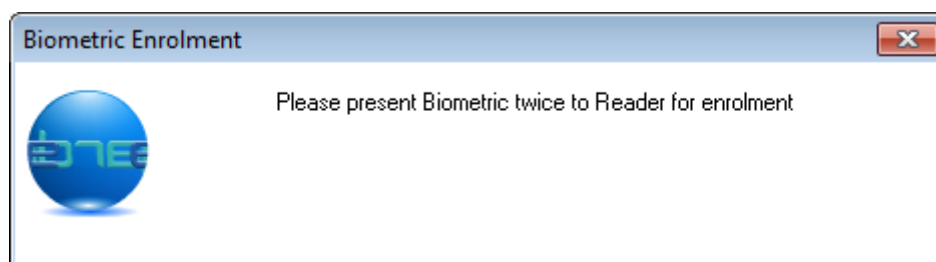


Figure 39

If the template has been captured successfully, the below message box will appear.

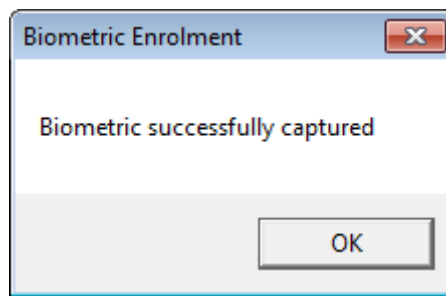


Figure 40

If however, the template was not successfully captured, the below message will appear and you will have to recapture the template.

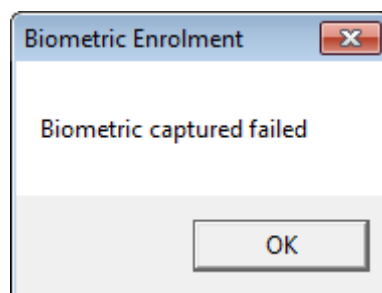


Figure 41

With the template now captured, click on the **Store** button to save the template to the database. This will also send the template to all applicable readers.

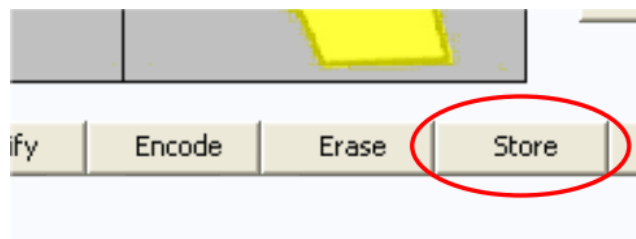


Figure 42

To test the system, present your finger to the reader. If the system is operating correctly the reader will indicate that the print has been accepted.

## 9. Reloading templates to readers

To reload templates to readers firstly select the reader from either the Outline View *figure 43* or the main window *figure 44*

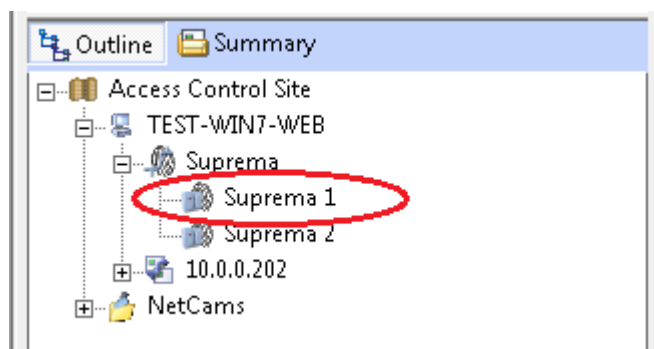


Figure 43

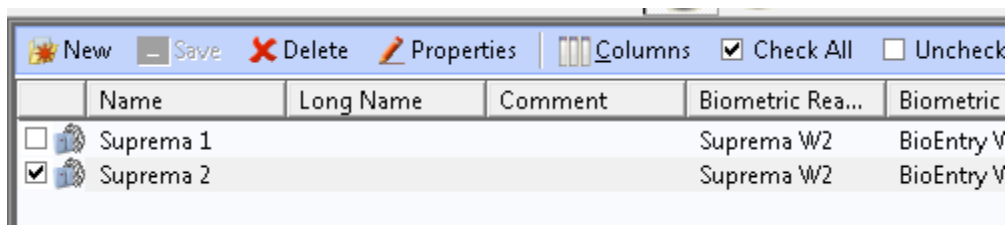


Figure 44

Next click on **Reload Templates** from the Actions windows.

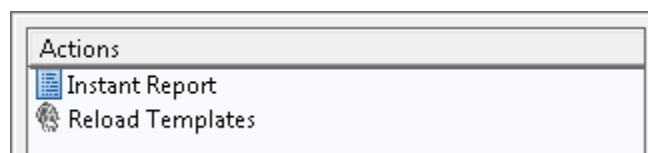


Figure 45

The action will display **Action Processed** while the templates are being loaded

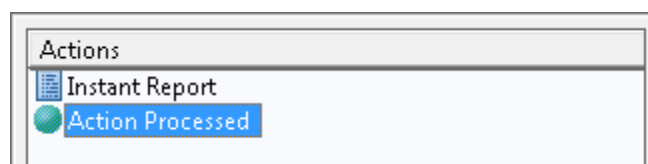


Figure 46

The action will also be displayed in the event window.

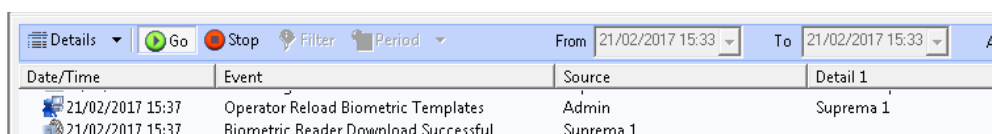


Figure 47

## 10. Troubleshooting

### Connection Issues

- Check RJ45 is connected, and unit is powered.
- Check unit can be pinged.
- Check correct IP address has enter and matches unit settings.
- Check Suprema service has correct firewall rights

### Distribution Error

- Check serial number entered matches unit.
- Check unit is displayed online in EXgarde.

### Reader Shown Offline

- Check IP address and port are correct.
- Check the EXgarde Suprema service is running.
- Check conflicting services are not running I.E. BIOstar service
- Check connection I.E., can you ping unit?





**TDSi UK**, Unit 10, Concept Park, Innovation Close, Poole, Dorset, BH12 4QT, UK

**WWW.TDSi.CO.UK**  +44(0)1202 723 535  sales@tdsi.co.uk  +44(0)1202 724 975