



# IXM WEB Integration with DNA Fusion by Open Options

## Installation Instructions

V3.0





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## Table of Contents

<b>1. Introduction</b> .....	<b>7</b>
Purpose .....	7
Description .....	7
Acronyms .....	7
Field Mappings .....	8
<b>2. Compatibility</b> .....	<b>9</b>
Invixium Readers .....	9
Software Requirements .....	9
Other Requirements .....	10
Compatibility Matrix for IXM WEB & Open Options Integration: .....	10
<b>3. Checklist</b> .....	<b>11</b>
<b>4. List Summary</b> .....	<b>12</b>
<b>5. Prerequisites for Installing Invixium IXM WEB Software</b> .....	<b>13</b>
Getting an IXM WEB activation key .....	13
Minor Checklist and Considerations .....	15
<b>6. Installing IXM WEB</b> .....	<b>16</b>
Software Install .....	16
<b>7. Configuring Email Settings using IXM WEB</b> .....	<b>28</b>
Email Setting Configuration .....	28
<b>8. Software and Module Activation</b> .....	<b>33</b>
IXM WEB Activation .....	33
Open Options Module Activation .....	36
<b>9. Configuring IXM Link for Open Options</b> .....	<b>39</b>
<b>10. Adding an Invixium Reader in the IXM WEB application</b> .....	<b>43</b>
<b>11. Adding an Invixium Device to a Device Group</b> .....	<b>48</b>
Assign Wiegand to Invixium Readers .....	49
Configuring Panel Feedback with Open Options .....	52
<b>12. Enrollment Best Practices</b> .....	<b>54</b>
Fingerprint Enrollment Best Practices .....	54



---

Avoid Poor Fingerprint Conditions .....	54
Fingerprint Image Samples .....	55
Fingerprint Imaging Do's and Don'ts .....	56
Finger Vein Enrollment Best Practices .....	57
Face Enrollment Best Practices .....	58
<b>13. Appendix .....</b>	<b>59</b>
Pushing Configurations to Multiple Invixium Readers .....	59
Configuring for OSDP connection .....	62
Wiring and Termination .....	66
Wiring .....	67
Wiegand Connection .....	69
Wiegand Connection with Panel Feedback .....	70
OSDP Connections .....	71
<b>14. Troubleshooting .....</b>	<b>72</b>
Reader Offline from IXM WEB Dashboard .....	72
Logs in IXM WEB Application .....	75
<b>15. Support .....</b>	<b>77</b>
<b>16. Disclaimer and Restrictions .....</b>	<b>77</b>



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## List of Figures

Figure 1: IXM WEB Online Request Form.....	13
Figure 2: Sample Email After Submitting Online Request Form .....	14
Figure 3: IXM WEB Installer.....	16
Figure 4: IXM WEB Installation .....	19
Figure 5: IXM WEB Installation Completed .....	20
Figure 6: IXM WEB Icon - Desktop Shortcut .....	21
Figure 7: IXM WEB Database Configuration .....	21
Figure 8: SQL Database Configuration .....	22
Figure 9: IXM WEB Database Name.....	23
Figure 10: IXM WEB Administrator User Configuration .....	24
Figure 11: Save Database Configuration .....	26
Figure 12: IXM WEB Login Page .....	27
Figure 13: Configure Email .....	28
Figure 14: IXM WEB - SMTP Settings.....	29
Figure 15: IXM WEB - Save Email Settings .....	30
Figure 16: IXM WEB - Test Connection .....	30
Figure 17: IXM WEB - Enter Email ID .....	31
Figure 18: IXM WEB - Forgot Password .....	32
Figure 19: IXM WEB - Enter Login Credentials .....	33
Figure 20: IXM WEB - License Setup.....	34
Figure 21: IXM WEB - Online Activation.....	35
Figure 22: IXM WEB – Open Link Activation .....	36
Figure 23: Open Options License Key Email.....	37
Figure 24: IXM WEB - Activate Open Options Link License .....	38



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Figure 25: IXM WEB - Link Menu.....	39
Figure 26: IXM WEB - Enable Open Options Link Module .....	40
Figure 27: IXM WEB - Sync Direction .....	41
Figure 28: IXM WEB - Auto Transfer No .....	41
Figure 29: IXM WEB - Auto Transfer Yes.....	41
Figure 30:IXM WEB - Sync Activities .....	42
Figure 31: IXM WEB - Devices Tab .....	43
Figure 32: IXM WEB - Search Device Using IP Address.....	44
Figure 33: IXM WEB - Register Device .....	45
Figure 34: IXM WEB - Device Registration Complete .....	46
Figure 35: IXM WEB - Dashboard, Device Status .....	47
Figure 36: IXM WEB - Assign Device Group.....	48
Figure 37: IXM WEB - Navigate to Access Control Tab .....	49
Figure 38: IXM WEB - Save Output Wiegand.....	51
Figure 39: IXM WEB - Panel Feedback.....	52
Figure 40: IXM WEB - Configuring Panel Feedback in IXM WEB.....	53
Figure 41: IXM WEB - Save Panel Feedback.....	53
Figure 42: Fingerprint Enrollment Best Practices .....	54
Figure 43: Fingerprint Images Samples .....	55
Figure 44: Finger Vein Enrollment Best Practices .....	57
Figure 45: Face Enrollment Best Practices .....	58
Figure 46: IXM WEB - Broadcast Option.....	59
Figure 47: IXM WEB - Wiegand Output Selection in Broadcast .....	59
Figure 48: IXM WEB - Broadcast Wiegand Output Settings.....	60
Figure 49: IXM WEB - Broadcast to Devices.....	61



---

Figure 50: IXM WEB - OSDP Settings .....	62
Figure 51: IXM WEB - Save OSDP Settings .....	65
Figure 52: Earth Ground Wiring .....	66
Figure 53: IXM TITAN – Top & Bottom Connector Wiring .....	67
Figure 54: Power, Wiegand & OSDP Wires .....	68
Figure 55: IXM TITAN - Wiegand .....	69
Figure 56: IXM TITAN – Panel Feedback.....	70
Figure 57: IXM TITAN – OSDP Connections.....	71
Figure 58: IXM WEB - Device Communication Settings.....	72
Figure 59: IXM WEB - Server URL Setting.....	73
Figure 60: IXM WEB - Server URL Setting from General Settings .....	74
Figure 61: IXM WEB - Enable Device Logs.....	75
Figure 62: Save Device Log File .....	75

## List of Tables

Table 1: Compatibility Matrix for IXM WEB & Open Options .....	10
Table 2: Task List Summary .....	12
Table 3: System Related Checklist .....	15
Table 4: Port Information .....	15
Table 5: IXM WEB - OSDP Configuration Options .....	64
Table 6: IXM WEB - OSDP Text Options .....	64
Table 7: Logs Folder Location.....	76



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# 1. Introduction

## Purpose

This document outlines the process of configuring the software integration between DNA Fusion by Open Options and Invixium devices.

## Description

IXM Link, a licensed module in IXM WEB, is required to synchronize the user database between IXM WEB (where biometric enrollment for users is performed) and DNA Fusion Software (where access rules for the users and the organization are managed).

 **Note: To activate IXM Link within IXM WEB, the installer must contact Invixium Support at [support@invixium.com](mailto:support@invixium.com) to obtain the activation key.**

The following sections will describe how to set up and configure IXM Link to keep IXM WEB users in sync with DNA Fusion by using “Web Service” to import and export cardholders.

## Acronyms

Acronym	Description
API	Application Programming Interface
IXM	Invixium


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## Field Mappings

The following are the DNA Fusion fields that are mapped to IXM WEB.

DNA Fusion Field	IXM WEB Field	Notes
First name	First Name	
Last name	Last Name	
Activation	Start Date (Card)	For cases when this is null in IXM WEB, the current date and time will be assigned as the card's activation date.
Deactivation	End Date (Card)	For cases when this is null in IXM WEB, the end date will be one year from the current date and the assign time will be 12 AM (00:00:00).
Credential	Number (Cards)	
Access level Groups	User Group	Access Level Group can only import in IXM WEB.
PIN	Card PIN	
F/C	Facility Code	
Issue	Issue Level	
Card Type	Card Type	Card Type can only import in IXM WEB.
Photo	Photo	

 Note: Multiple Cards – DNA Fusion can have multiple identifiers (cards) per person, and IXM WEB supports a maximum of 10 cards per employee.





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## 2. Compatibility

### Invixium Readers


TITAN	TFACE	TOUCH2	SENSE2	MERGE2	MYCRO
All models	All models	All models	All models	All models	All models

### Software Requirements

<b>Application</b>	<b>Version</b>
Open Options	8.1.0.3
Invixium IXM WEB	2..3.0.0
Operating Systems	Windows Server 2008 R2 SP1 Windows Server 2012 Windows Server 2012 R2 Windows 10 Professional Version Windows Server 2016 Standard Windows Server 2019
Microsoft .NET Framework	.NET Framework 4.8
Database Engine	SQL Server 2014 or higher
Internet Information Services (IIS)	Microsoft® Internet Information Services version 7.5 or higher
Web Browser	Google Chrome Mozilla Firefox Microsoft Edge (Internet Explorer not recommended)

## Other Requirements

Server	2.4 GHz Intel Pentium or higher
RAM	8 GB or higher
Networking	10/100Mbps Ethernet connections

 Note: Server requirements mentioned are ideal for small to medium business installations.  
 For large enterprise installation server requirements, contact [support@invixium.com](mailto:support@invixium.com).

## Compatibility Matrix for IXM WEB & Open Options Integration:

IXM WEB version	Open Options version	Compatible
IXM WEB 2.2.224.0	8.1.0.3	Yes
IXM WEB 2.2.230.0	8.1.0.3	Yes
IXM WEB 2.2.252.0	8.1.0.3	Yes
IXM WEB 2.2.330.0	8.1.0.3	Yes
IXM WEB 2.3.0.0	8.1.0.3	Yes

Table 1: Compatibility Matrix for IXM WEB & Open Options



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### 3. Checklist

<b>Item List</b>	<b>Interface</b>
Prerequisites For IXM WEB Installation	Invixium
Installation of IXM WEB	Invixium
Email Configuration in IXM WEB	Invixium
IXM WEB And IXM Link Activation	Invixium
Configure IXM Link for DNA Fusion	Invixium
Creation of System User in IXM WEB for enrollment	Invixium
Configure Invixium Reader	Invixium
Add an Invixium device to a device group	Invixium

## 4. List Summary

Task	IXM WEB Task List	DNA Fusion Task List
1	Configure IXM Link for Open Options	Mandatory configurations for getting access in Open Options
2	Register the IXM Device and configure settings as per the requirement	
3	Configure OSDP settings in the device for integration with Access Panel	
4	Configure Wiegand settings in the device for integration with Access Panel	

Table 2: Task List Summary

## 5. Prerequisites for Installing Invixium IXM WEB Software

### Getting an IXM WEB activation key

#### Procedure

#### STEP 1

Complete the online form to receive instructions on how to download IXM WEB:

<https://www.invixium.com/download-ixm-web/>.

### IXM WEB Download and Activation

Fill out the details below to receive an email with steps to download, install and activate IXM WEB.

**Who are you?**

Distributor  
 Access Control Panel Manufacturer  
 Installer/Integrator  
 End User

**Customer Details**

Please provide details of the End-User who has purchased Invixium biometric solutions and where they will be installed. The Activation License for IXM WEB will be issued in their name and will provide them access to future upgrades and support

First Name*	Last Name*	Company Email*
Company Name*	Select Country* <span style="font-size: x-small;">v</span>	Phone Number*

**Installer Details**

Please provide details of the person and/or company responsible for installing IXM WEB at the aforementioned customer's facility. The license key will be emailed to the customer email ID as well as the email ID provided below.

First Name*	Last Name*	Company Email*
Company Name*	Phone Number*	
Street Address 1	Street Address 2	City*
State*	Select Country* <span style="font-size: x-small;">v</span>	Postal Code*

< Back
Submit

Figure 1: IXM WEB Online Request Form

After submitting the completed form, an email will be sent with instructions from [support@invixium.com](mailto:support@invixium.com) to the email ID specified in the form.

Please ensure to check the spam or junk folder.

See below for a sample of the activation email that includes instructions on how to download and install IXM WEB along with your Activation ID.

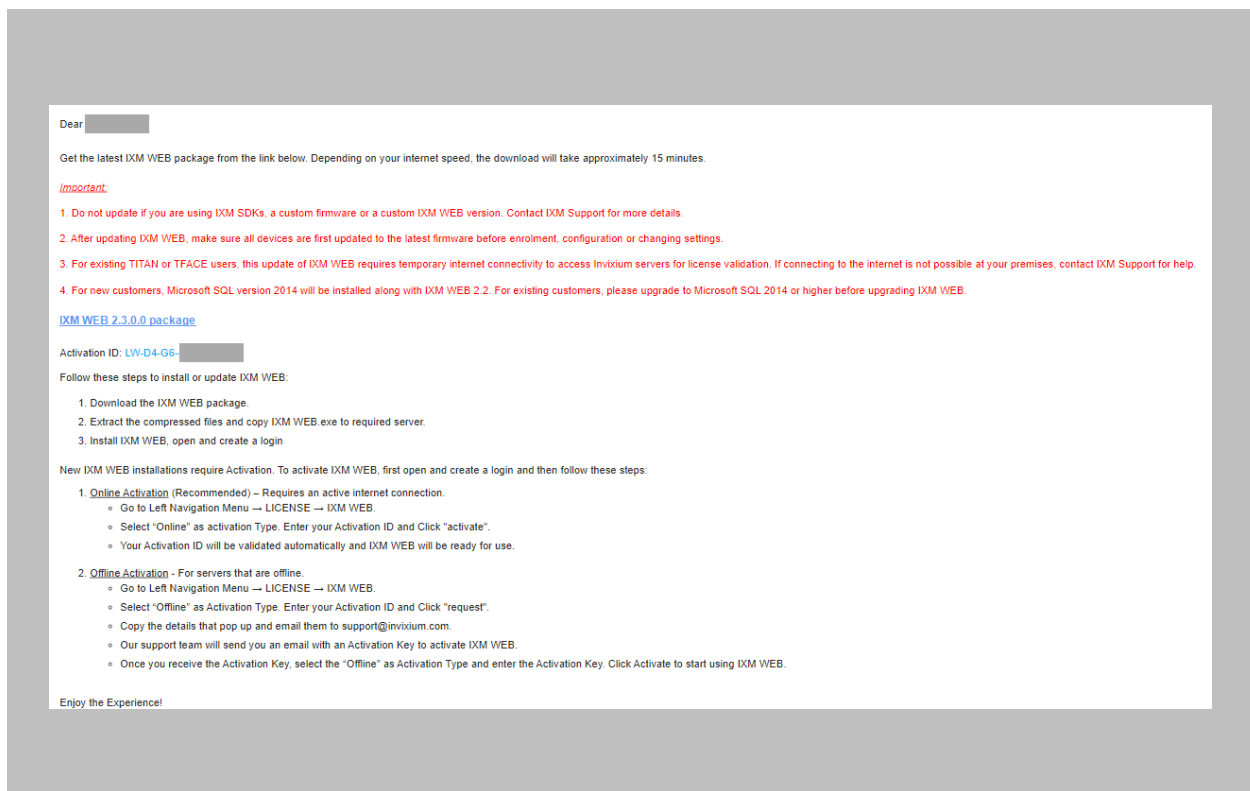


Figure 2: Sample Email After Submitting Online Request Form

## Minor Checklist and Considerations

Use these tables to verify that you have conducted all required steps.

Other Minor Checklist	
Windows Updates	<p>The Windows Operating system needs to be up to date.</p> <p>System updates should not be pending. If any update is downloaded, you will have to restart the system to complete the Windows update.</p>
User Privileges	<p>The person who is setting up IXM WEB Installation should have full administrator rights.</p>

Table 3: System Related Checklist

Port Assignment	Port
Inbound HTTP Port	9108
TCP	1433
Port to communicate between IXM WEB & Devices	9734
Inbound Port	1255

Table 4: Port Information

## 6. Installing IXM WEB

### Software Install

#### Procedure

#### STEP 1

**Run** the IXM WEB installer (Run as administrator). Click **Install to continue**. It will display a popup window to accept the **License Agreement**.

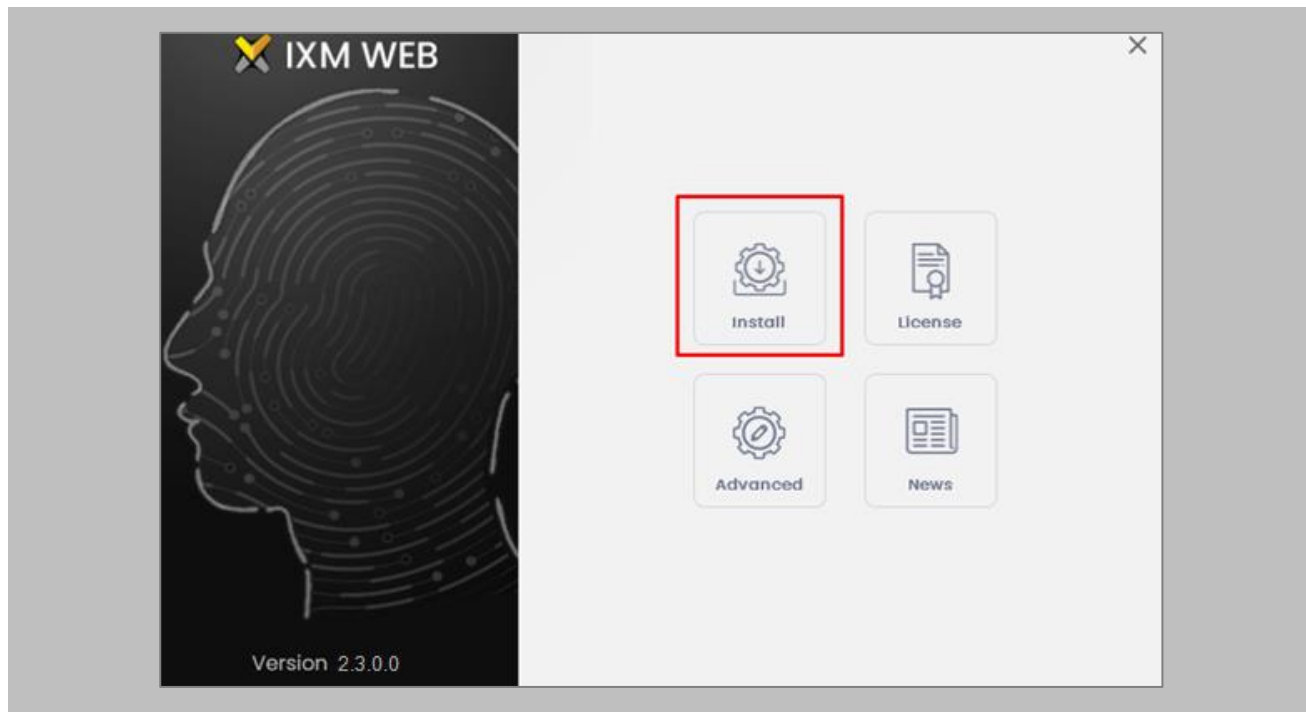


Figure 3: IXM WEB Installer



## STEP 2

Click **'Yes'** in the popup window. The IXM WEB installer will start a basic installation process.

## STEP 3

By default, IXM WEB performs basic installation and installs software to the default location with the default port number. If the user wants to, they can change the installation path and specify a port number that communicates with the IIS server. Click **Advance**.

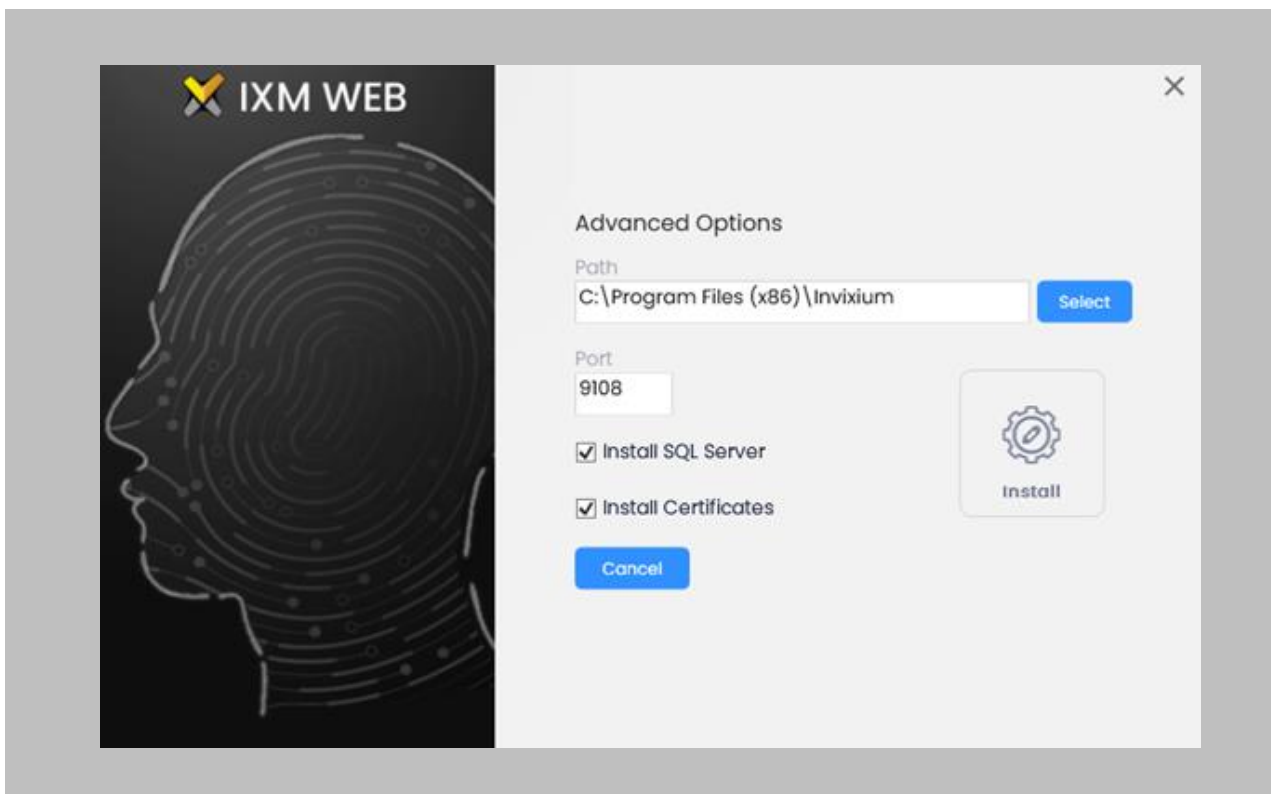


Figure 4: Advanced Option in IXM WEB Installer



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## STEP 4

In **Advanced** installation, the user can change the following options:

- **Installation Path:** In basic installation, the default path is – “**C:\Program Files (x86)\Invixium**”. By changing the path, users can determine the new physical path on the machine where the IXM WEB package will be extracted.
- **Port Number:** By default, the port number is “**9108**”. Users can change the port number that is generally used to communicate between the WEB Server (Internet Information Services) and IXM WEB.
- **Install SQL Server:** By default, this field is always selected. It means that the IXM WEB will install **SQL Server 2014 Express Edition** along with the IXM WEB application. Users can uncheck this field if any other version of SQL Server will be used or if a different machine will be used as a database server.
- **Install Certificates:** By default, the IXM WEB installer installs all the necessary certificates that are used in SSL communication, or specific certificates if configured over the cloud. Users can uncheck this field to prevent IXM WEB from installing all the necessary certificates. Invixium does not recommend deselecting this field.

## STEP 5

Once the user completes the changes, click **Install**. IXM WEB packages will continue to install on the machine, and will display the progress when any component is installed in the background.

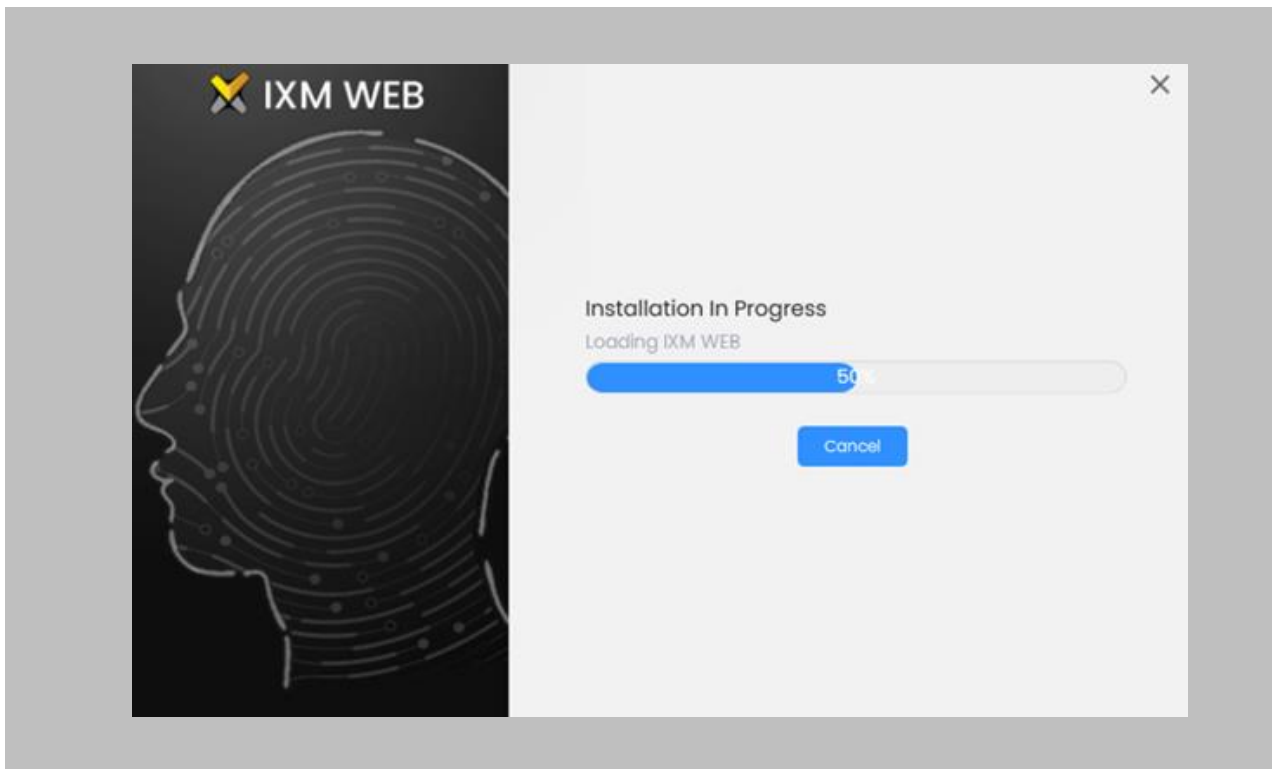


Figure 4: IXM WEB Installation

STEP 6

Once the installation process completes, the user will need to click **Complete** to finish.

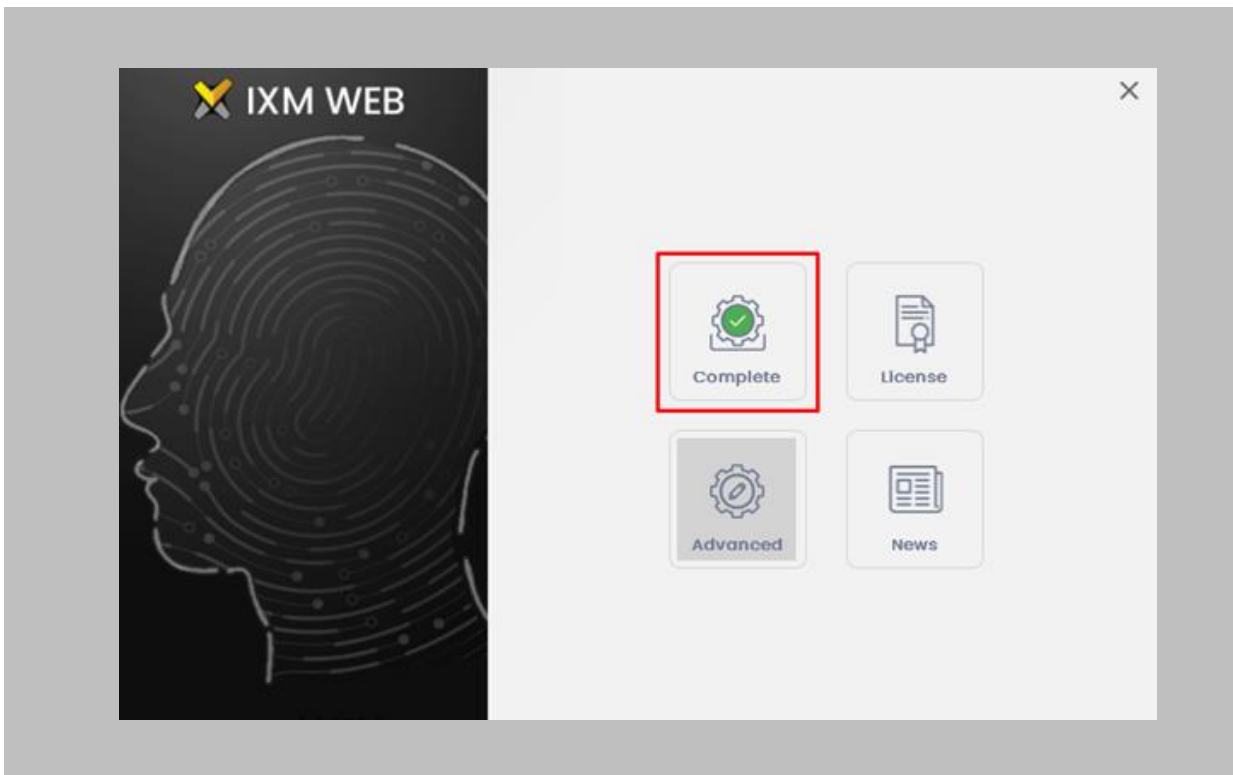


Figure 5: IXM WEB Installation Completed

STEP 7

The IXM WEB package will create a **shortcut icon** on the desktop after the process.



Figure 6: IXM WEB Icon - Desktop Shortcut

STEP 8

Double click on the shortcut icon from the desktop to open **IXM WEB** in the default browser. Users can also open a browser and run the IXM WEB application.

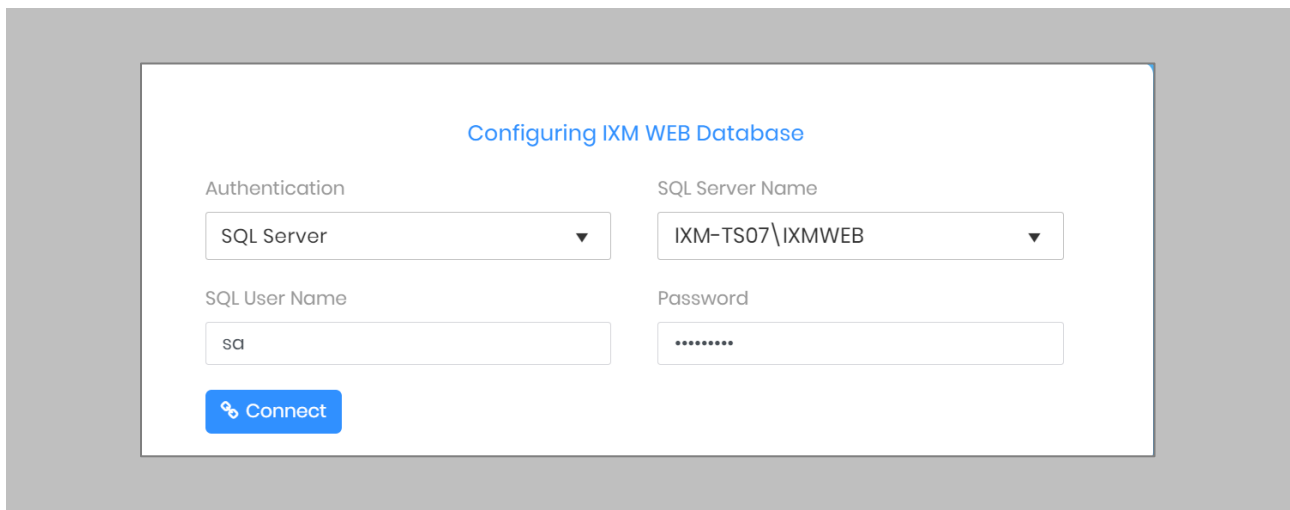


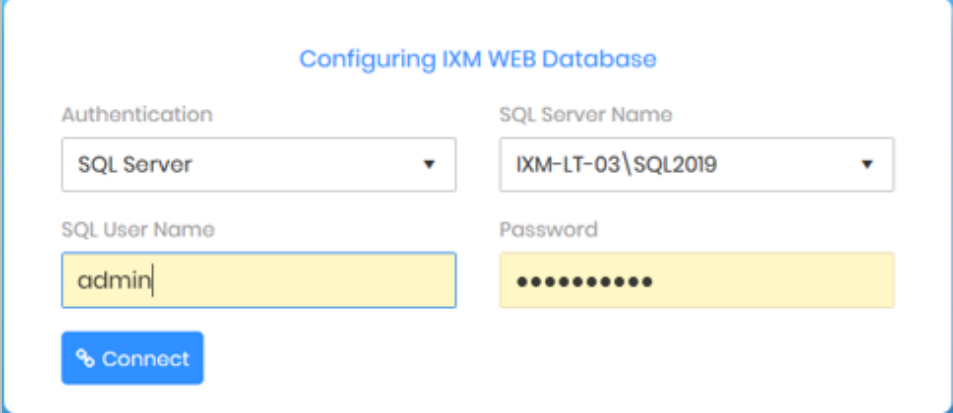
Figure 7: IXM WEB Database Configuration

STEP 9

**IXM WEB** will populate the default SQL Server name and SQL Server Instance.

## STEP 10

If the user wants to configure the database that is installed on another machine, then select the **'SQL Server'** option from the Authentication field. By selecting the **'SQL Server'** option, the user will be required to add credentials (SQL Username and Password) to connect to the database server machine.



Configuring IXM WEB Database

Authentication: SQL Server

SQL Server Name: IXM-LT-03\SQL2019

SQL User Name: admin

Password: .....

Connect

Figure 8: SQL Database Configuration

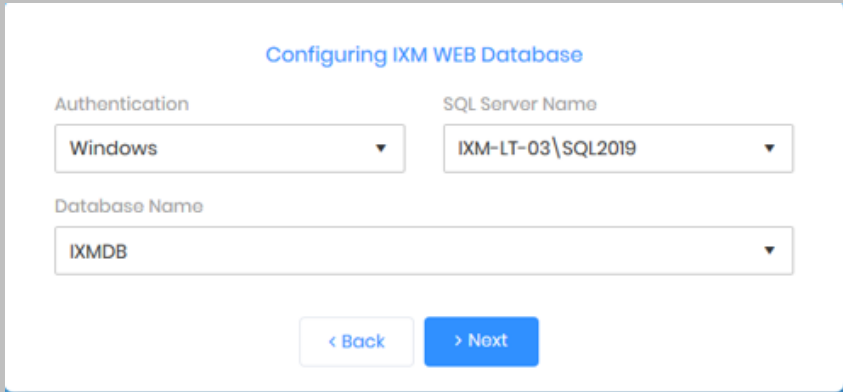
## STEP 11

If a user wants to use the same database instance on the same machine, then click connect to verify if the connection is established with the SQL Instance.

---

STEP 12

Enter a new **Database** name if there is no previously set up database available.



Configuring IXM WEB Database

Authentication: Windows

SQL Server Name: IXM-LT-03\SQL2019

Database Name: IXMDB

< Back   > Next

Figure 9: IXM WEB Database Name

## STEP 13

Click **Next**.

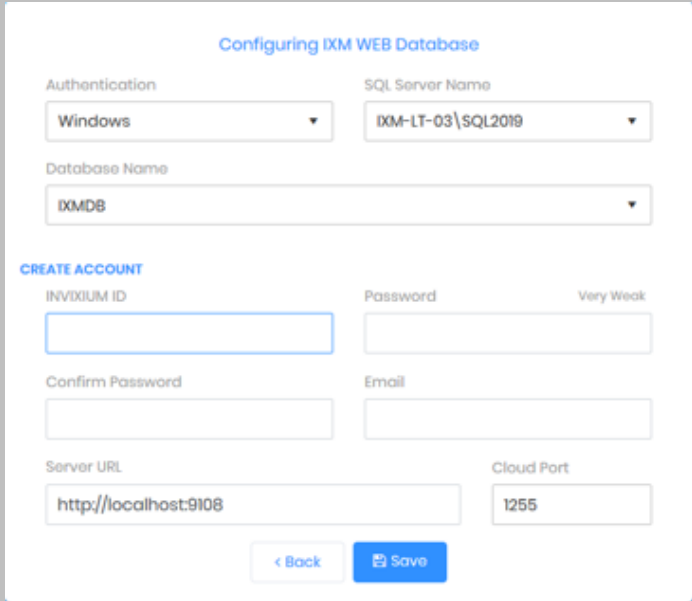


Figure 10: IXM WEB Administrator User Configuration

## STEP 14

Users can provide the necessary values to all the fields displayed under the **‘Create Account’** section.

## STEP 15

The fields and their functions are mentioned below:

- **Invixium ID:** Users can add a username that will have all the rights to access any settings within IXM WEB. This Invixium ID should have a minimum of 5 characters. This Invixium ID configuration will have Administrator rights
- **Password:** Users can set a password. While typing the password, IXM WEB will also display the strength of the entered value to determine how secure the password field is.

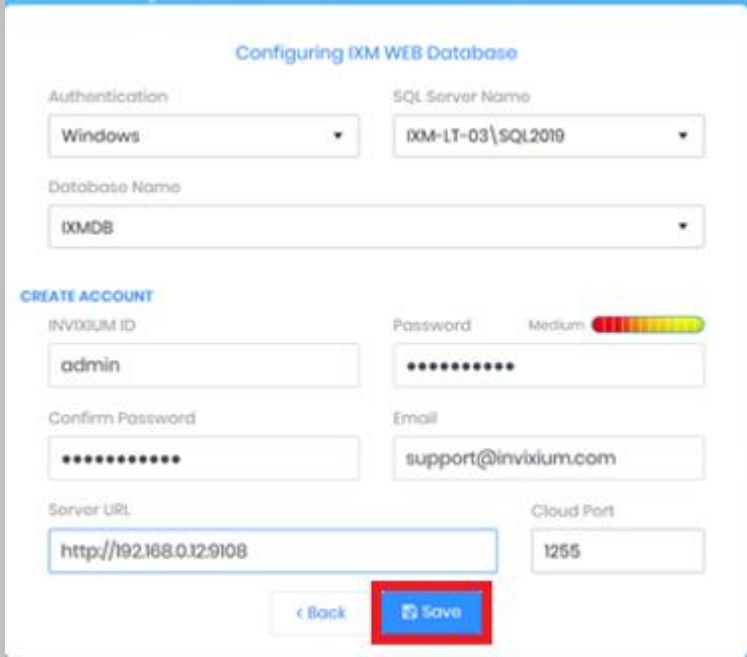


- 
- **Confirm Password:** Enter the password value once again. Users need to enter the same password that is entered in the password field.
  - **Email:** Set an administrator email address. IXM WEB will use this email address in the future in case the password needs to be reset, or to send any email notifications.
  - **Server URL:** Users can set a Web URL or an IP Address of the machine where IXM WEB is installed along with the port number. By default, the port number is 9108. Format:  
[http://IP\\_IXMServer:9108](http://IP_IXMServer:9108)
  - **Cloud Port:** If a user wants to configure the devices over WEB Cloud, then a specific port number needs to be mentioned in the Cloud Port field. By default, the Cloud Port value is 1255.

---

## STEP 16

Once the user is done with providing all the values, click **Save**.



The screenshot shows a web form titled "Configuring IXM WEB Database". The form is divided into several sections:

- Authentication:** A dropdown menu set to "Windows".
- SQL Server Name:** A dropdown menu set to "IXM-LT-03\SQL2019".
- Database Name:** A dropdown menu set to "IXMDB".
- CREATE ACCOUNT:**
  - INVIXIUM ID:** Text input field containing "admin".
  - Password:** Password input field with a strength indicator showing "Medium".
  - Confirm Password:** Password input field with masked characters.
  - Email:** Text input field containing "support@invixium.com".
  - Server URL:** Text input field containing "http://192.168.0.12:9108".
  - Cloud Port:** Text input field containing "1255".

At the bottom of the form, there are two buttons: "< Back" and "Save". The "Save" button is highlighted with a red rectangular box.

Figure 11: Save Database Configuration

STEP 17

Using the provided values, IXM WEB will create a database and upon success, the user will be redirected to [Login Page](#).

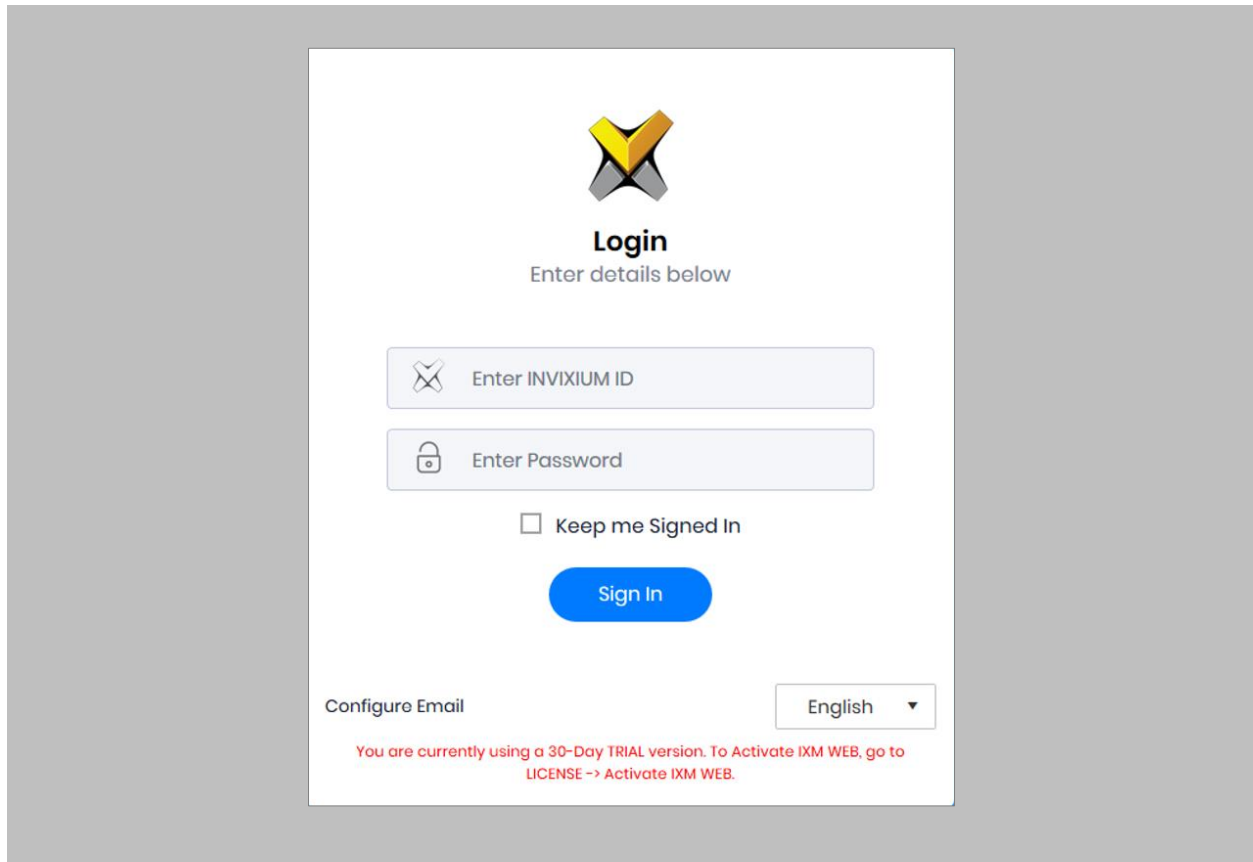


Figure 12: IXM WEB Login Page

## 7. Configuring Email Settings using IXM WEB

Configuring email settings is highly recommended as one of the first steps after installing IXM WEB. Email configuration settings will help the admin retrieve the password for IXM WEB in case it is forgotten. Valid email configuration makes activation and license key requests easier.

### Email Setting Configuration

Procedure

STEP 1

Click **Configure Email** on the Login page.

OR

Expand the **Left Navigation Pane** → Navigate to **Notification Settings** → **Email Configuration** → Click **Manage Preferences**.

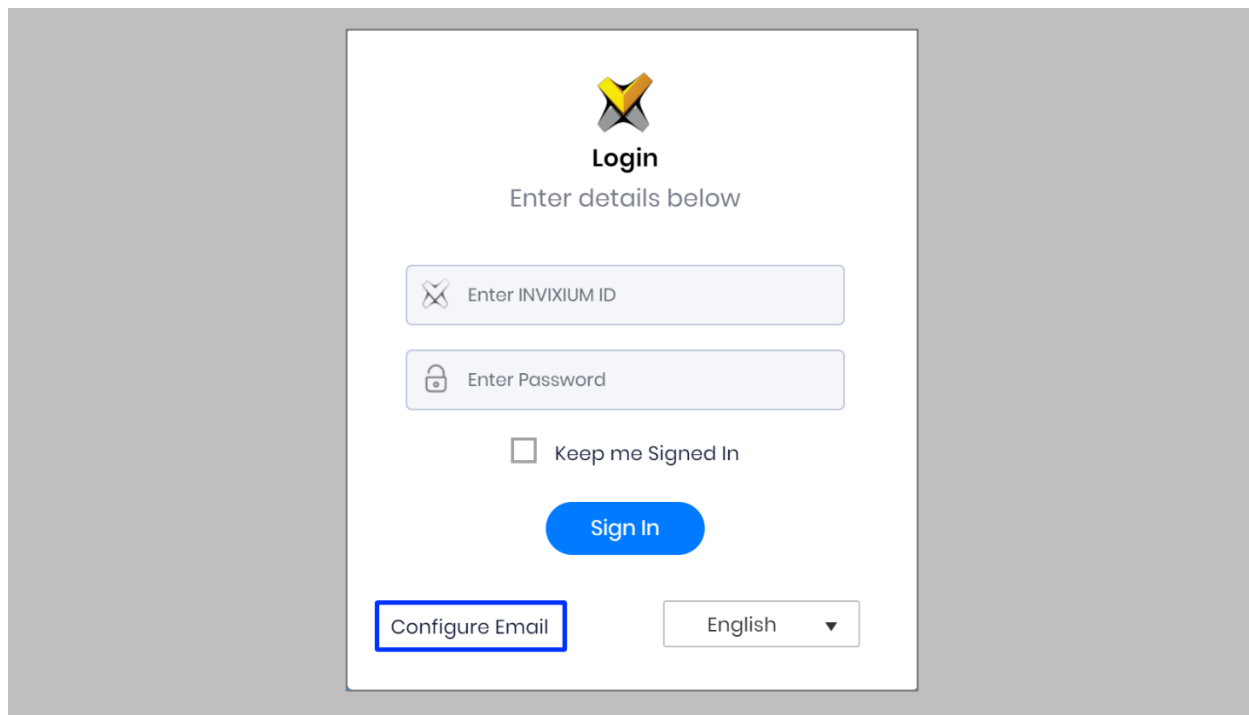
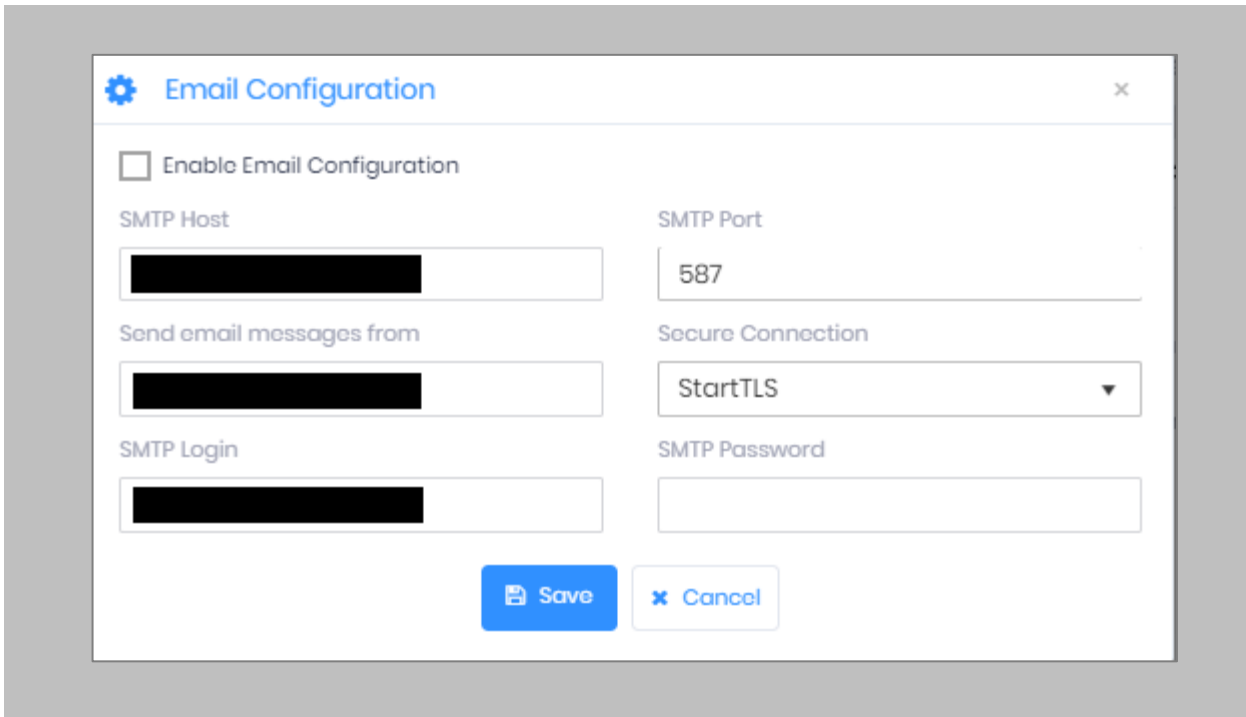


Figure 13: Configure Email

## STEP 2


Select **'Enable Email Configuration'** and enter values for **'SMTP Host,' 'SMTP Port',** and **'Send email message from'** fields.



The screenshot shows a dialog box titled "Email Configuration" with a close button (X) in the top right corner. The dialog contains the following elements:

- Enable Email Configuration
- SMTP Host: [Redacted]
- SMTP Port: 587
- Send email messages from: [Redacted]
- SMTP Login: [Redacted]
- SMTP Password: [Empty]
- Secure Connection: StartTLS (dropdown menu)
- Buttons: Save (blue), Cancel (white with blue border)

Figure 14: IXM WEB - SMTP Settings

 Note: If Gmail/Yahoo/MSN etc. email servers are used for "SMTP Host" then "SMTP Login" and "SMTP Password" values need to be provided. Also in this case, "Secure Connection" needs to be set to either SSL or SSL/StartTLS.

### STEP 3

After entering the values, click **Save** to save the SMTP Settings on the IXM WEB database.

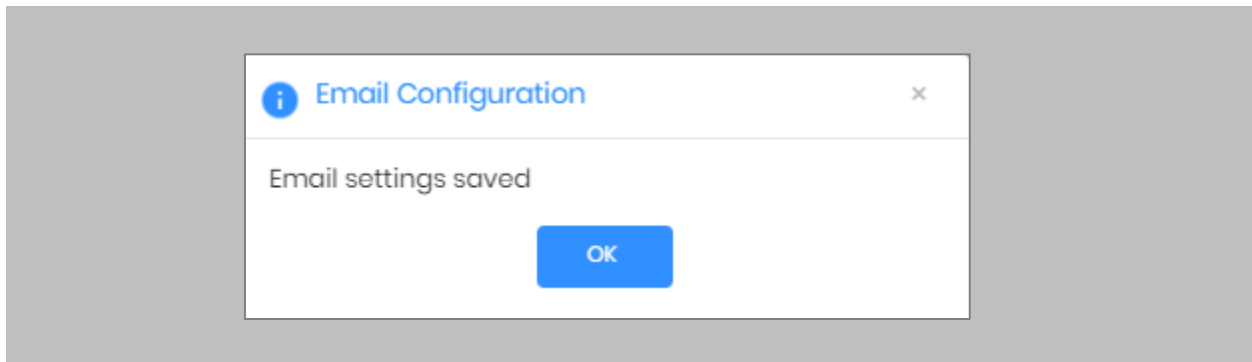


Figure 15: IXM WEB - Save Email Settings

To test the settings, Navigate to **Notification Settings** from **the Left navigation Pane** → Go to **Email Configuration** → Click **the Test Connection** button on the right.

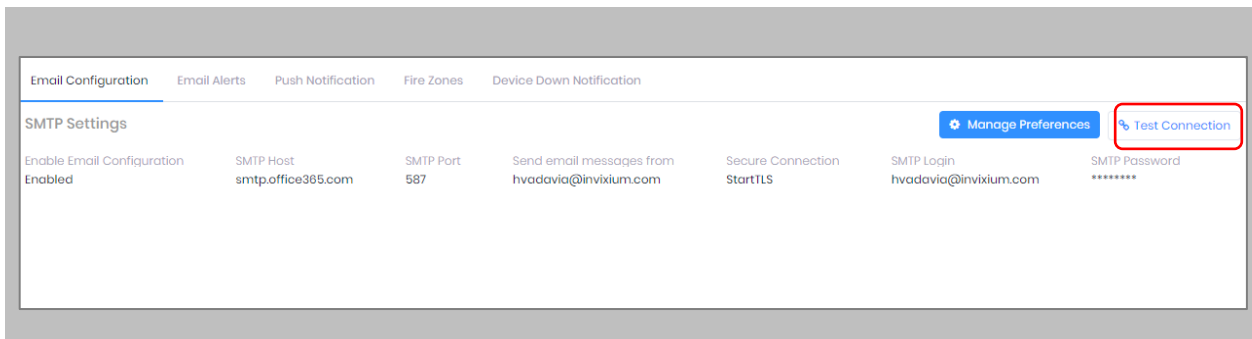


Figure 16: IXM WEB - Test Connection

Provide a valid email address. Click **Send** to send a test email.

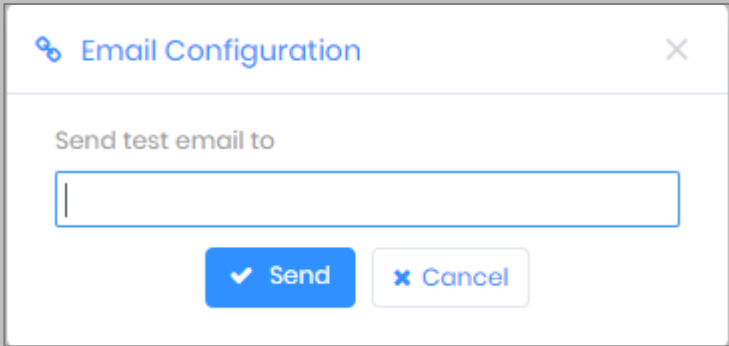


Figure 17: IXM WEB - Enter Email ID

STEP 4

Once Email Configuration is completed, a [Forgot password](#) link will appear on the Sign In page in its place.

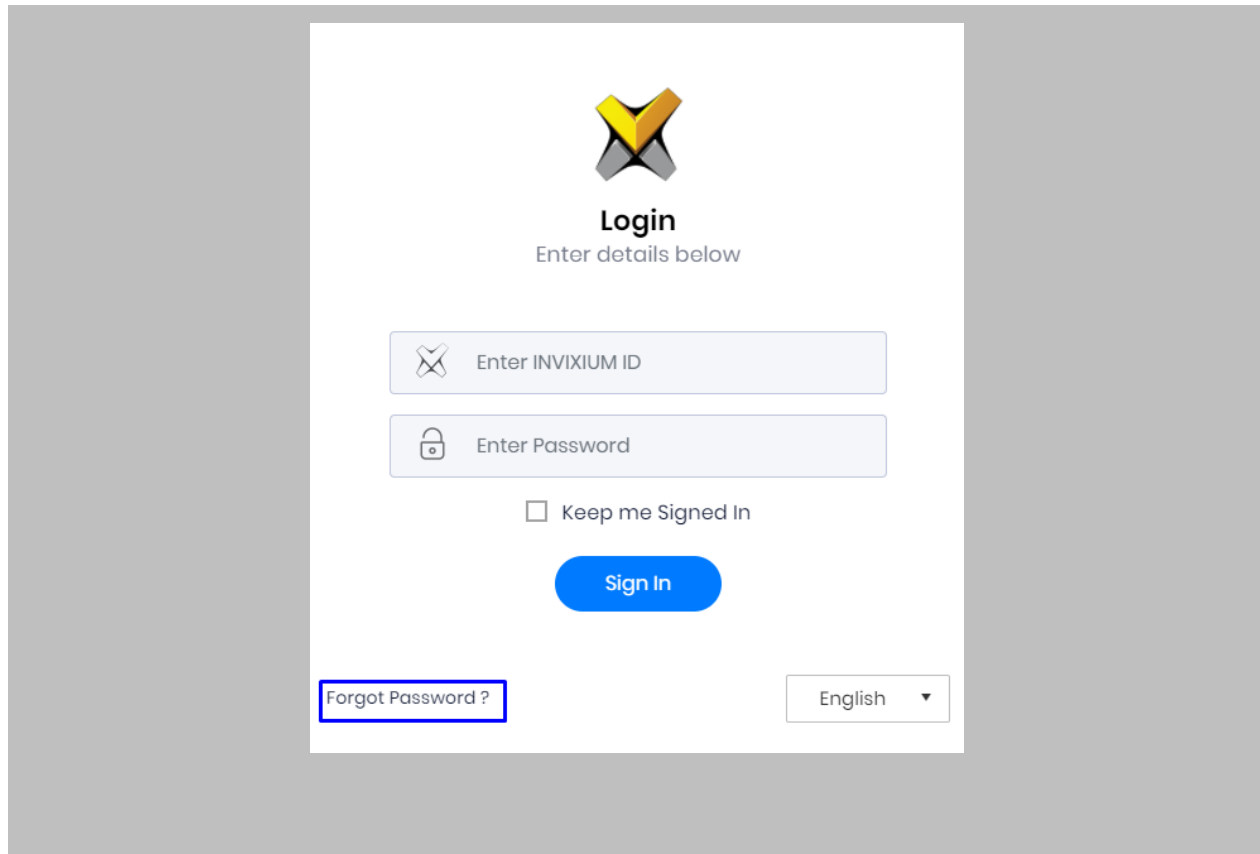


Figure 18: IXM WEB - Forgot Password



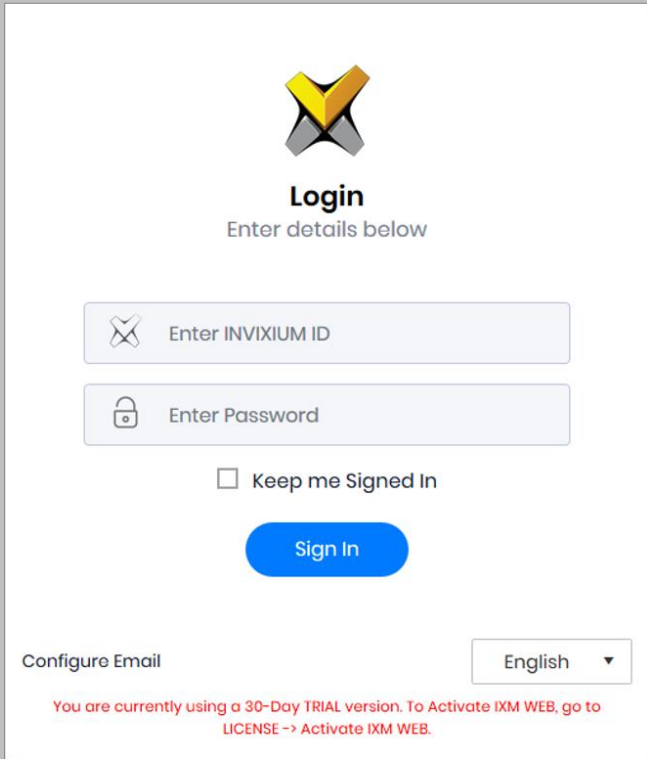
## 8. Software and Module Activation


### IXM WEB Activation

Procedure

STEP 1

Log into IXM WEB.



  
**Login**  
Enter details below

Keep me Signed In

[Sign In](#)

[Configure Email](#) English ▾

You are currently using a 30-Day TRIAL version. To Activate IXM WEB, go to  
LICENSE -> Activate IXM WEB.

Figure 19: IXM WEB - Enter Login Credentials

## STEP 2

Select the **License Tab** and then select the **IXM WEB** module to request an activation key for **IXM WEB**.

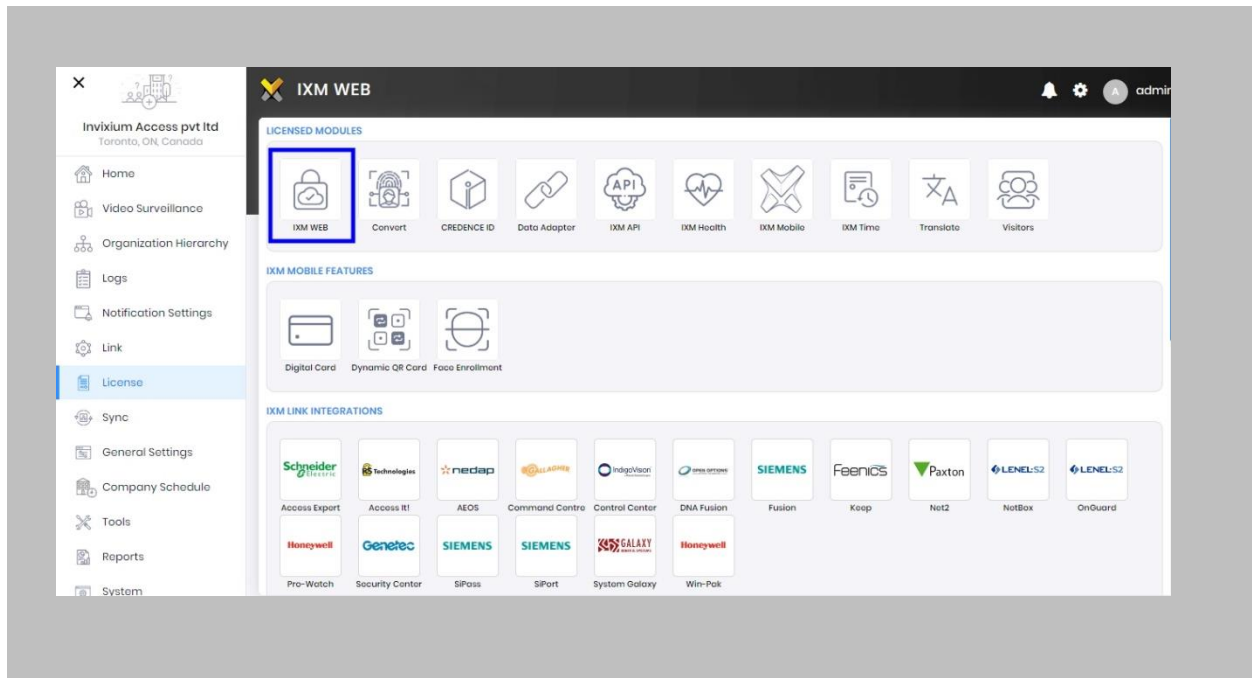



Figure 20: IXM WEB - License Setup

## STEP 3

Request Activation Key Online or via Offline Activation Options.

 Note: The Activation ID is in the email received when registering. If online activation fails, check with your local IT as the client may be blocked by your network

STEP 4

Once the system is activated, the Status will be displayed as **Active**.

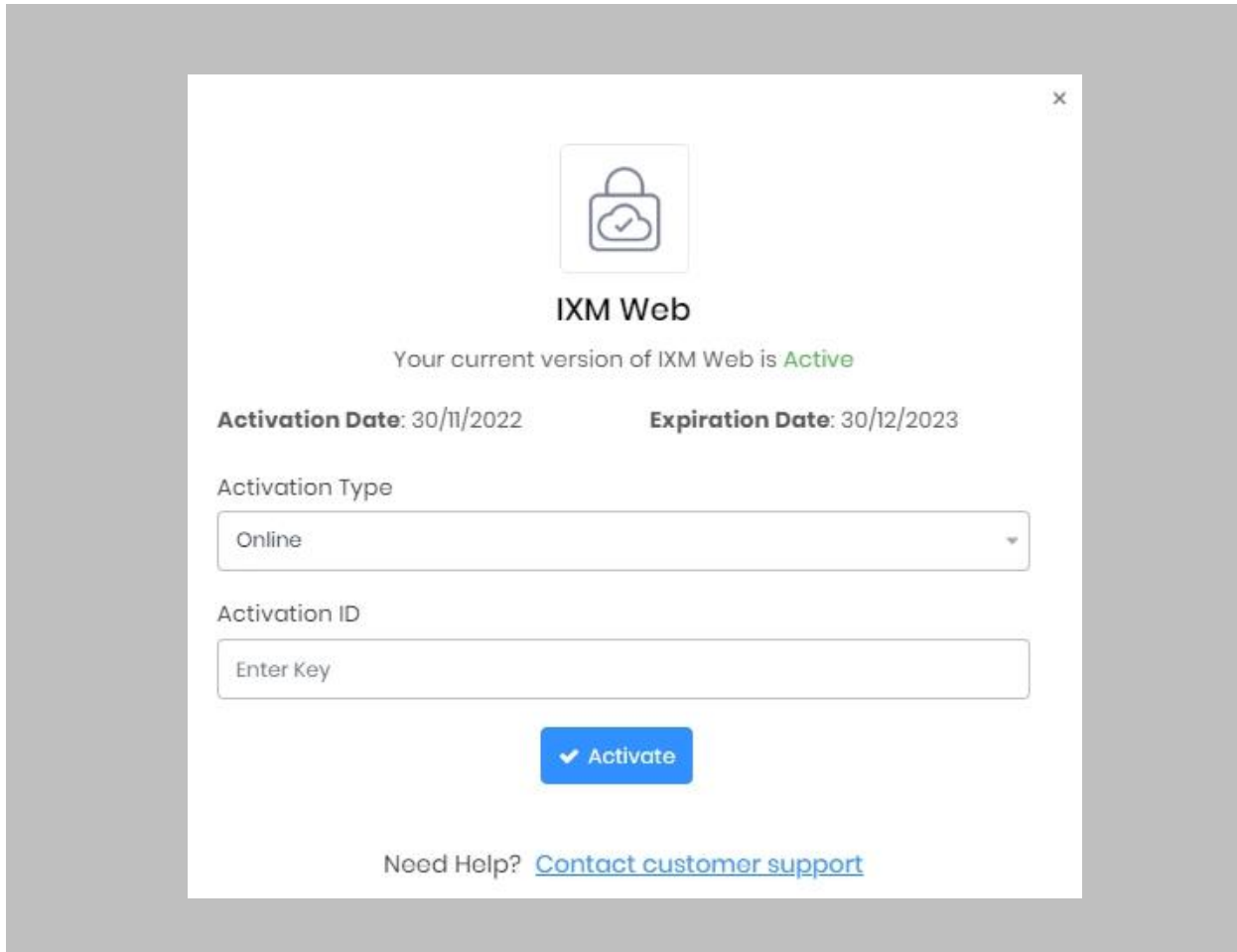


Figure 21: IXM WEB - Online Activation

## Open Options Module Activation

The option to activate an Open Options License is available under the **License** tab.

STEP 1

Request a **License**.

STEP 2

From **Home**, expand the **Left Navigation Pane**, and go to the **License** tab. Click on **Open Options**.

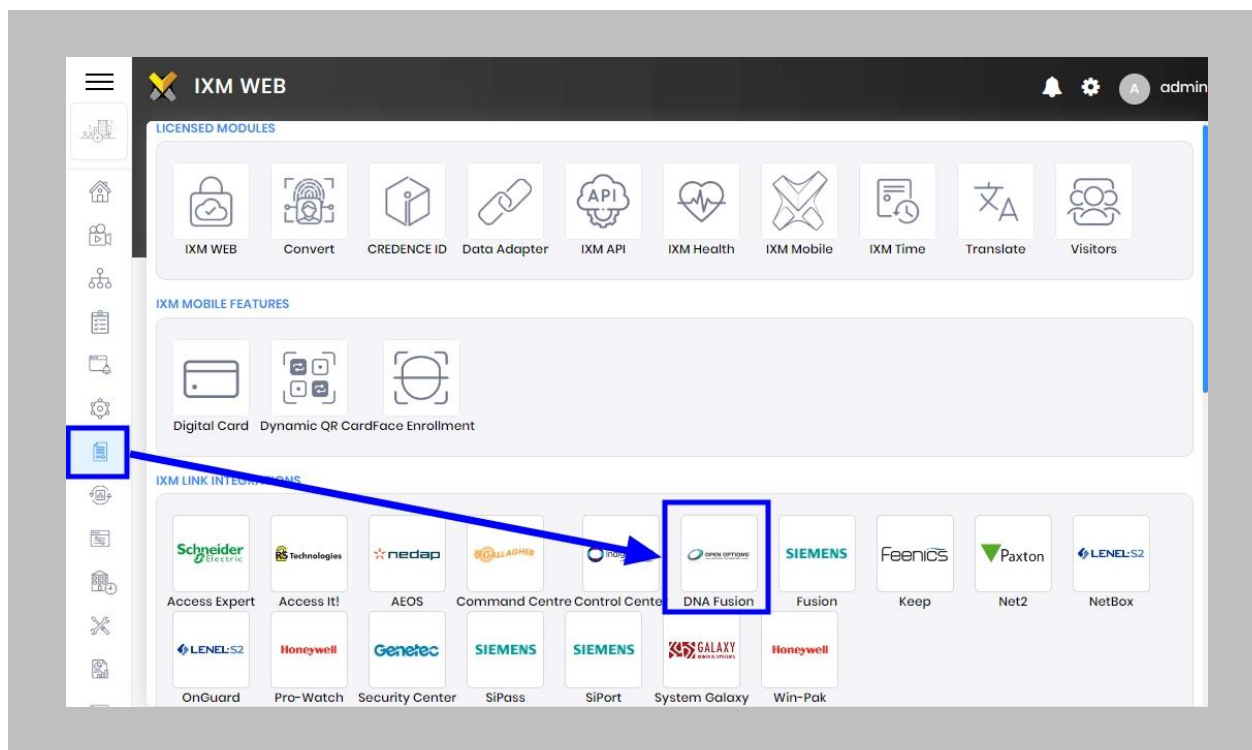


Figure 22: IXM WEB – Open Link Activation



### STEP 3

You will receive an email from **Invoxium Support** with a license key for the Open Options Activation.

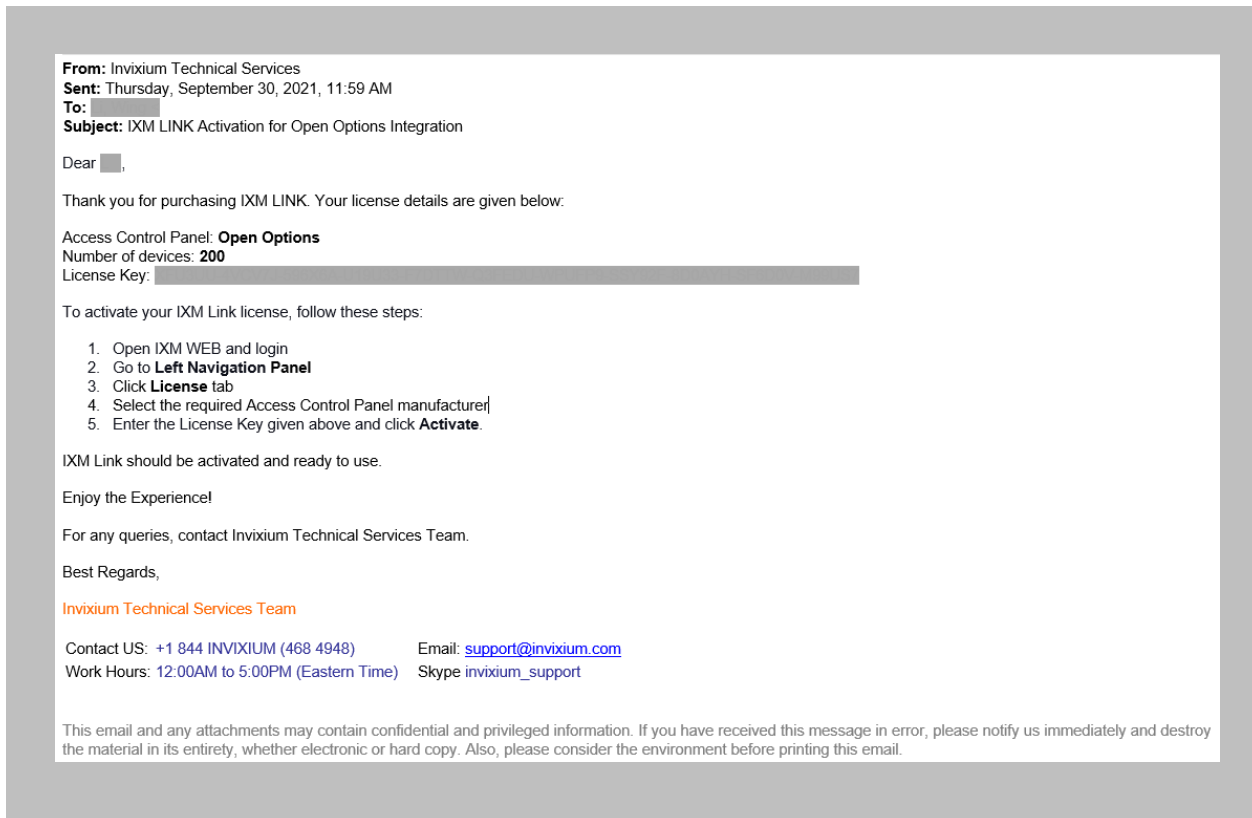


Figure 23: Open Options License Key Email

STEP 4

**Copy** and **paste** the License Key in the box provided, and then select **Activate**.

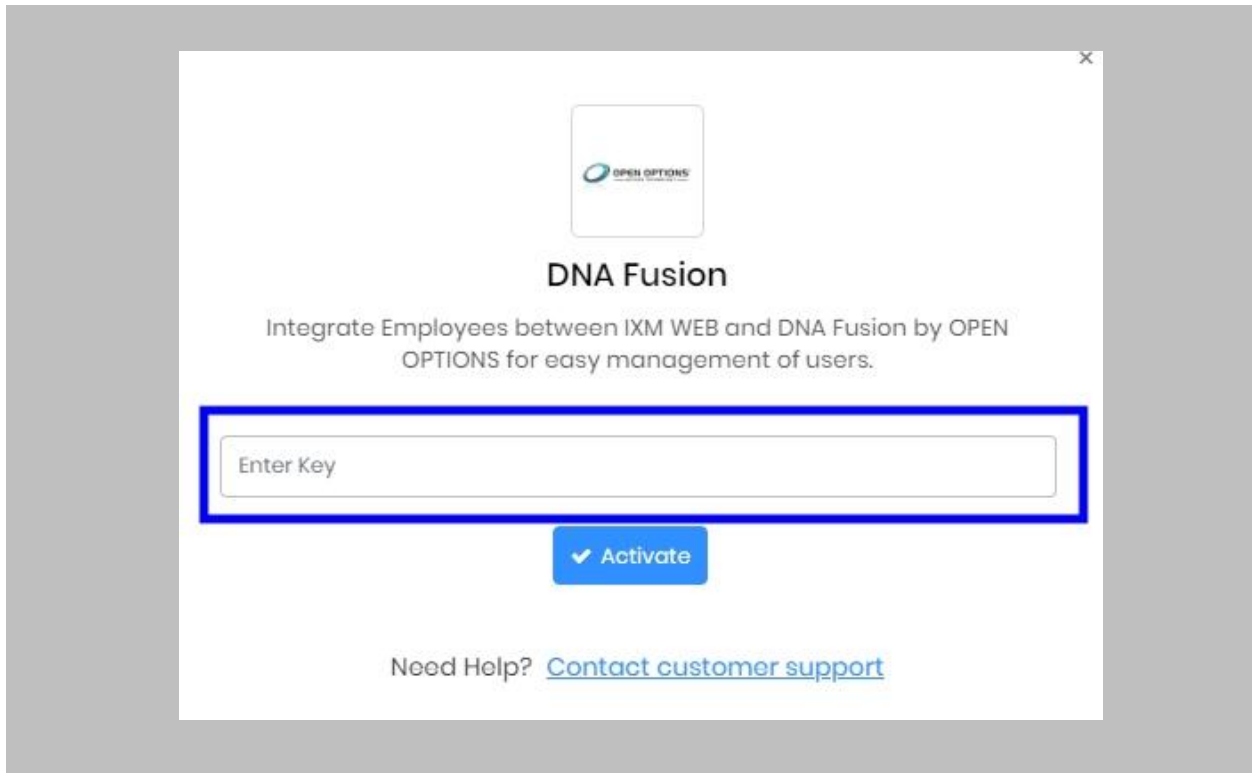


Figure 24: IXM WEB - Activate Open Options Link License

## 9. Configuring IXM Link for Open Options

Procedure

STEP 1

From the **Left Navigation Pane** → **Link** → click the **Open Options** icon.

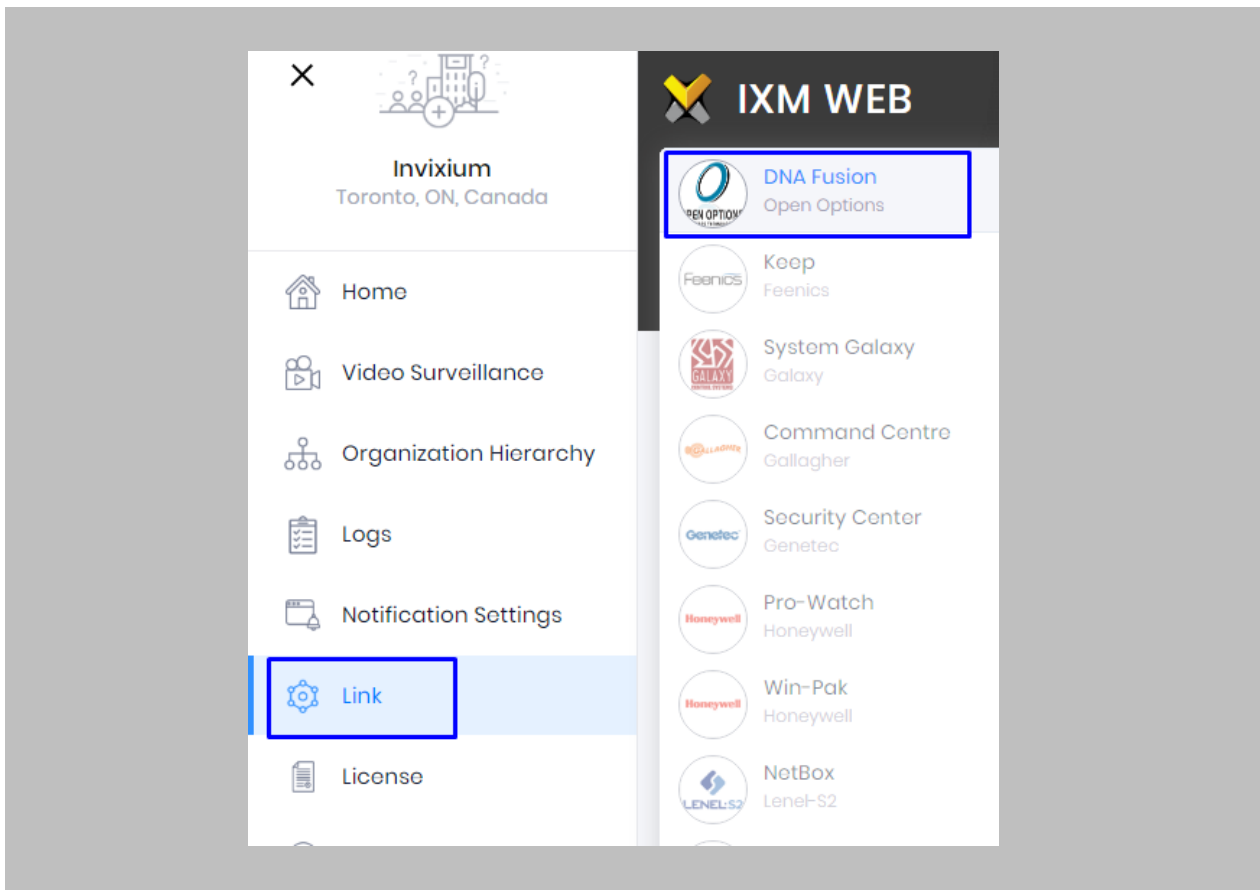


Figure 25: IXM WEB - Link Menu

## STEP 2

Toggle the **Status** switch to enable.

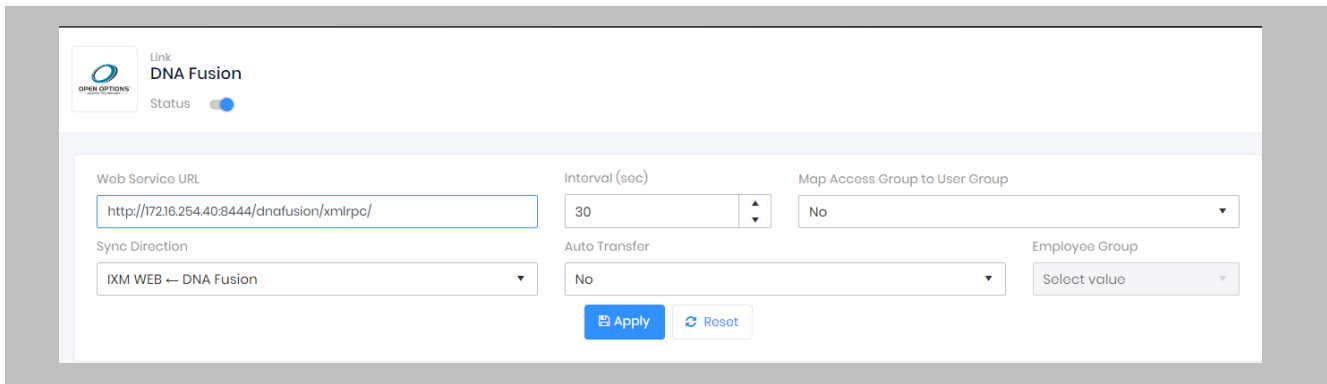


Figure 26: IXM WEB - Enable Open Options Link Module

## STEP 3

Enter the **Open Options WEB Service URL**. For example:  
<https://172.16.254.40:8444/dnafusion/xmlrpc/>

## STEP 4

Specify in seconds how often **sync** should take place.

## STEP 5

Select **Sync Direction**.

Select one-way sync direction IXM WEB ← Open Options to import a Person from Open Options to IXM WEB.





Figure 27: IXM WEB - Sync Direction

STEP 6

**Auto Transfer**

**No:** Employees synchronized from Open Options will not be automatically added to any of the employee groups present in IXM WEB.

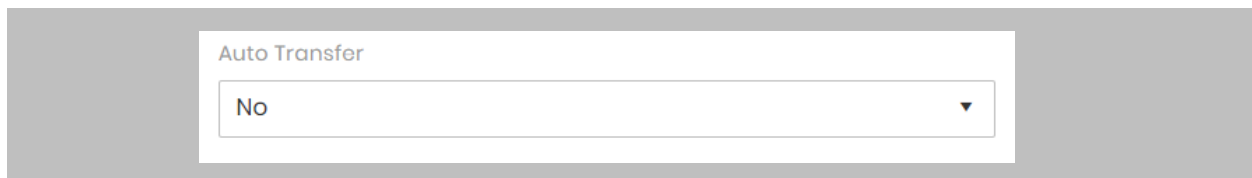


Figure 28: IXM WEB - Auto Transfer No

**Yes:** On selecting 'Yes' for Auto Transfer, the employee group selection dropdown enables, which displays all the employee groups present in IXM WEB. All the employees synchronized from DNA Fusion will be automatically added to the employee group selected on Link Configuration Page.

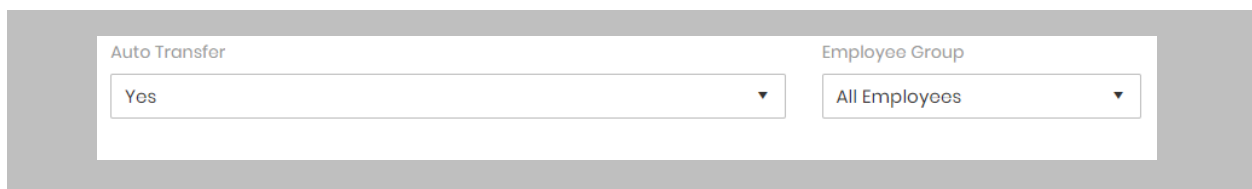


Figure 29: IXM WEB - Auto Transfer Yes

STEP 7

Click **Apply**.

After applying your changes, you should see items being updated on the screen below:

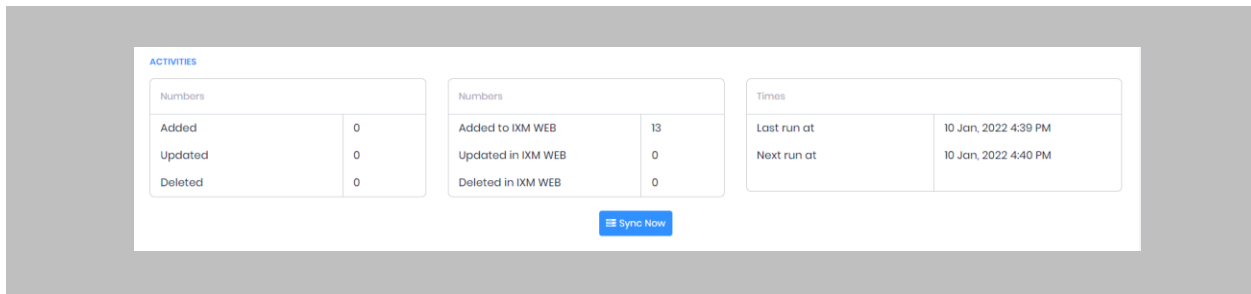


Figure 30:IXM WEB - Sync Activities

STEP 8

Clicking **Sync Now** immediately starts synchronizing pending data. This is useful when you do not want to wait until the next scheduled run shown by “Next Run At”.

RESULT

When data is synchronizing at the given interval, the numbers in view will change accordingly.

## 10. Adding an Invixium Reader in the IXM WEB application

Procedure

STEP 1

From [Home](#), click the [Devices](#) tab.

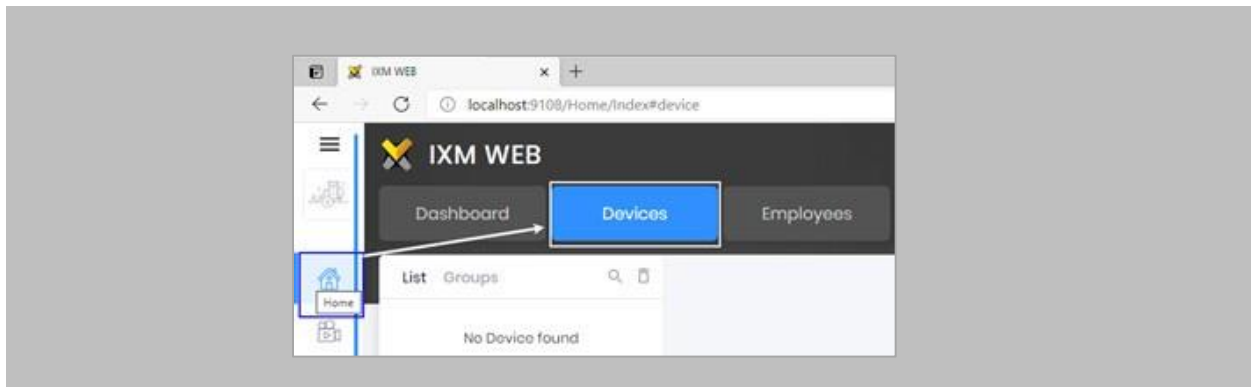


Figure 31: IXM WEB - Devices Tab

## STEP 2

Select the **Add Device** button on the right-hand side of the page. Then select the **Ethernet Discovery** option and add the reader's IP in the start IP section. Click on **Search** to find the device.

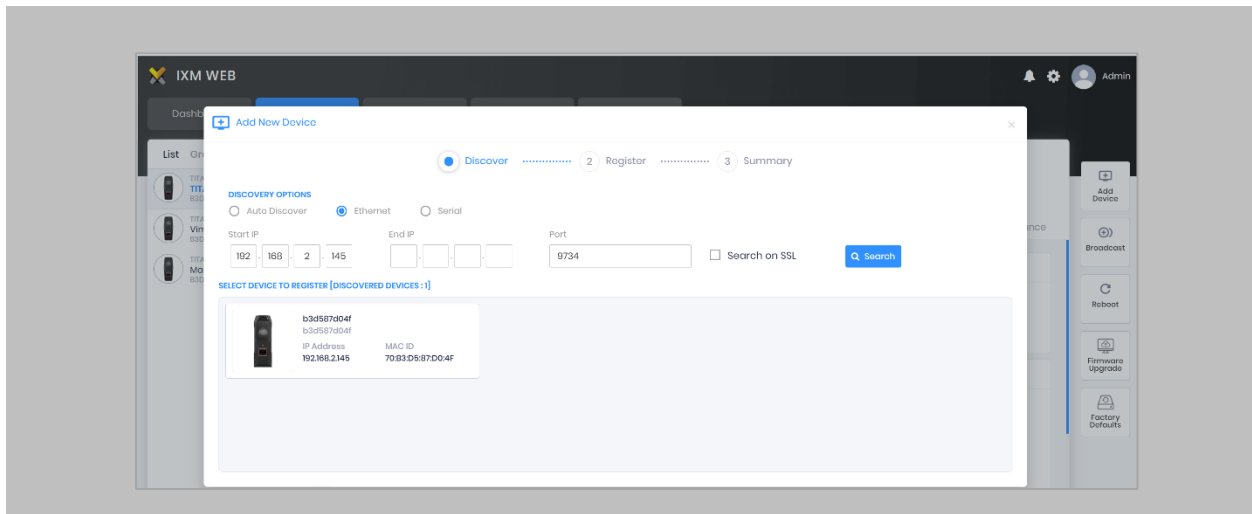
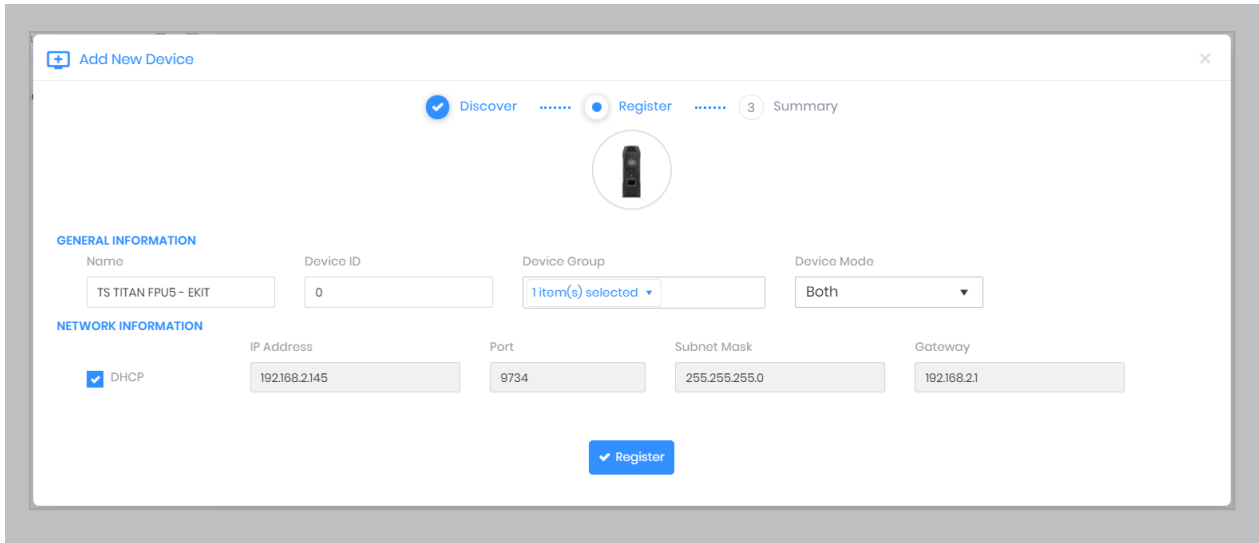


Figure 32: IXM WEB - Search Device Using IP Address

### STEP 3

Once the device is found, click on it. Enter the following details:

- **Device Name:** Define the name of the **device** in IXM WEB.
- **Device Group:** Create a '**Default**' device group and select it.
- **Device Mode:** Select device mode as 'Entry', 'Exit', or 'Both' (Based on your requirement).



The screenshot shows the 'Add New Device' window in the IXM WEB interface. At the top, there is a progress bar with three steps: 'Discover' (checked), 'Register' (selected), and 'Summary' (3). Below the progress bar is a circular icon of a device. The form is divided into two sections: 'GENERAL INFORMATION' and 'NETWORK INFORMATION'. In the 'GENERAL INFORMATION' section, there are four fields: 'Name' (TS TITAN FPU5 - EKIT), 'Device ID' (0), 'Device Group' (1 item(s) selected), and 'Device Mode' (Both). In the 'NETWORK INFORMATION' section, there is a checked 'DHCP' checkbox and four fields: 'IP Address' (192.168.2.145), 'Port' (9734), 'Subnet Mask' (255.255.255.0), and 'Gateway' (192.168.2.1). A blue 'Register' button is located at the bottom center of the form.

Figure 33: IXM WEB - Register Device

### STEP 4

Click **Register**.

## STEP 5

Once the device has successfully been **registered**, click **Done**.

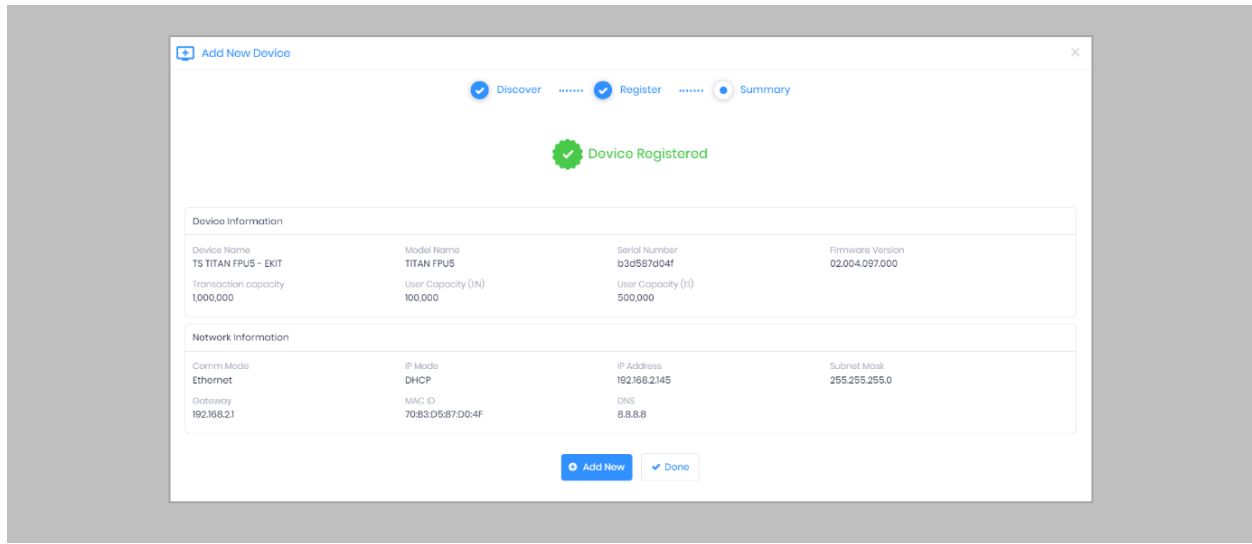


Figure 34: IXM WEB - Device Registration Complete

Go to the **Dashboard**, and confirm that the **Device Status** chart indicates that the reader is online (i.e., hovering will tell you how many devices are online).

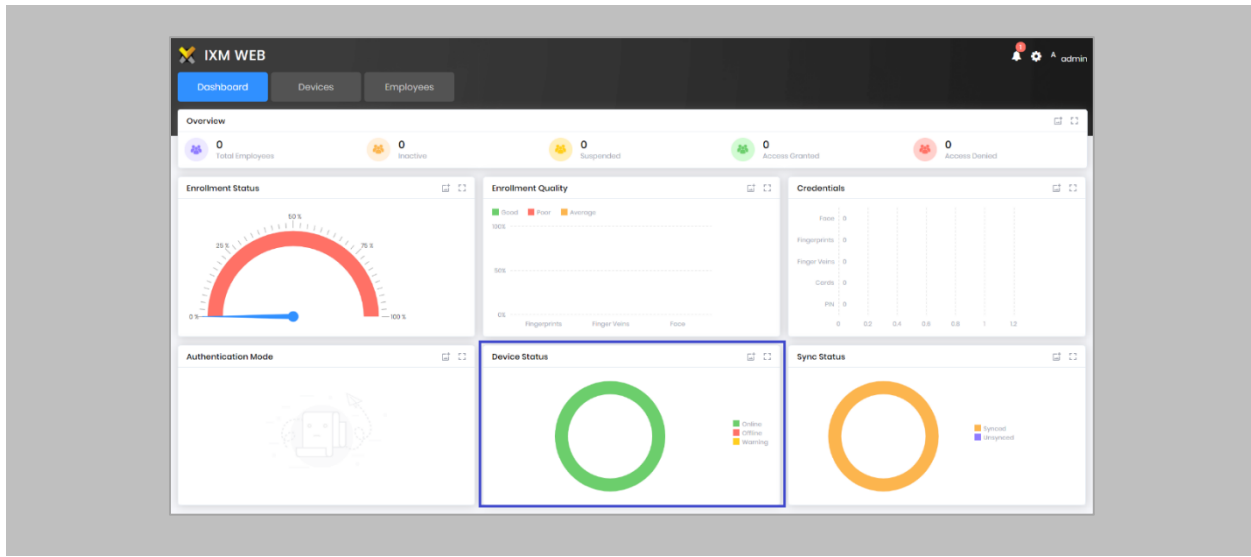


Figure 35: IXM WEB - Dashboard, Device Status

## 11. Adding an Invixium Device to a Device Group

Procedure

STEP 1

Go to **Devices** → **Groups**.

Add the device from the Right Side pane to the respective **Device Group**.

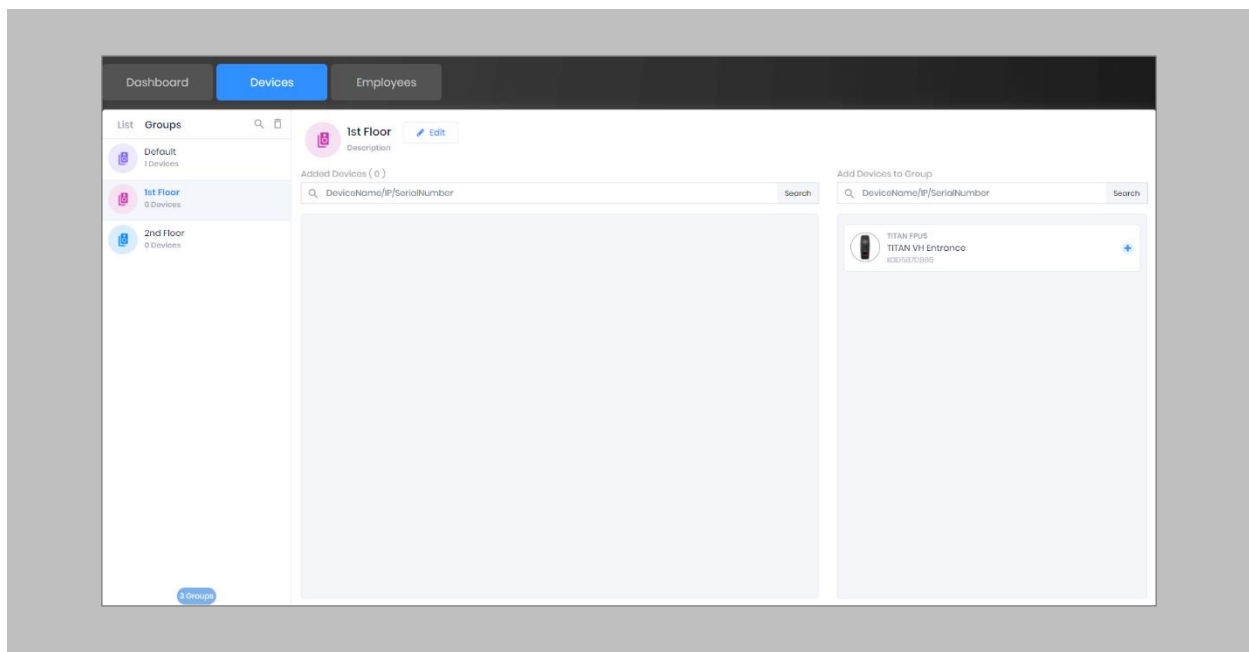



Figure 36: IXM WEB - Assign Device Group



## Assign Wiegand to Invixium Readers

 Note: Face and finger will always give a Wiegand output based on the initial card that was synced from Open Options to Invixium.

The Standard 26 Bit Wiegand will be used to define which output format will be sent to Open Options.

### STEP 1

From **Home** > click the **Devices** tab. Select any device.

### STEP 2

Navigate to the **Access Control** tab.

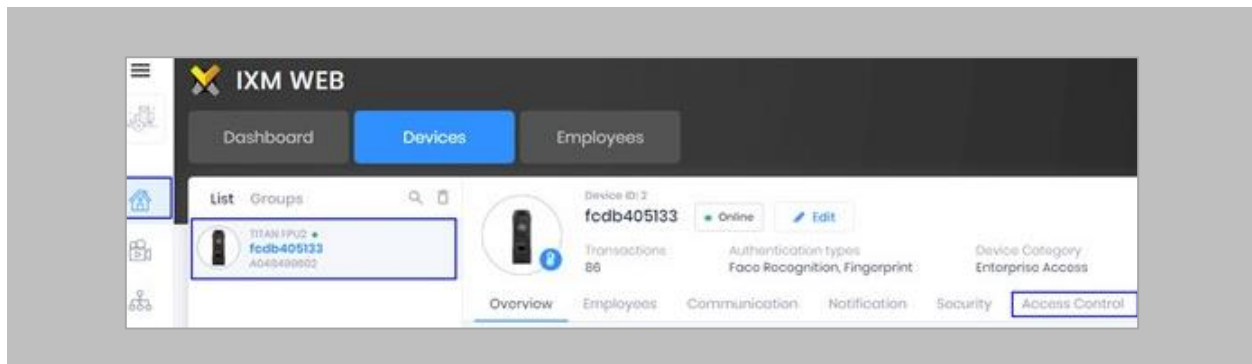


Figure 37: IXM WEB - Navigate to Access Control Tab

### STEP 3

Scroll down and click on **Wiegand Output** and toggle the switch on the top right side to enable Wiegand Output for the device.

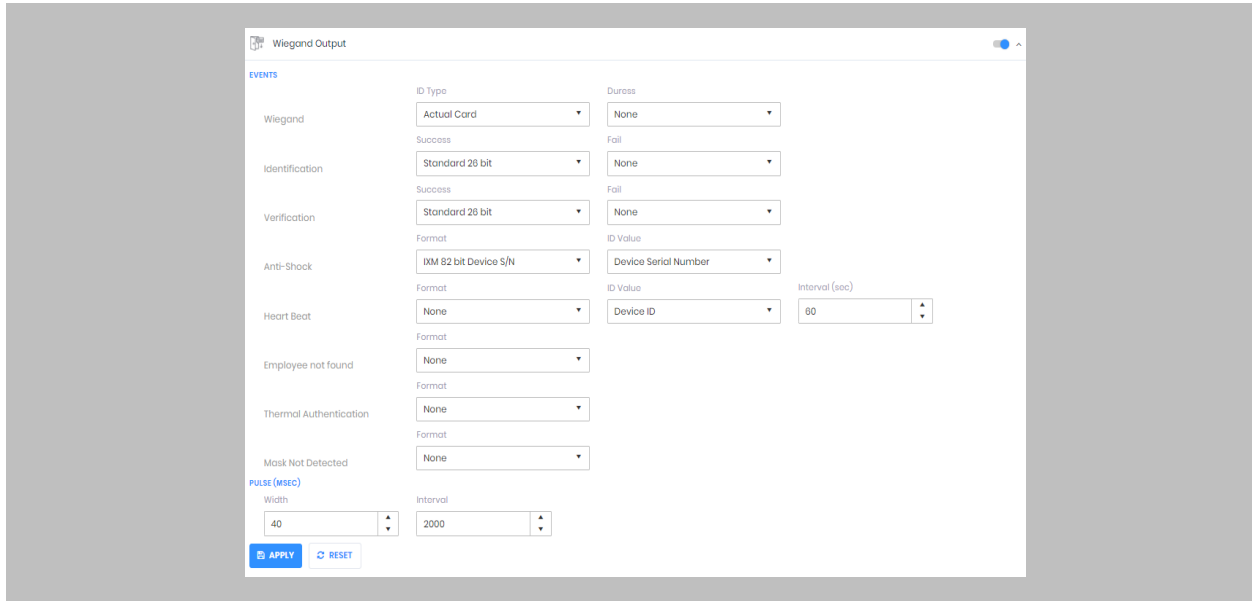


Figure 41: IXM WEB - Wiegand Output

ID types for Wiegand output are as follows:

1. Employee ID
2. Default Card
3. Actual Card

By default, Employee ID is selected in Wiegand Event.

As the Employee ID field is not available in Open Options, select either Default Card or Actual Card.

**Actual Card:** when more than one card is assigned to the cardholder and you want to generate Wiegand output data for the same card which is presented on the Invixium device.

**Default Card:** It will generate Wiegand output data for the card which is marked as default in IXM WEB.

 Note: For fingerprint and face access, default card Wiegand output data will be generated.

#### STEP 4

Set the **items**:

<b>Wiegand</b>	Actual Card
<b>Identification</b>	26 - bit
<b>Verification</b>	26 - bit

#### STEP 5

Click **Apply**.

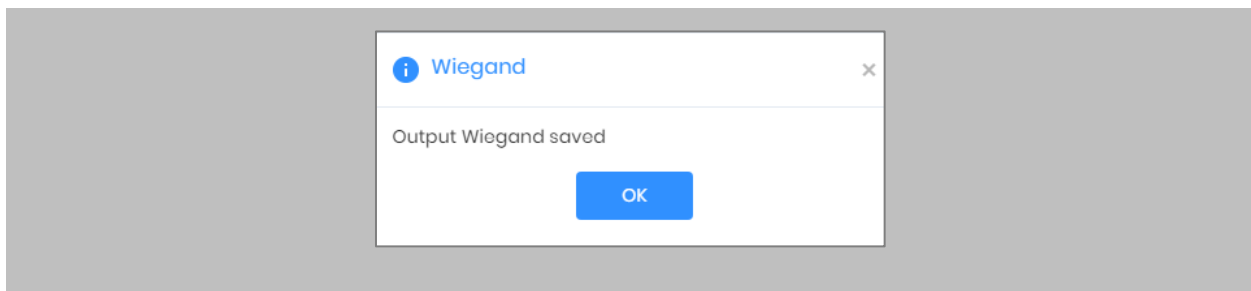


Figure 38: IXM WEB - Save Output Wiegand

#### RESULT

The Wiegand Output settings of the selected device are now updated.

 Note:

- If you have more devices, follow the next steps to copy all Wiegand settings to all devices simultaneously. Note: This copies all Wiegand output settings. See the [Appendix](#) for more information.
- If the cardholder was assigned multiple cards, the first assigned card will be the 'default' selected card. The details of the card will be sent as the Wiegand bits input to the panel.

## Configuring Panel Feedback with Open Options

### Procedure

#### STEP 1

Connect Wiegand Data D0 of Open Options Panel with **WDATA\_OUT0** of IXM device, Wiegand Data D1 of Open Options with **WDATA\_OUT1** & Wiegand Ground of Open Options Panel with WGND of IXM Device.

#### STEP 2

Connect the **Green** of Open Options with **ACP\_LED1** of IXM device.

#### STEP 3

On the **Devices** tab, select the required device and navigate to the **Access Control** tab. Scroll down and click on **Panel Feedback**.

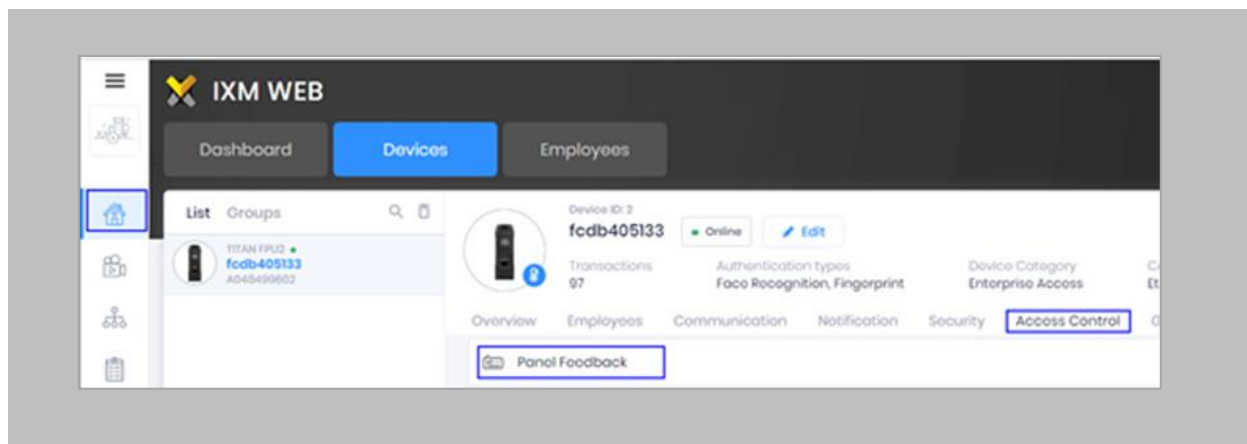
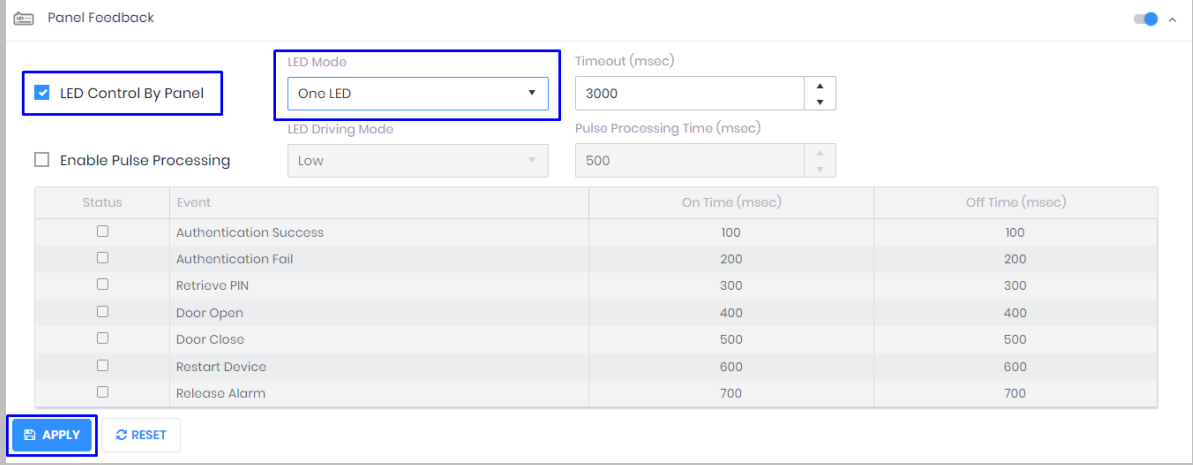


Figure 39: IXM WEB - Panel Feedback

## STEP 4

By default, Panel Feedback is turned **OFF**. Toggle the Panel Feedback switch on the top right side to the **ON** position, and then enable **LED Control** by the panel and set the LED Mode to **One LED**.



Panel Feedback

LED Control By Panel

LED Mode: One LED

Timeout (msec): 3000

Enable Pulse Processing

LED Driving Mode: Low

Pulse Processing Time (msec): 500

Status	Event	On Time (msec)	Off Time (msec)
<input type="checkbox"/>	Authentication Success	100	100
<input type="checkbox"/>	Authentication Fail	200	200
<input type="checkbox"/>	Retrieve PIN	300	300
<input type="checkbox"/>	Door Open	400	400
<input type="checkbox"/>	Door Close	500	500
<input type="checkbox"/>	Restart Device	600	600
<input type="checkbox"/>	Release Alarm	700	700

Figure 40: IXM WEB - Configuring Panel Feedback in IXM WEB

## STEP 5

Click **Apply**.

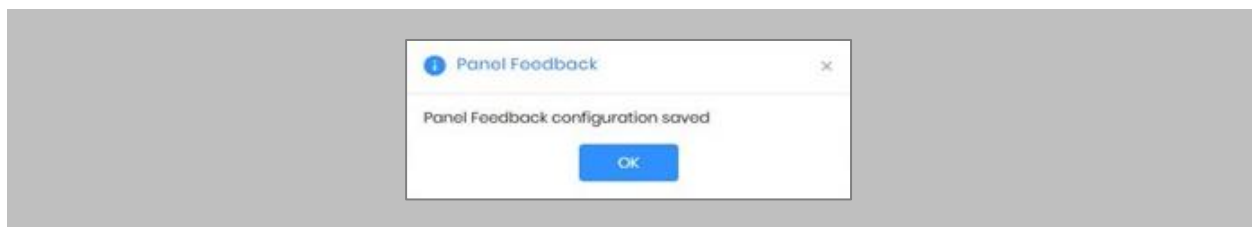


Figure 41: IXM WEB - Save Panel Feedback

## 12. Enrollment Best Practices

### Fingerprint Enrollment Best Practices

- Invixium recommends using the index, middle, and ring fingers for enrollment.
- Make sure your finger is flat and centered on the sensor scanning area.
- The finger should not be at an angle and should be straight when placed on the sensor.
- Ensure that the finger is not too dry or too wet. Moisten your finger during enrollment if required.

### Avoid Poor Fingerprint Conditions

- Wet Finger: Wipe excessive moisture from the finger before placement.
- Dry Finger: Use moisturizer or blow warm breath over the finger before placement.
- Stained Finger: Wipe stains from finger before placement.

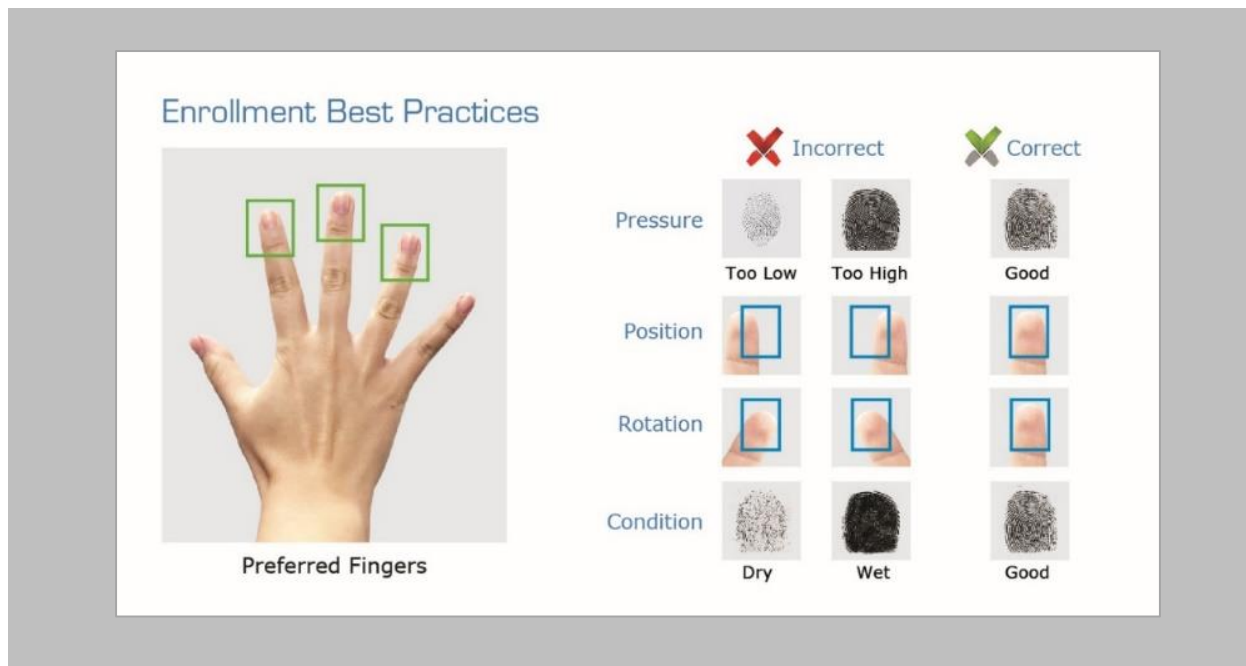


Figure 42: Fingerprint Enrollment Best Practices

## Fingerprint Image Samples





Fingerprint Sample	Result	Recommendation
	Good Fingerprint	Always try and get a good fingerprint like this for a good enrollment score
	Fingerprint with cuts	Invixium recommends using Card + Biometrics or Card + PIN
	Dry finger	Moisten finger and re-enroll for better results
	Wet/Sweaty finger	Rub finger on clean cotton cloth and re-enroll for better results

Figure 43: Fingerprint Images Samples

---

## Fingerprint Imaging Do's and Don'ts

### Do's:

- Capture the index finger first for the best quality image. If it becomes necessary to capture alternate fingers, use the middle or ring fingers next. Avoid pinkies and thumbs because they generally do not provide a high-quality image.
- Ensure that the finger is flat and centered on the fingerprint scanner area.
- Re-enroll a light fingerprint. If the finger is too dry, moistening the finger will improve the image.
- Re-enroll a finger that has rolled left or right and provided a partial finger capture.

### Remember to:

- Identify your fingerprint pattern.
- Locate the core.
- Position the core in the center of the fingerprint scanner.
- Capture an acceptable quality image.

### Don'ts:

- Don't accept a bad image that can be improved. This is especially critical during the enrollment process.
- Don't assume your fingerprint is placed correctly.



## Finger Vein Enrollment Best Practices

- Invixium recommends using the index and middle fingers for enrollment.
- Make sure your fingertip is resting on the finger guide at the back of the sensor cavity.
- The finger should be completely straight for the best finger vein scan.

Ensure that the finger is not turned or rotated in any direction.

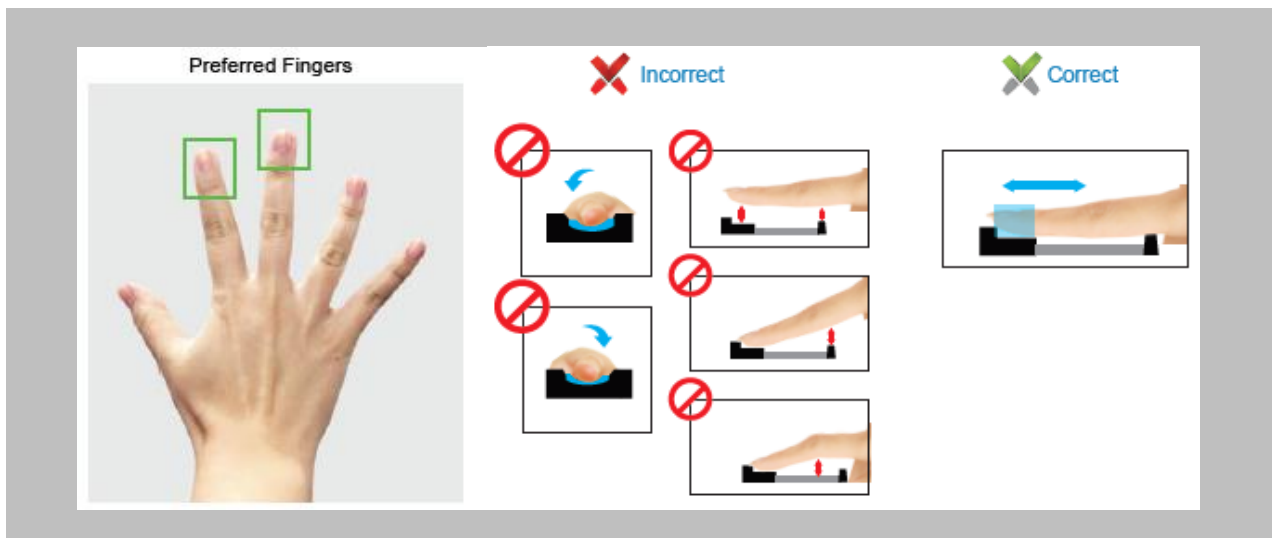


Figure 44: Finger Vein Enrollment Best Practices

## Face Enrollment Best Practices

- Invixium recommends standing at least 2 to 3 feet from the device when enrolling a face.
- Make sure your entire face is within the frame corners, which will turn green upon correct positioning.
- Look straight at the camera when enrolling your face. Avoid looking in other directions or turning your head during enrollment.

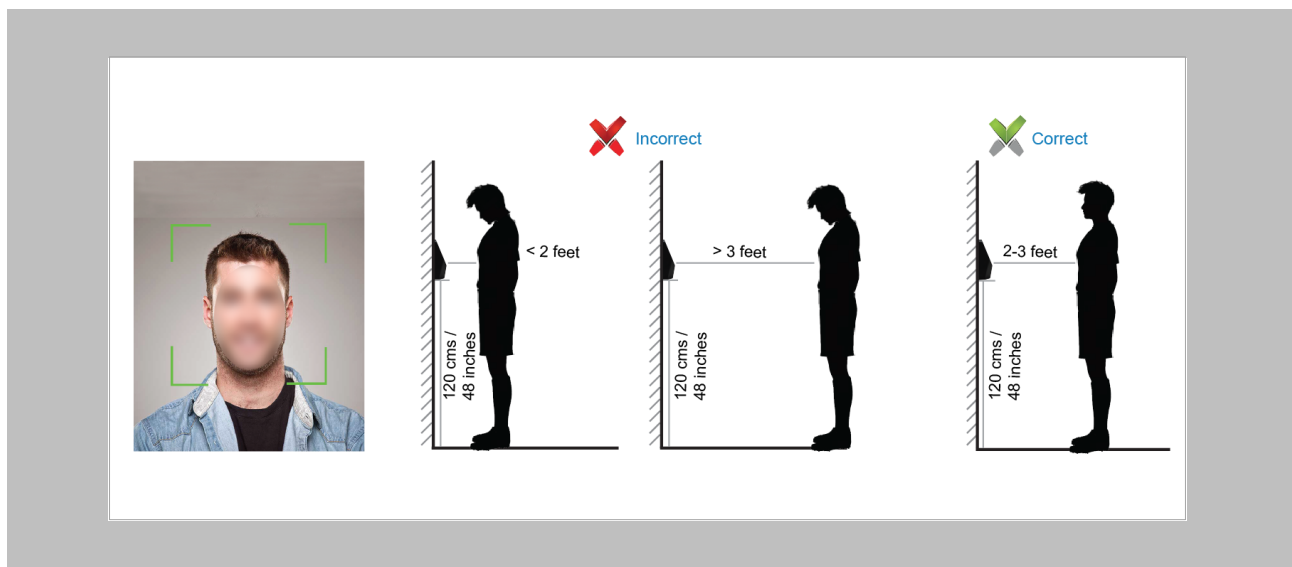


Figure 45: Face Enrollment Best Practices

## 13. Appendix

### Pushing Configurations to Multiple Invidium Readers

#### Procedure

#### STEP 1

To push these configurations to other Invidium readers, while the configured Invidium device is selected, click the **Broadcast** option on the right-hand side.

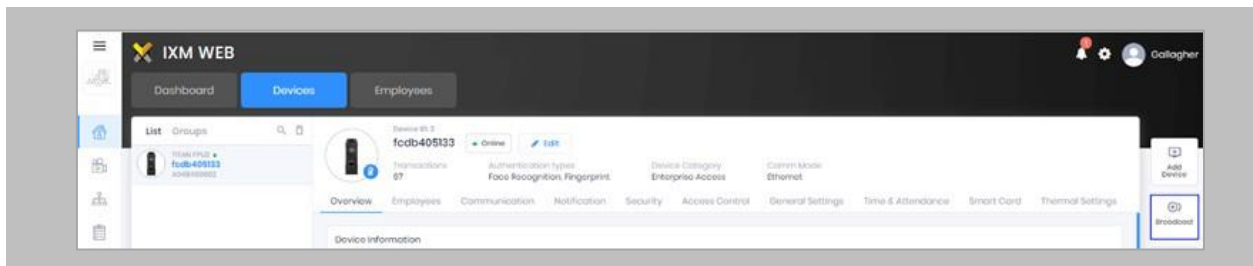


Figure 46: IXM WEB - Broadcast Option

#### STEP 2

Scroll down to the **Access Control** section and check the **Wiegand Output** option

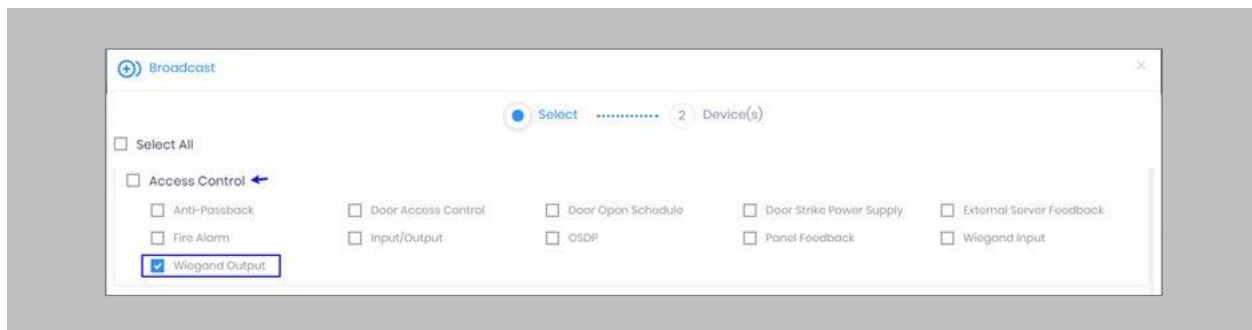


Figure 47: IXM WEB - Wiegand Output Selection in Broadcast

STEP 3

Click **Broadcast**.

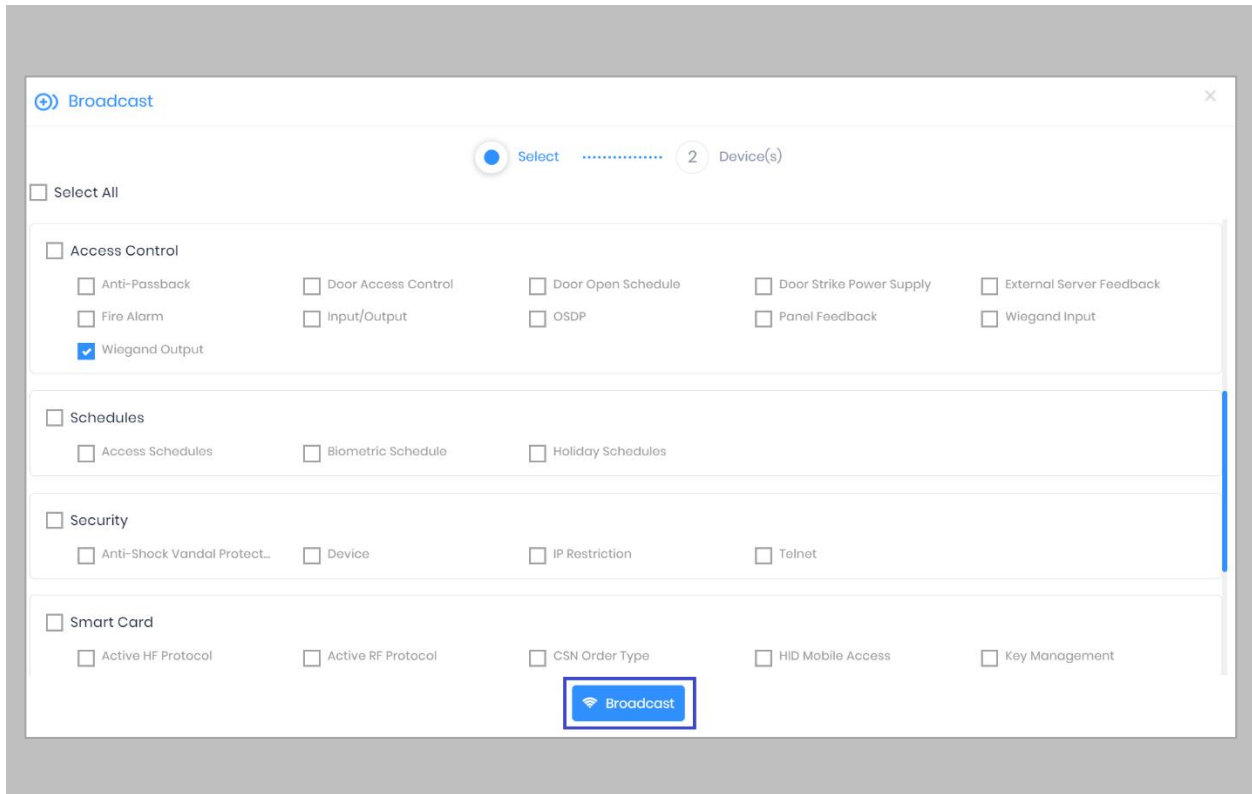


Figure 48: IXM WEB - Broadcast Wiegand Output Settings

## STEP 4

Select the rest of the devices in the popup. Click **OK** to copy all Wiegand output settings of the source device to all destination devices.

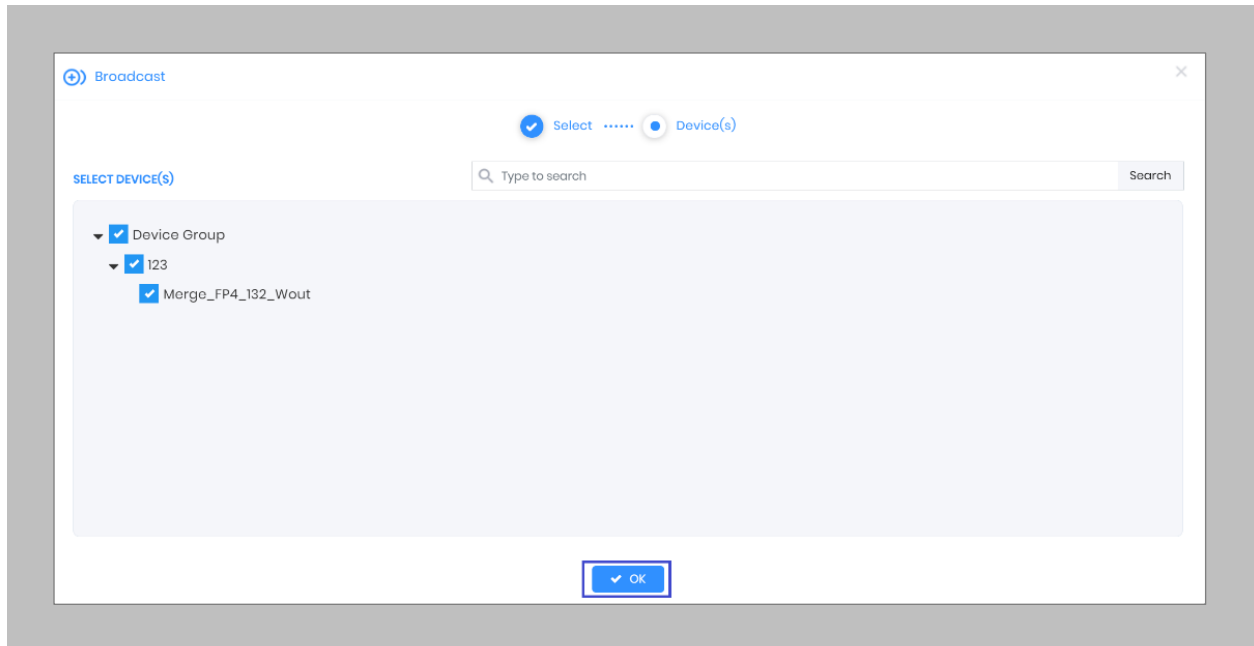


Figure 49: IXM WEB - Broadcast to Devices



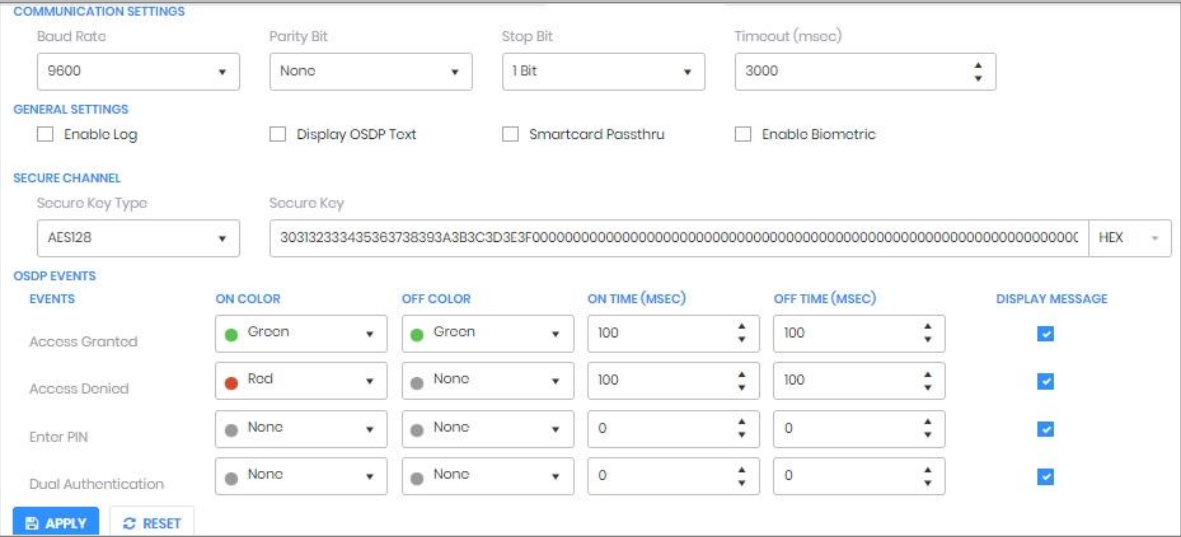
Note: Popup will display devices of the same category only.

## Configuring for OSDP connection

### STEP 1

From **Home**, click the **Devices** tab. Select the required **Device** and navigate to **Access Control**. Click **OSDP**.

By default, the OSDP configuration is turned **OFF**. Enable OSDP by toggling the switch to **ON**.



EVENTS	ON COLOR	OFF COLOR	ON TIME (MSEC)	OFF TIME (MSEC)	DISPLAY MESSAGE
Access Granted	Green	Green	100	100	<input checked="" type="checkbox"/>
Access Denied	Red	None	100	100	<input checked="" type="checkbox"/>
Enter PIN	None	None	0	0	<input checked="" type="checkbox"/>
Dual Authentication	None	None	0	0	<input checked="" type="checkbox"/>

Figure 50: IXM WEB - OSDP Settings


## STEP 2

Provide **values** for the configuration settings below:

<b>Baud Rate</b>	The baud rate of the serial communication. The value must be the same as the Access Control Panel's value.
<b>Parity Bit</b>	The parity bit of the serial communication. The value must be the same as the Access Control Panel's value.
<b>Stop Bit</b>	The stop bit of the serial communication. The value must be the same as the Access Control Panel's value.
<b>Enable Log</b>	This logs OSDP events for support and debugging purposes. Invixium recommends disabling this feature unless needed.
<b>SmartCard Passthru</b>	When presenting a smart card, the device passes the smart card CSN (Card Serial Number) to the Access Control Panel without taking any other action.
<b>Enable Biometric</b>	Enables biometric template verification.
<b>Secure Channel</b>	The secure key is provided by your Access Control Panel most of the time. However, provisions for manual entry can be added as TEXT or HEX.
<b>Event</b>	<p>The OSDP static events for panel feedback and capture pin are:</p> <ul style="list-style-type: none"> <li>Access Granted</li> <li>Access Denied</li> <li>Enter Pin</li> </ul> <p>Dual Authentication – It is an access mode that requires valid access by two authorized cardholders to enter an access zone within a specified time period. This feature is available only if the <b>Multi-User Authentication</b> feature is enabled and configured. To configure the Multi-User Authentication feature, from <b>Home</b>, click the <b>Devices</b> tab. Select the required Device and navigate to <b>General Settings</b>. Click on the <b>Multi-User Authentication</b> section. Upon enabling this feature, the following actions will be performed:</p> <ul style="list-style-type: none"> <li>• The Device will request the credentials of the second user after the first user is authenticated successfully.</li> <li>• Card numbers for both, the first and the second user will be transferred to the Access Control Panel.</li> </ul> <p>Two events, one for the first user and the other for the</p>

	second user will be logged into the Access Control Panel.
<b>On Color/Off Color</b>	<p>The LED color configuration is based on panel events. The value must be the same as the Access Control Panel's value. Options are:</p> <ul style="list-style-type: none"> <li>• Red</li> <li>• Green</li> <li>• Yellow</li> <li>• Blue</li> </ul>

Table 5: IXM WEB - OSDP Configuration Options

 **Note:** Mismatches between the unit and Access Control Panel LED configuration will cause unrecognized events.

<b>Display OSDP Text</b>	Enables to display OSDP Text.
<b>Display Message</b>	<p>Notification on the device's screen.</p> <p>If enabled: Displays both the unit hardcoded notification and the Access Control Panel notification. IXM notification - Access Granted or Access Denied. Access Control Panel notification – Valid or Invalid.</p> <p>If disable: Displays only the Access Control Panel notification.</p>

Table 6: IXM WEB - OSDP Text Options



---

STEP 3

Click **Apply** to save the settings.

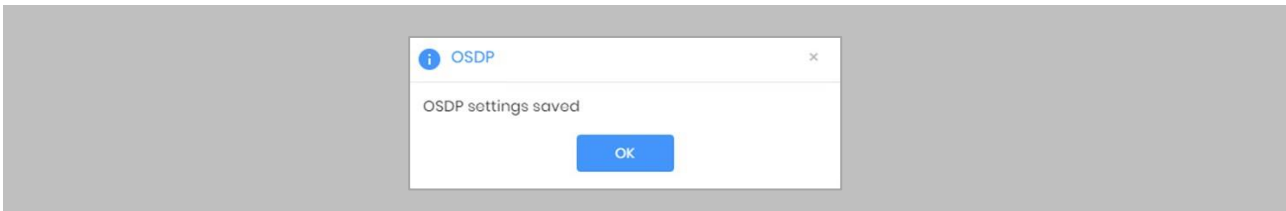


Figure 51: IXM WEB - Save OSDP Settings

## Wiring and Termination

### Procedure

#### Earth Ground

For protection against ESD, Invixium recommends the use of a ground connection between each Invixium device to a high-quality earth ground on site.

#### STEP 1

Connect the **green** and **yellow** earth wire from the wired back cover.

#### STEP 2

Connect the **open end** of the earth ground wire provided in the install kit box to the **building earth ground**.

#### STEP 3

Screw the **lug end** of the earth ground.

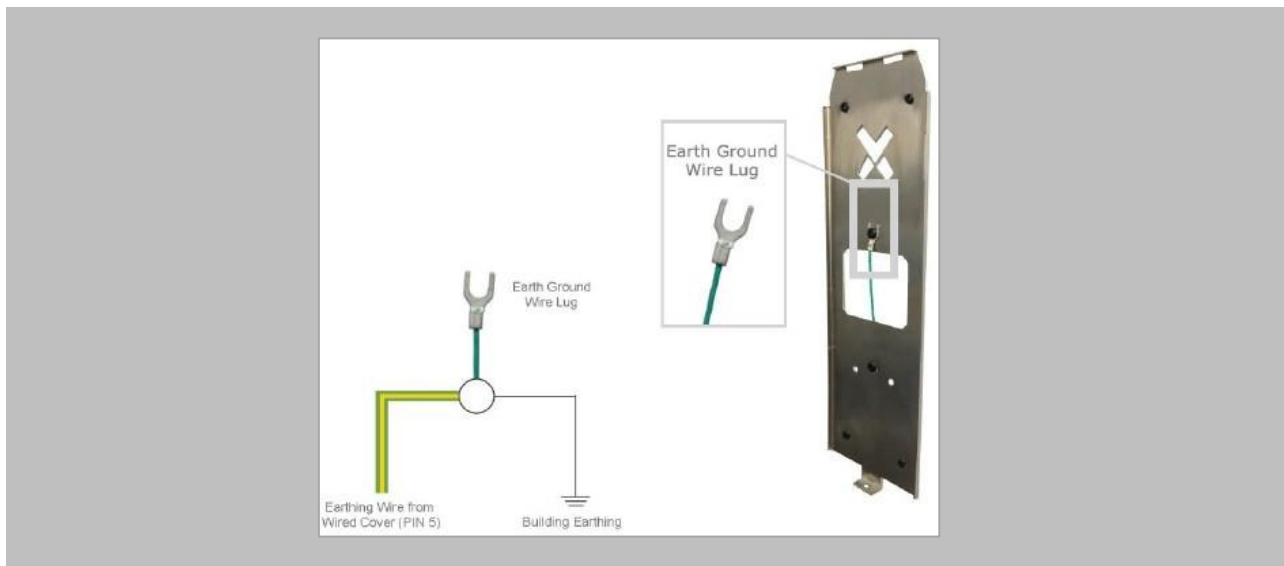


Figure 52: Earth Ground Wiring

## Wiring

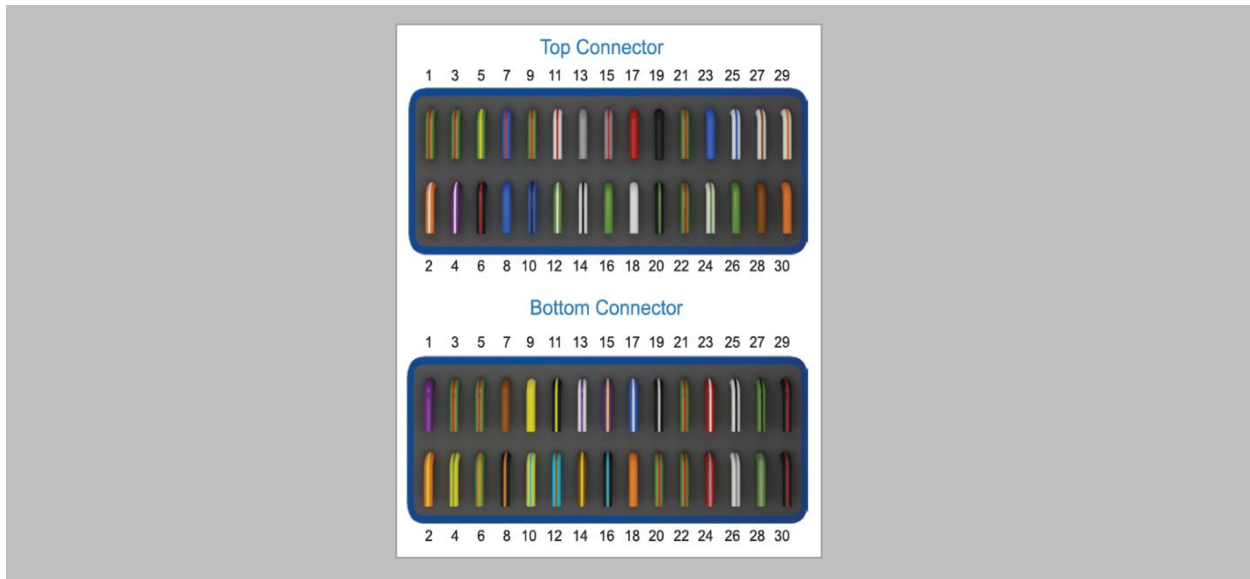


Figure 53: IXM TITAN – Top & Bottom Connector Wiring

Get Wired Top Connector				Get Wired Bottom Connector			
Wire Color	Wire	Label	Pin(s)	Wire Color	Wire	Label	Pin(s)
Green/Red		RESERVED	1	Green		WDATA_OUT0	16
Orange/White		RS232_RX	2	Red		V_INPUT+	17
Green/Red		RESERVED	3	White		WDATA_OUT1	18
Purple/White		RS232_TX	4	Black		V_INPUT-	19
Green/Yellow		EGND	5	Black/Green		WGND	20
Black/Red		SGND	6	Green/Red		RESERVED	21
Blue/Red		RS485_T	7	Green/Red		RESERVED	22
Blue		RS485_D+	8	RJ 45 Receptacle		TCP/IP	23-30
Green/Red		RESERVED	9	POWER			
Blue/Black		RS485_D-	10	Wiegand			
White/Red		RLY_NC	11	OSDP			
Green/White		WDATA_IN0	12				
Grey		RLY_COM	13				
White/Black		WDATA_IN1	14				
Grey/Red		RLY_NO	15				
Purple		DAC_SUPPLY	1	Black/Cyan		SPI_GND	16
Orange/Yellow		SPO1	2	Blue/White		DAC_IN3	17
Green/Red		RESERVED	3	Orange		DAC_OUT	18
Yellow/Green		SPO2	4	Black/White		DAC_IN_GND	19
Green/Red		RESERVED	5	Green/Red		RESERVED	20
Green/Orange		SPO3	6	Green/Red		RESERVED	21
Brown		ACP_LED1	7	Green/Red		RESERVED	22
Black/Orange		SPO_GND	8	Red/White		USB0_VBUS	23
Yellow		ACP_LED2	9	Red/Grey		USB1_VBUS	24
Yellow/Cyan		SPI1	10	White/Black		USB0_D-	25
Black/Yellow		ACP_LED_GND	11	White/Grey		USB1_D-	26
Cyan/Brown		SPI2	12	Green/Black		USB0_D+	27
White/Purple		DAC_IN1	13	Green/Grey		USB1_D+	28
Brown/Yellow		SPI3	14	Black/Red		USB0_GND	29
Purple/Yellow		DAC_IN2	15	Black/Red		USB1_GND	30

Figure 54: Power, Wiegand & OSDP Wires

All Invixium devices support Wiegand and OSDP.

Invixium devices can be integrated with Honeywell WIN-PAK panels on:

1. Wiegand (one-way communication)
2. Wiegand with panel feedback (two-way communication)
3. OSDP (two-way communication)

## Wiegand Connection

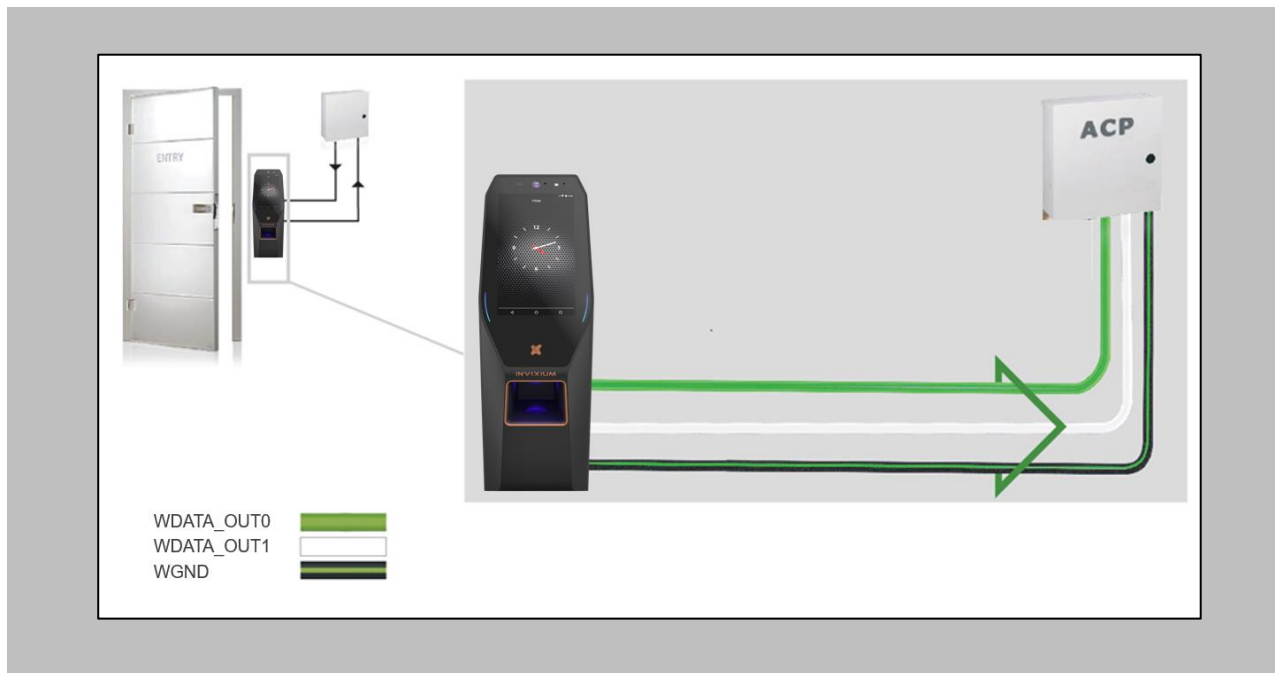



Figure 55: IXM TITAN - Wiegand

 Please refer to the INGUIDE document provided for each product on [Invixium.com](http://Invixium.com) under the **Download** section of the **Products** menu.

## Wiegand Connection with Panel Feedback

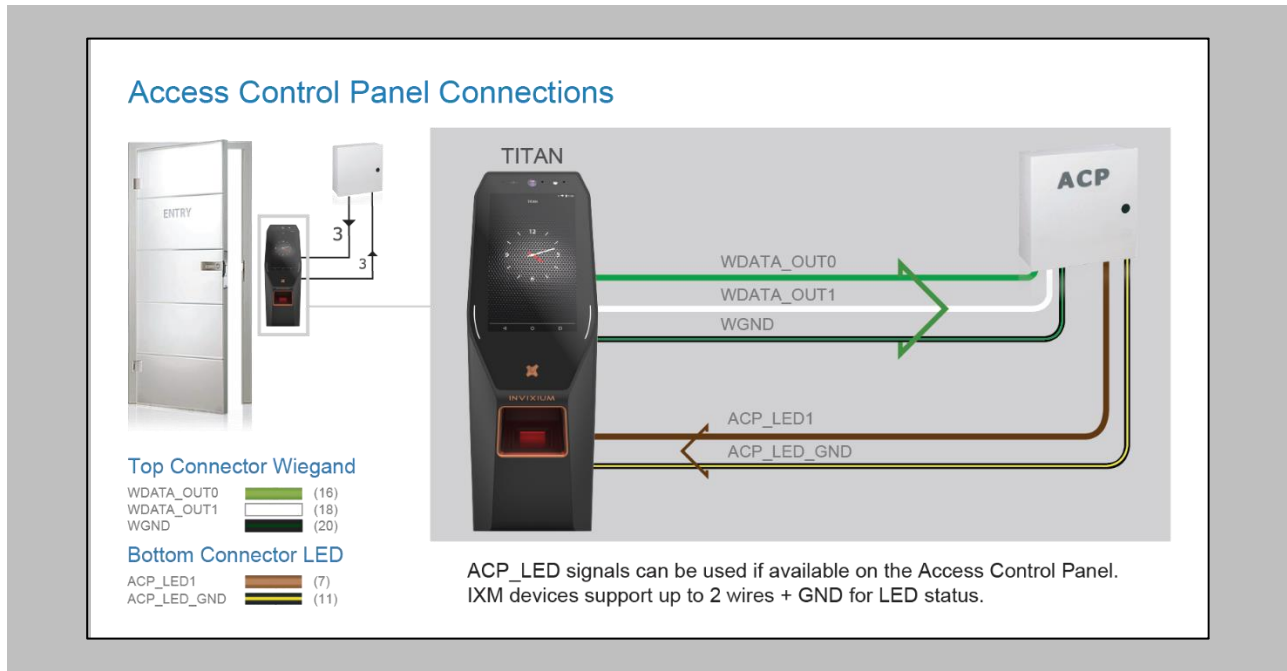



Figure 56: IXM TITAN – Panel Feedback

 Please refer to the INGUIDE document provided for each product on [Invixium.com](http://Invixium.com) under the **Download** section of the **Products** menu.

## OSDP Connections

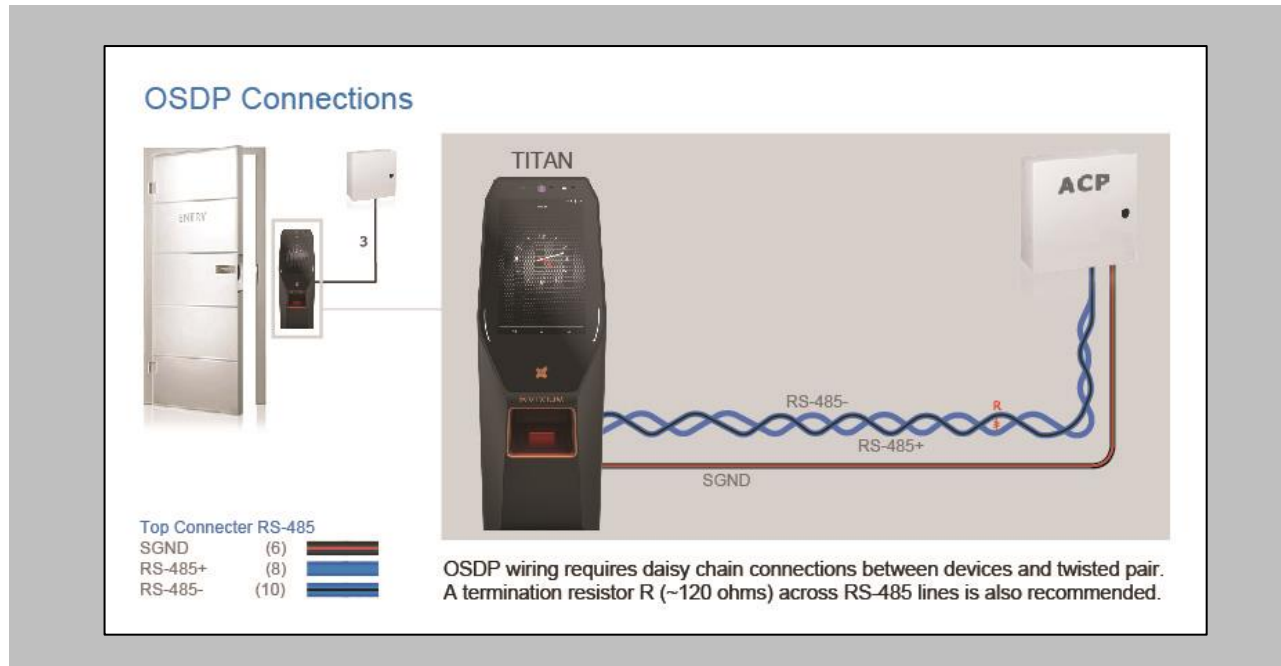



Figure 57: IXM TITAN – OSDP Connections

 Please refer to the INGUIDE document provided for each product on [Invixium.com](http://Invixium.com) under the **Download** section of the **Products** menu.

## 14. Troubleshooting

### Reader Offline from IXM WEB Dashboard



Note: Confirm Communication of IXM WEB server to Invixium reader.

Procedure

STEP 1

From [Home](#), click the [Devices](#) tab.

STEP 2

[Select](#) any device.

STEP 3

Navigate to the [Communication](#) tab.

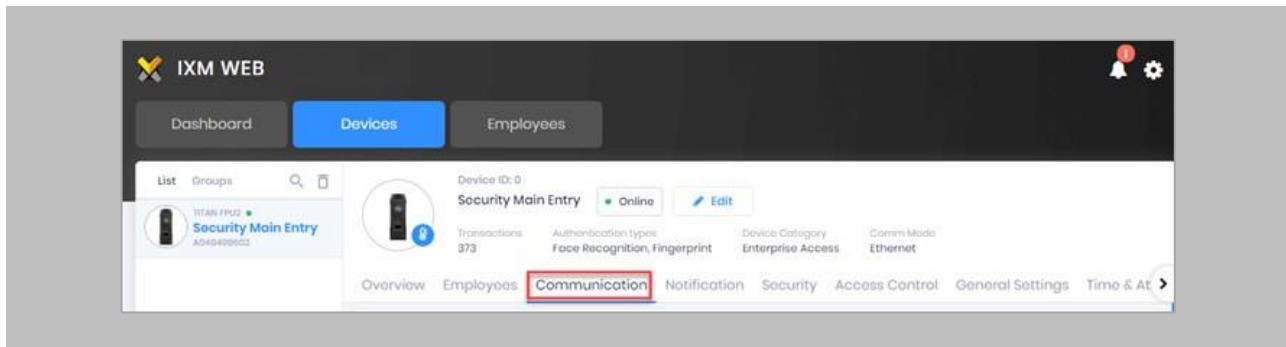


Figure 58: IXM WEB - Device Communication Settings



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## STEP 4

Scroll down and click on **IXM WEB Server**.

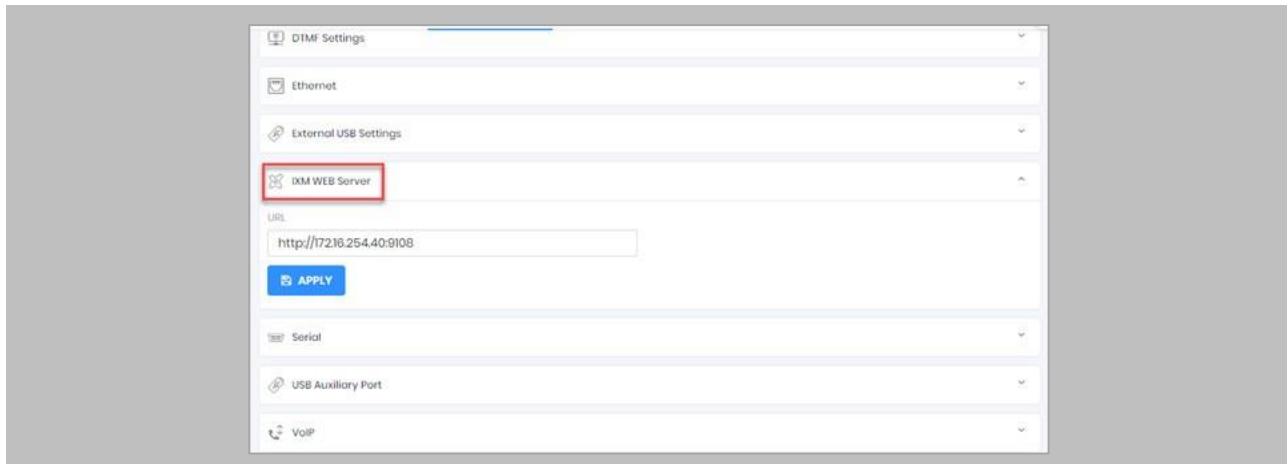


Figure 59: IXM WEB - Server URL Setting

Ensure the correct **IP address** of the server is listed here. If not, **correct** and **apply**.

## STEP 5

Enter the **IP address** of the Invoxium server followed by **port 9108**.

Format: **http://IP\_IXMServer:9108**

STEP 6

Navigate to **General Settings** and make sure that the **URL** reflects the same setting.

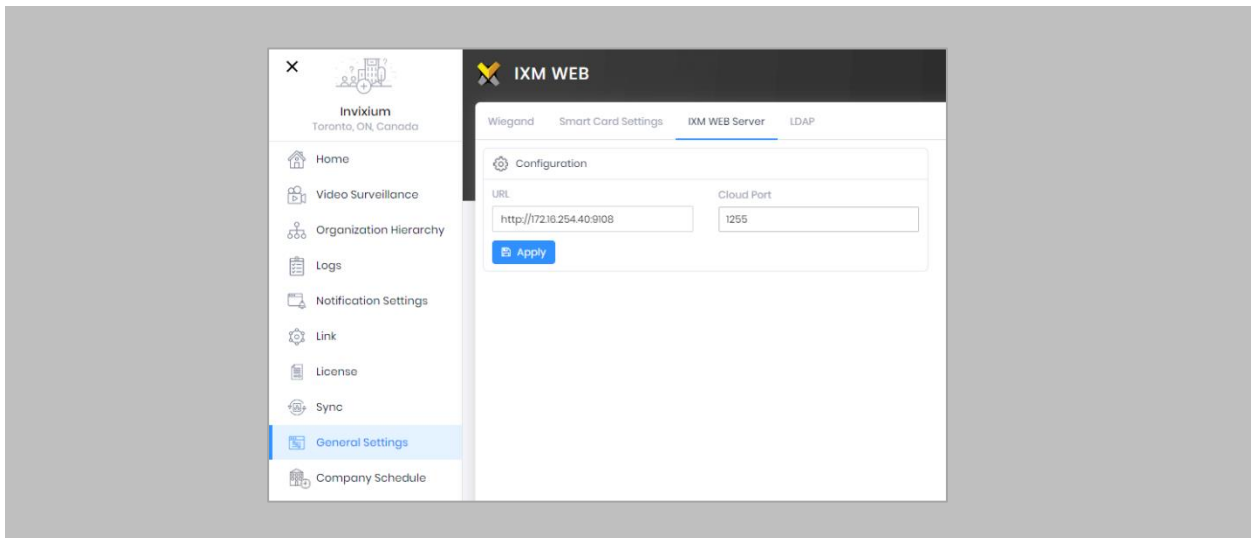


Figure 60: IXM WEB - Server URL Setting from General Settings

## Logs in IXM WEB Application

**Device Logs:** Device Logs are used for debugging device-related issues.

From **Home** → Click the **Devices** Tab on the top → Select the required **Device** → Navigate to the **General Settings** tab for the device → Click on **Device Log** → **Enable** Capture Device Logs.

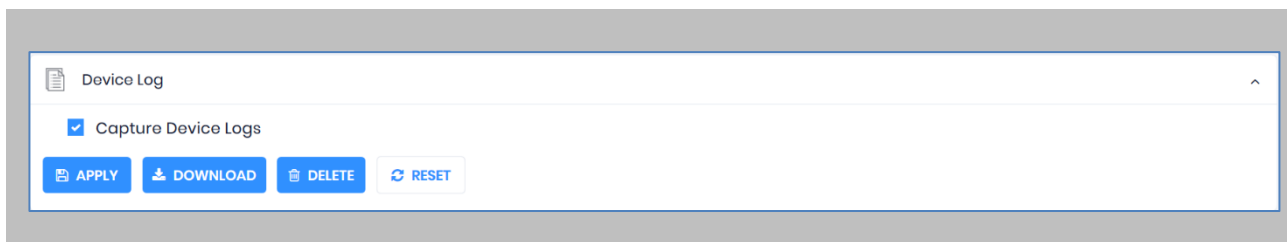


Figure 61: IXM WEB - Enable Device Logs

Click **Download** to initialize the process to download the device log file.

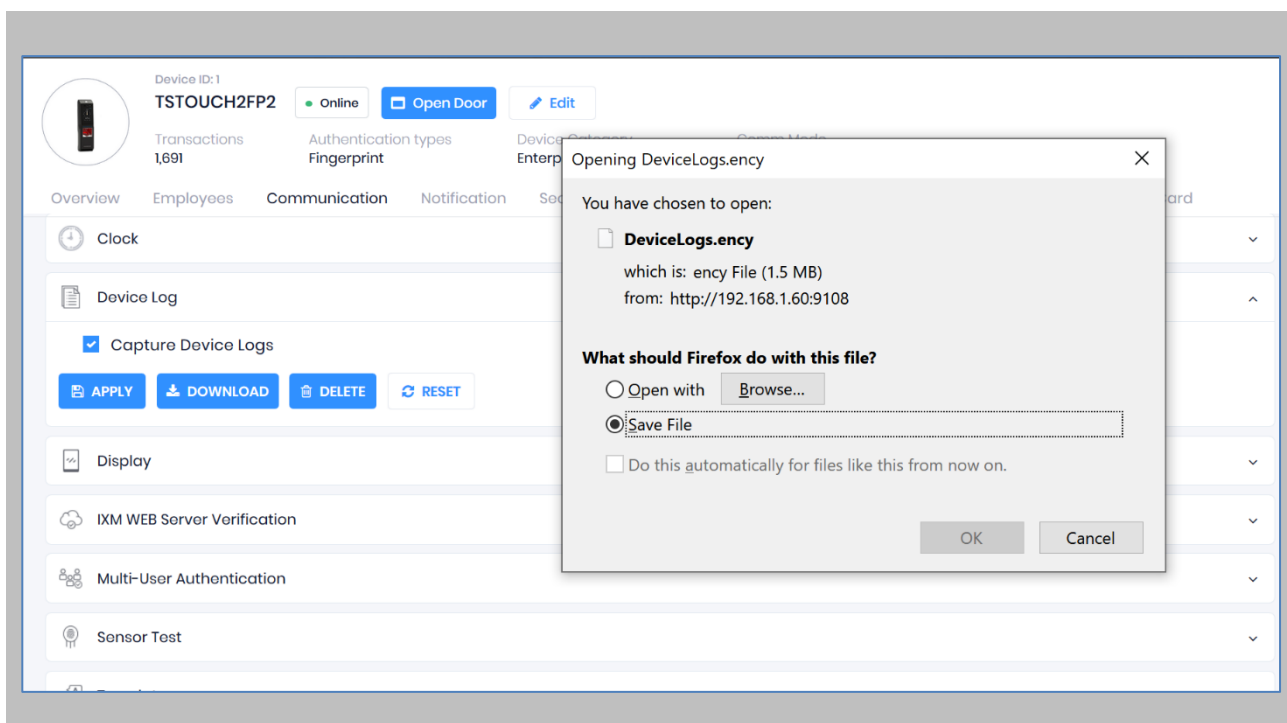


Figure 62: Save Device Log File



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Select Save File and Click **OK** to store the device log file on your machine.

**Transaction Logs** (TLogs): Events or activities taking place on the IXM device.

- Transactions Logs can be viewed and exported from IXM WEB.
- Go to Logs in the Left Navigation pane in IXM WEB and click on Transaction Logs. A filter option is available in Transaction Logs columns.

**Application Logs:** Applications logs are available for any event, error, or information generated in IXM WEB.

- Applications Logs can be viewed and exported from IXM WEB.
- Go to Logs in the Left Navigation pane in IXM WEB and click on Application Logs. Filter option is available in the Application Logs columns.

Logs folder location on IXM WEB Server:

<b>IXM WEB Logs</b>	C:\Program Files (x86)\Invixium\IXM WEB\Log
<b>IXM WEB Service Logs</b>	C:\Program Files (x86)\Invixium\IXMWebService
<b>IXM API Logs</b>	C:\Program Files (x86)\Invixium\IXMAPI\Log

Table 7: Logs Folder Location

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## 15. Support

For more information relating to this document, please contact [support@invixium.com](mailto:support@invixium.com).

## 16. Disclaimer and Restrictions

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