

## Feature Description Document

### Understanding IXM Convert



## Purpose

This document outlines the process of configuring the IXM Convert module to convert existing biometrics templates to IXM standard templates.

## Applies to

TITAN	TFACE	TOUCH 2	SENSE 2	MERGE 2	MYCRO
All Devices	All Devices	All Devices	All Devices	All Devices	All Devices

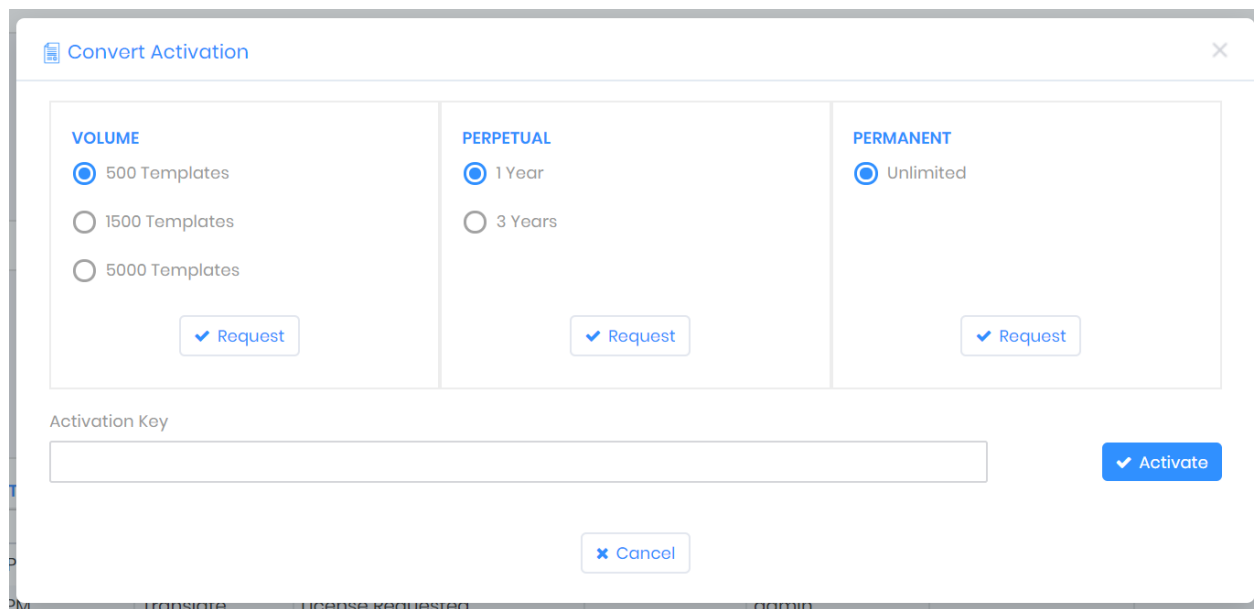
## Description

IXM Convert is a revolutionary module in IXM WEB which allows for migration of existing biometric systems to Invixium. This module converts nonproprietary fingerprint images and fingerprint templates into standardized Invixium biometric templates.

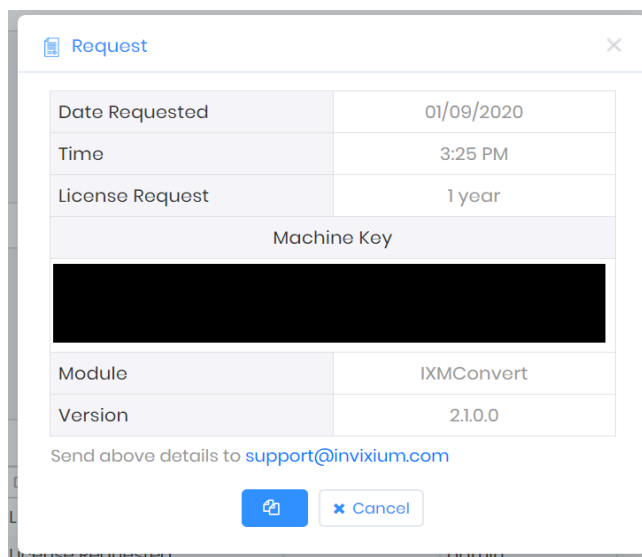
1. IXM Convert provides multiple options for bulk data conversion for the following sources:
  - SQL Server database
  - Oracle database
  - MS Access database
  - CSV
2. User can convert the following templates or image types to Invixium standard templates:
  - RAW
  - BMP
  - WSQ
  - JPEG/JP2
  - ANSI 378
  - ISO 19794-2
3. IXM Convert will convert good and average quality templates only. Average quality fingerprints may require re-enrollment in case of unsuccessful authentication. No conversion will take place in case of poor or low-quality fingerprints.

## Requesting License

1. IXM Convert module comes with the following license types:
  - a. **Volume:** Number of biometric templates to convert (i.e. 500/1500/5000 Templates)
  - b. **Perpetual:** Number of Years (i.e. 1 Year/3 Year)
  - c. **Permanent:** Unlimited
2. For volume-based license, Invixium consumes licenses only for biometric templates that are converted successfully and not for failed conversions.
3. From Home screen expand Left Navigation Pane >> Navigate to the **License** tab >> click **Convert**.


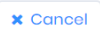


4. Select the type of Convert license required and click **Request** to see details to be sent to Invixium support to request a license key.
5. Details screen will vary based on whether SMTP settings are configured in IXM WEB:
  - a. If SMTP settings are not configured, a “Copy to Clipboard” button will appear.



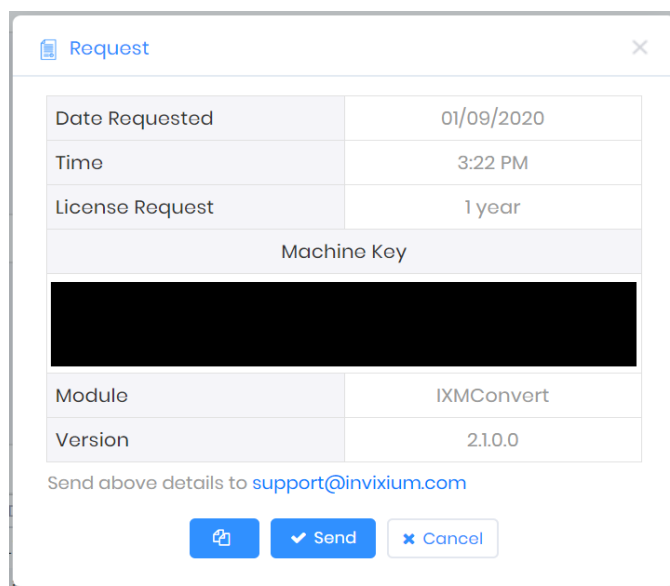
Date Requested	01/09/2020
Time	3:25 PM
License Request	1 year
Machine Key	
[Redacted]	
Module	IXMConvert
Version	2.10.0

Send above details to [support@invixium.com](mailto:support@invixium.com)



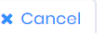
Click it to copy request details shown on the clipboard. Paste the copied details in an email to [support@invixium.com](mailto:support@invixium.com) to start the licensing process.

- b. When SMTP settings configured, both the “Copy to Clipboard” & “Send” buttons will appear.



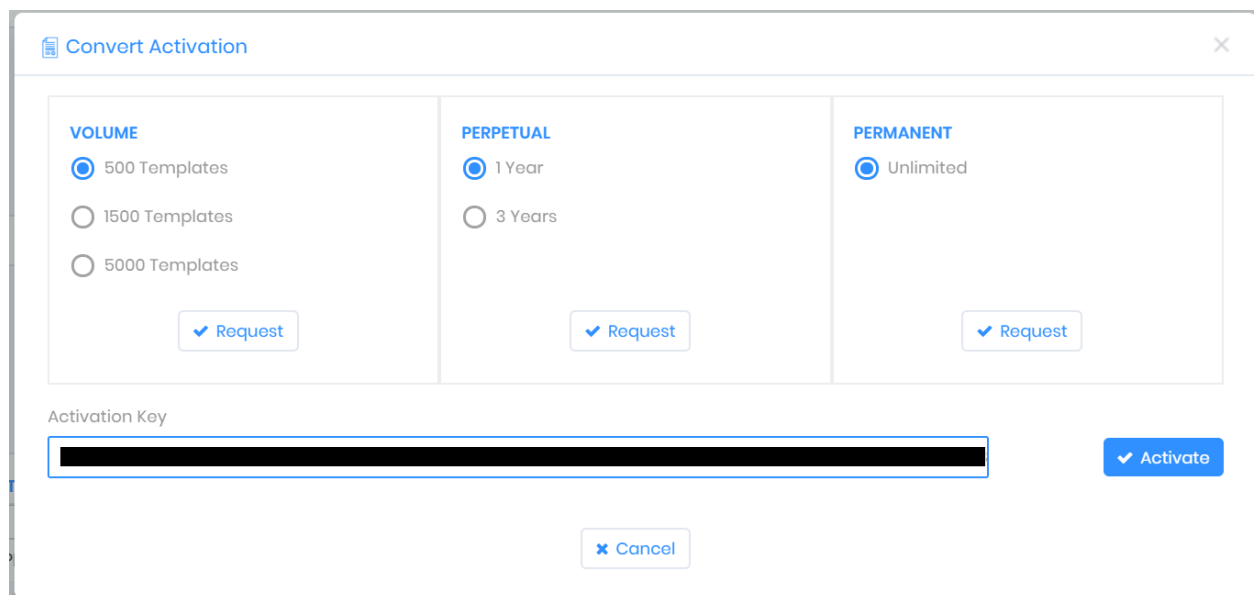
Date Requested	01/09/2020
Time	3:22 PM
License Request	1 year
Machine Key	
[Redacted]	
Module	IXMConvert
Version	2.10.0

Send above details to [support@invixium.com](mailto:support@invixium.com)

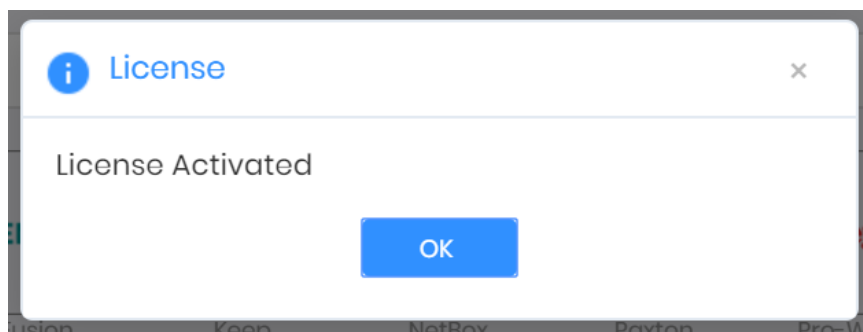
  

Click it to email details displayed to Invixium support to start the licensing process.

6. Once you receive the license key from Invixium, go back to the same page from which you requested the license and input the license key in the Key field as shown below.

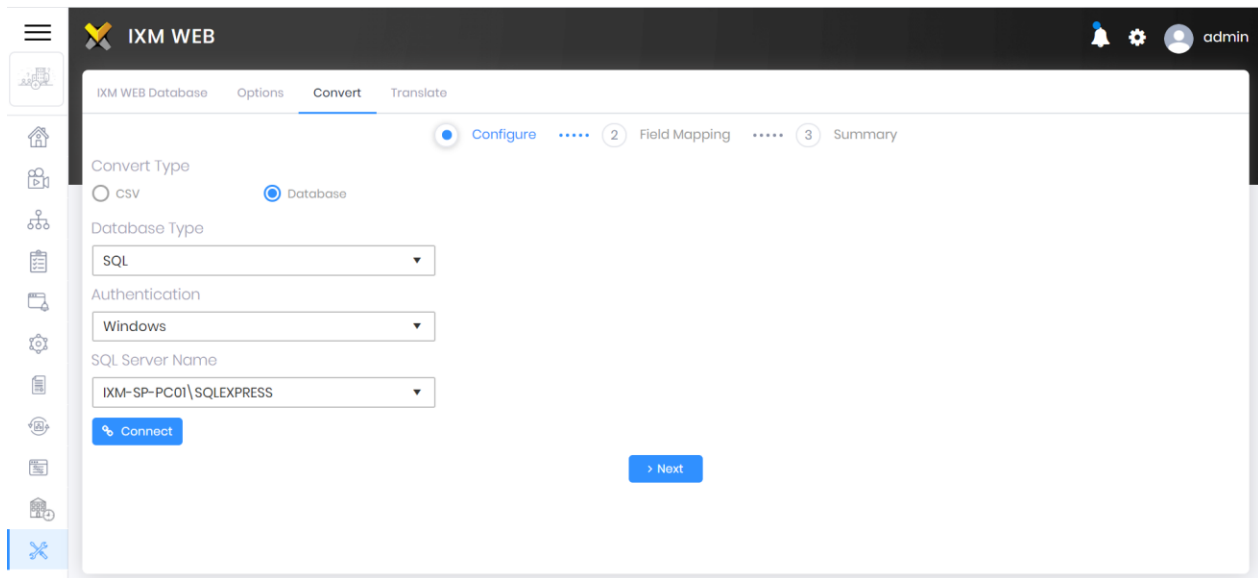
A screenshot of a 'Convert Activation' dialog box. It has three columns: 'VOLUME' with radio buttons for '500 Templates', '1500 Templates', and '5000 Templates'; 'PERPETUAL' with radio buttons for '1 Year' and '3 Years'; and 'PERMANENT' with a radio button for 'Unlimited'. Each column has a 'Request' button. Below these columns is an 'Activation Key' field with a blacked-out key and an 'Activate' button. A 'Cancel' button is at the bottom.

7. Click **Activate** to enable the license.



## Configuring SQL database

1. From Home Screen >> Expand **Left Navigation Pane** >> Navigate to the **Tools** tab >> Click **Convert**. By default, the **Database** option will be selected.



The screenshot displays the IXM WEB application interface. On the left is a vertical navigation pane with various icons. The main content area is titled 'IXM WEB' and features a top navigation bar with tabs: 'IXM WEB Database', 'Options', 'Convert', and 'Translate'. The 'Convert' tab is active, showing a progress indicator with three steps: '1. Configure' (selected), '2. Field Mapping', and '3. Summary'. Below the progress bar, the 'Convert Type' section has two radio buttons: 'csv' and 'Database' (selected). The 'Database Type' section has a dropdown menu set to 'SQL'. The 'Authentication' section has a dropdown menu set to 'Windows'. The 'SQL Server Name' section has a dropdown menu set to 'IXM-SP-PC01\SQLEXPRESS'. At the bottom of the configuration area are two buttons: 'Connect' and '> Next'.

2. Provide the following details of SQL database and click **Connect**:

- a. **Authentication Mode:** Windows or SQL Server as the authentication mode for login type.
- b. **User:** Username to log into SQL Server to access the database.
- c. **Password:** Password to log into SQL Server to access the database.
- d. **SQL Server Name:** Name or IP of SQL Server instance where the said database is installed.

Convert Type

☐ csv ☒ Database

Database Type

SQL

Authentication

SQL Server

SQL Server Name


IXM-SUPPORT-SD\SQLEXPRESS

SQL User Name

sa

Password

\*\*\*\*\*

 Connect

Database Name

Select

Select Table(s)

Select

[> Next](#)

3. Select the database name & table(s) which contains user details & biometric data. A maximum of 5 tables can be selected, and the primary table name is required if more than 1 table is selected. All the selected tables must have a relationship between them.

Convert Type

☐ CSV ☒ Database

Database Type

SQL

Authentication

Windows

SQL Server Name

IXM-SUPPORT-SD\SQLEXPRESS

[Connect](#)

Database Name

AllImagesConversion

Select Table(s)

User\_Finger\_ANSI x User x

Select Primary Table

User

☐ Apply filter

[Next](#)

4. If biometric templates of selected existing users need to be converted, then select the “Apply filter” checkbox. This will show you a list of users available in the primary table. Select the required user(s) and click **OK**.

Convert

DBId	UserID	Firstname	Lastname	Email	Gender
477ff5e3-a9ec-4931-9ef3-5d0ccc0276a9	8	Sukhpai			
d8a08a2e-a6d7-496f-89fd-6a865c712358	3	Japan			
c0927954-2e20-412c-87bf-7497abd31a37	7	Sapan			
2fc4d65e-7c57-4713-9584-a50512013c19	9	Vinkesh			
a17d7600-11e8-4167-aef6-d70ab7fb5a50	4	Kaushik			
764a414d-b7bb-4400-8563-fc5282a7ccac	5	Kavita			
3066c3f3-7869-4a9e-a92f-ffa7cf151391	1	Esha			

1 - 9 of 9 items

[Select All](#) [Clear All](#) [OK](#)



5. The “Apply filter” field will display the total count of filtered records next to the checkbox in the Database Connection screen.

Convert Type  
☐ csv ☒ Database

Database Type  
SQL ▼

Authentication  
Windows ▼

SQL Server Name  
IXM-SUPPORT-SD\SQLEXPRESS x ▼

[Connect](#)

Database Name  
AllImagesConversion ▼

Select Table(s)  
User\_Finger\_ANSI x User x

Select Primary Table  
User ▼

☒ Apply filter [2]

[Next](#)

- Click **Next** to display the field mapping screen. The user will see 2 columns - IXM Fields and Source Fields. Users will have to map source fields against IXM fields.

✓ Configure

Field Mapping

3 Summary

IXM Field	Source Field
Required	
User Id	---
First Name	---
Biometric Data	---
Finger Index	---
Optional	
Last Name	---
Gender	---
Birth Date	---
Address Line 1	---
Address Line 2	---
City	---
State	---
Country	---

☐ Overwrite all data
 ☐ Save original data

≡ Convert

✓ Analyze

< Back

Unmapped

OK

Error

- User ID, First Name, Biometric Data & Finger Index fields under the “Required” section are mandatory for mapping.

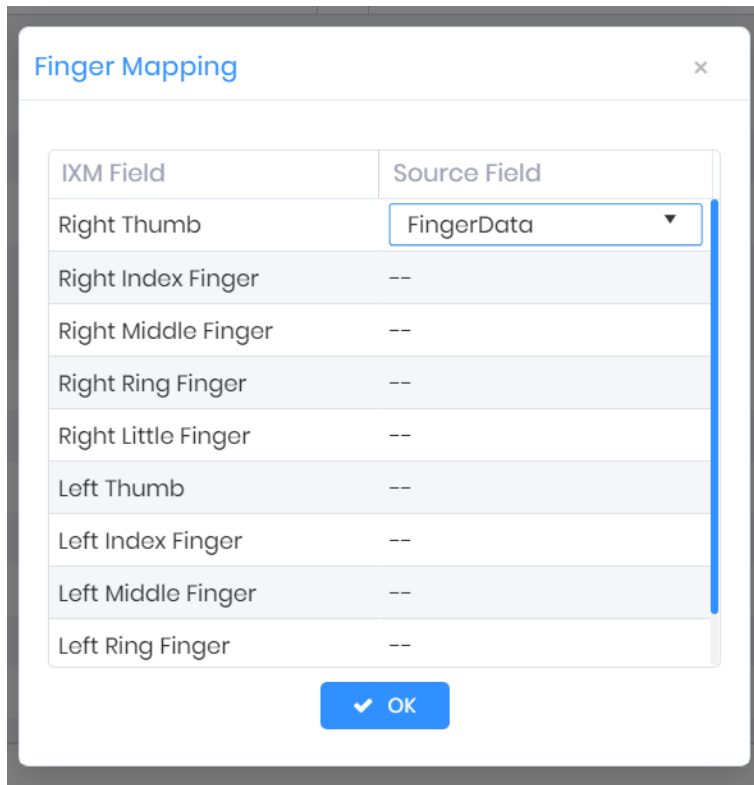
✓ Configure

Field Mapping

3 Summary

IXM Field	Source Field	
Required		
User Id	✓ UserID	
First Name	✓ Firstname	
Biometric Data	✓ FingerData	
Finger Index	✓ FingerIndex	Map
Optional		
Last Name	1 --	
Gender	1 --	
Birth Date	1 --	
Address Line 1	1 --	
Address Line 2	1 --	
City	1 --	
State	1 --	
Country	1 --	

8. Out of the two fields, Biometric Data & Finger Index, users can map both or any one of them. To map Biometric Data, click **MAP**. It will open a popup for biometric data mapping. Here the user will see source fields prepopulated. Map the IXM Field against the respective source field and click **OK**.



The image shows a 'Finger Mapping' popup window. It contains a table with two columns: 'IXM Field' and 'Source Field'. The 'Source Field' column has a dropdown menu for the first row, which is currently set to 'FingerData'. The other rows in the 'Source Field' column are empty, indicated by '--'. At the bottom of the window is a blue button with a checkmark and the text 'OK'.

IXM Field	Source Field
Right Thumb	FingerData
Right Index Finger	--
Right Middle Finger	--
Right Ring Finger	--
Right Little Finger	--
Left Thumb	--
Left Index Finger	--
Left Middle Finger	--
Left Ring Finger	--

✓ OK

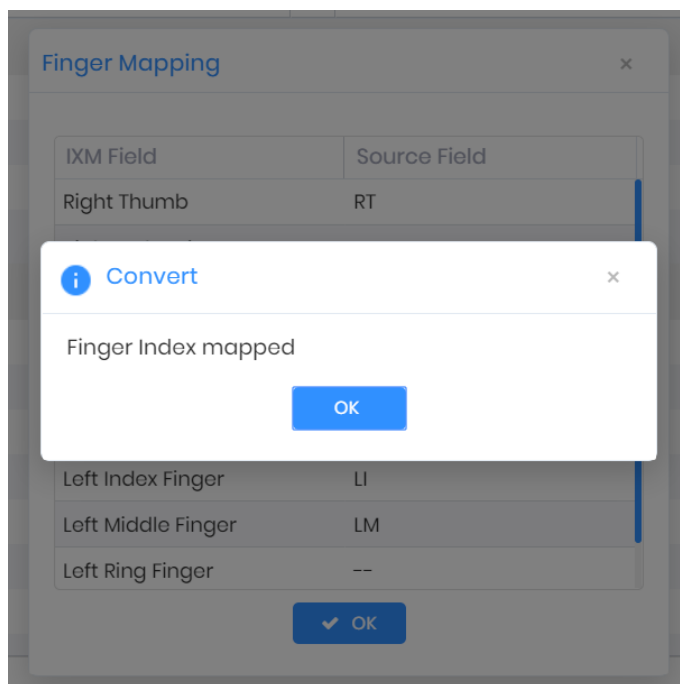
9. Select the source field against Index Finger and click **MAP**. It will open a popup for finger index mapping. The user will see the source fields prepopulated. Map the IXM fields against the respective source fields and click **OK**.

Finger Mapping

IXM Field	Source Field
Right Thumb	RT
Right Index Finger	RI
Right Middle Finger	RM
Right Ring Finger	--
Right Little Finger	--
Left Thumb	LT
Left Index Finger	LI
Left Middle Finger	LM
Left Ring Finger	--

✓ OK

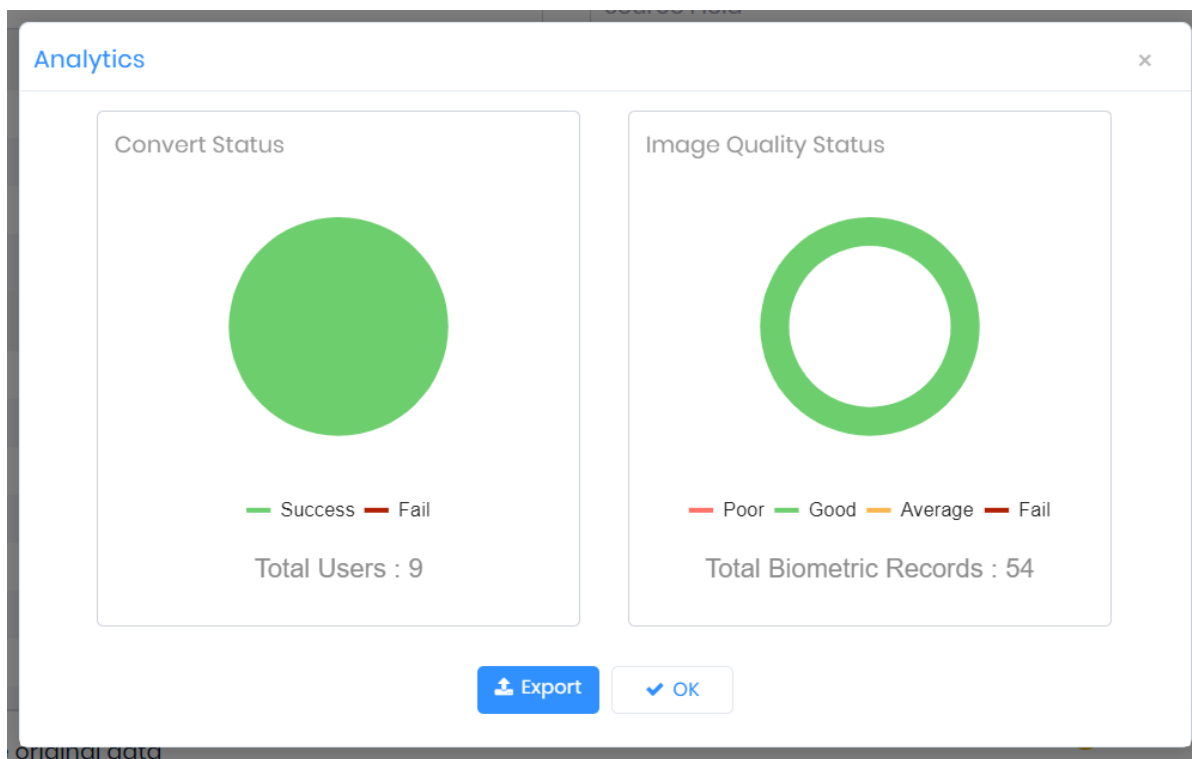
10. This will close the popup and a “Finger Index mapped” message will be displayed.



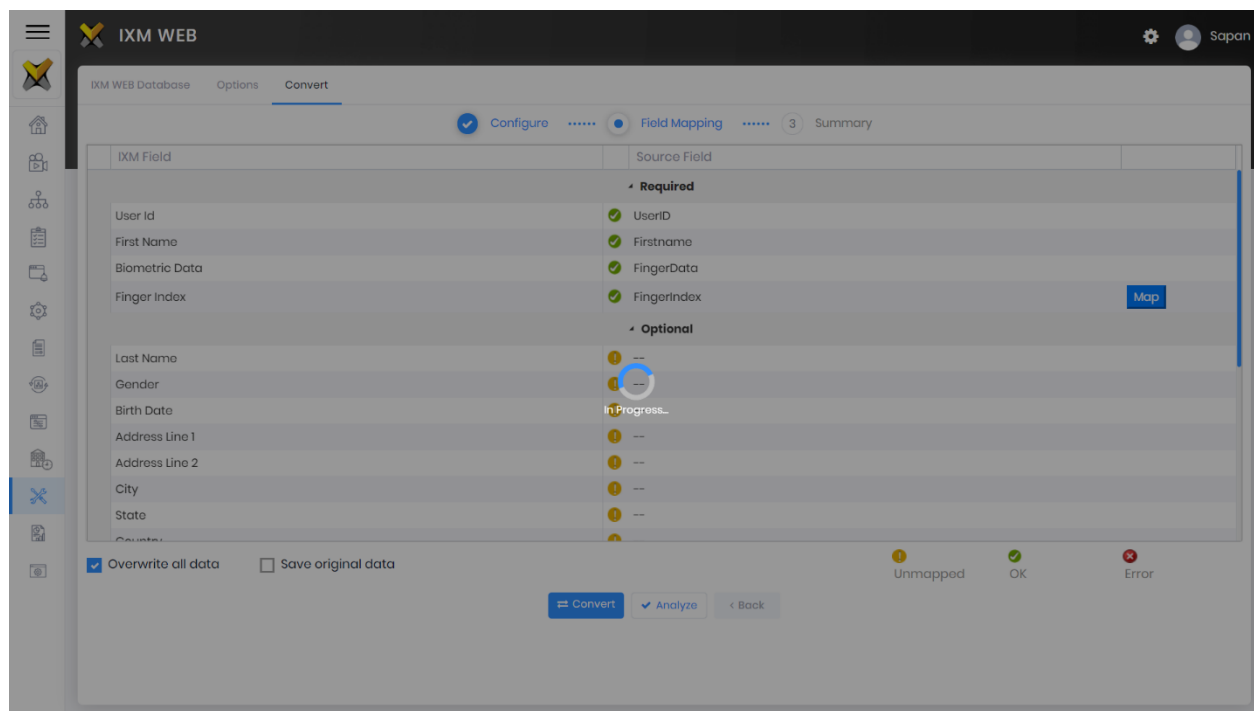
11. Users can select the “Overwrite all data” option. Selecting this option will allow Convert to overwrite existing data within the database.

12. Users can also select the “Save original data” option. Selecting this option will allow Convert to save the original data such as the fingerprint image.

13. Click **Analyze** to see the analytics report before the actual conversion process. The analytics window will provide information about the possible conversion of User Records (Success and Fail) and Biometric Records (Good, Average, Poor and Fail). Click **OK** to close analytics pop up.

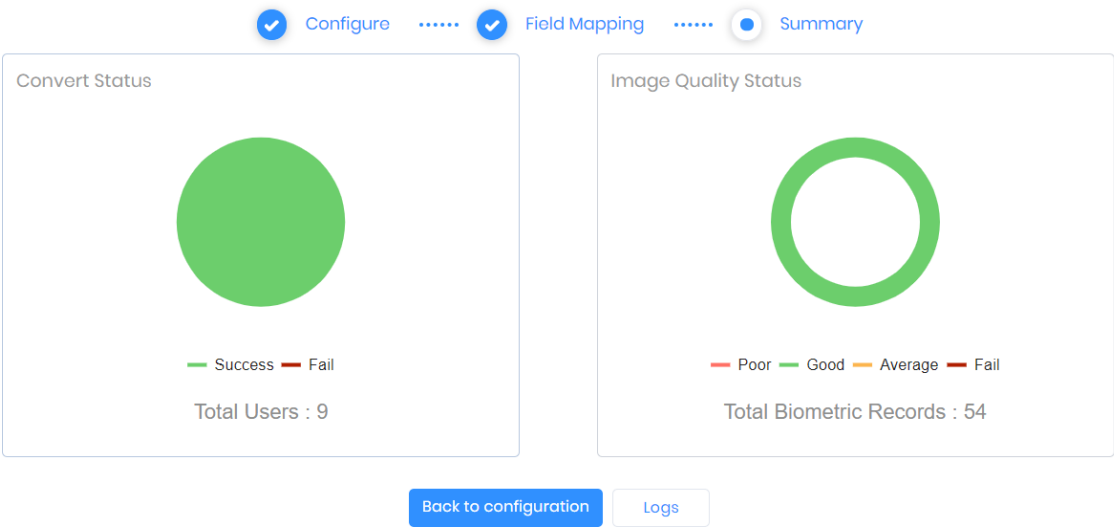


14. Click **Convert** to start the conversion process.





15. When the process is complete, a “Summary” window will pop up to display the converted User records and Biometric records.



16. Click **Logs** to check which User Record(s) and Biometric Record(s) were converted successfully and which failed to convert.

Convert

Export

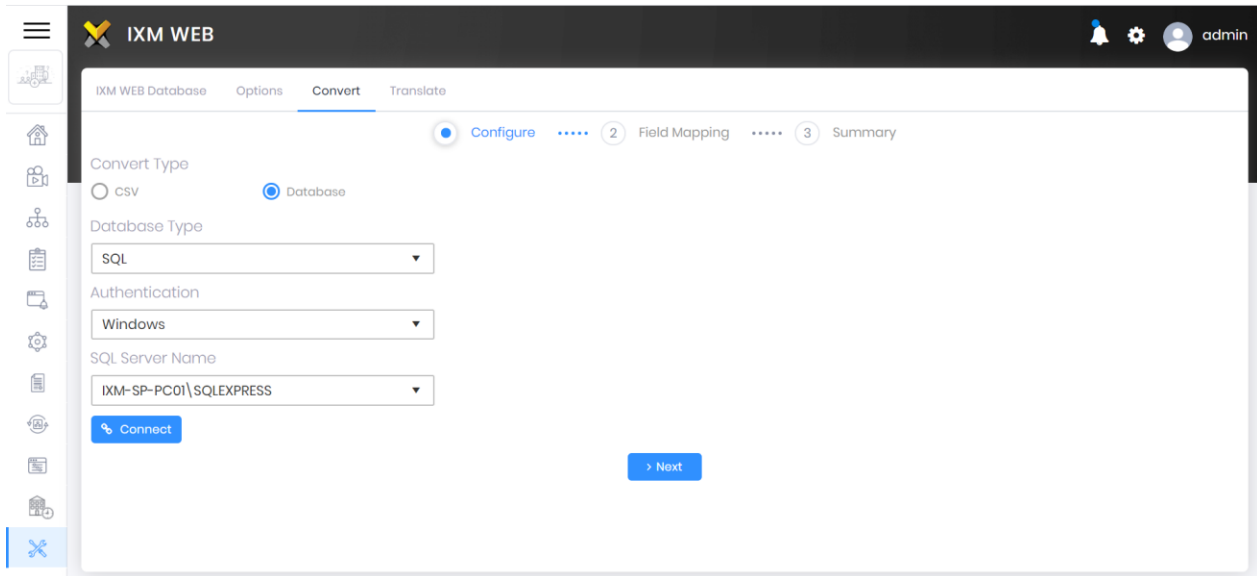
Details	Stat...	DeviceN...	Date	Reason	INV
Employee Record saved in database Kaushik Employee ID 4	Success		1/9/2020 5:25:11 PM		Ga f95
Employee Record saved in database Harsh Employee ID 2	Success		1/9/2020 5:25:10 PM		Ga f95
Employee Record saved in database Sapan Employee ID 7	Success		1/9/2020 5:25:11 PM		Ga f95
Employee Record saved in database Esha Employee ID 1	Success		1/9/2020 5:25:11 PM		Sap
Employee Record saved in database Japan Employee ID 3	Success		1/9/2020 5:25:11 PM		Ga f95
Employee Record saved in database Vinkesh Employee ID 9	Success		1/9/2020 5:25:11 PM		Ga f95
Employee Record saved in database Rohit Employee ID 6	Success		1/9/2020 5:25:10 PM		Sap
Employee Record saved in database					Ga

1

1 to 9 of 9 Items

## Configuring Oracle database

1. From Home Screen >> Expand **Left Navigation Pane** >> Navigate to the **Tools** tab >> Click **Convert**. By default, the **Database** option will be selected.



2. Change the Database Type to **Oracle**.
3. Provide the following details of the Oracle database and click on Connect:
  - **Server IP Address:** IP address of the machine where Oracle is installed.
  - **Server Port:** Port number of the Oracle database.
  - **Database Name:** Database name which contains user details & biometric data.
  - **Username:** Username to log into Oracle Client/Server to access Database.
  - **Password:** Password to log into Oracle Client/Server to access Database.



Convert Type  
☐ CSV ☒ Database

Database Type  
ORACLE ▼

Server IP Address  
192.168.1.120

Server Port  
1521 ▲ ▼

Database Name  
xe

User Name  
system

Password  
\*\*\*\*\*

Connect

> Next

4. Select the database name & table(s) which contains user details & biometric data. A maximum of 5 tables can be selected, and the primary table name is required if more than 1 table is selected. All the selected tables must have a relationship between them.

Database Name  
AllImagesConversion ▼

Select Table(s)  
User x User\_Finger\_BMP x

Select Primary Table  
User ▼

☐ Apply filter

> Next

- If the biometric templates of selected existing users need to be converted, then select the “Apply filter” checkbox. This will show you a list of users available in the primary table. Select the required user(s) and click **OK**.

Convert

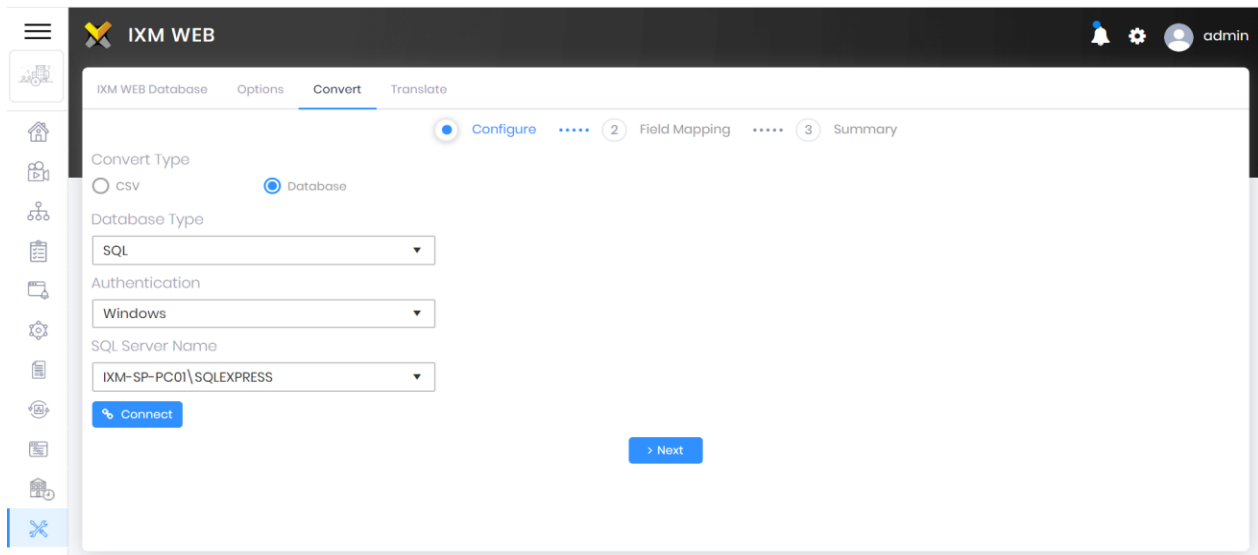
DBId	UserID	Firstname	Lastname	Email	Gender
477ff5e3-a9ec-4931-9ef3-5d0ccc0276a9	8	Sukhpai			
d8a08a2e-a6d7-496f-89fd-6a865c712358	3	Japan			
c0927954-2e20-412c-87bf-7497abd31a37	7	Sapan			
2fc4d65e-7c57-4713-9584-a50512013c19	9	Vinkesh			
a17d7600-11e8-4167-aef6-d70ab7fb5a50	4	Kaushik			
764a414d-b7bb-4400-8563-fc5282a7ccac	5	Kavita			
3066c3f3-7869-4a9e-a92f-ffa7cf151391	1	Esha			

1 - 9 of 9 items

- Click **Next** and follow the same process mentioned from Step # 5 onwards in the section “Configuring SQL Database” (Page – 7).

## Configuring Access database

1. From Home Screen >> Expand **Left Navigation Pane** >> Navigate to the **Tools** tab >> Click **Convert** >> **Database** app.



IXM WEB Database Options **Convert** Translate

1 Configure ..... 2 Field Mapping ..... 3 Summary

Convert Type  
☐ csv ☒ Database

Database Type  
 SQL

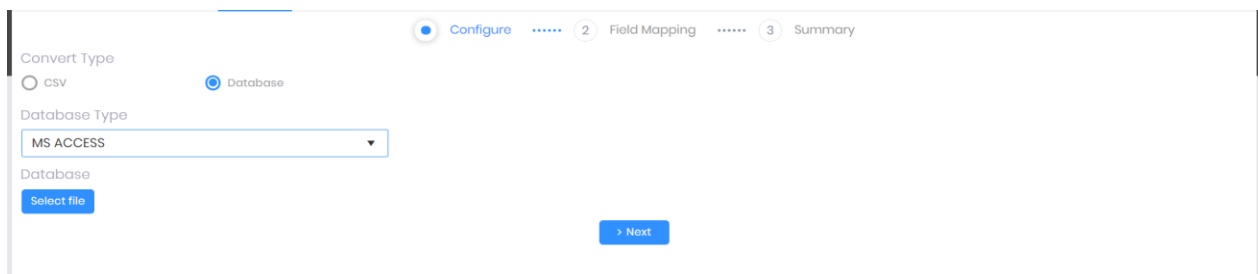
Authentication  
 Windows

SQL Server Name  
 IXM-SP-PC01\SQLEXPRESS

Connect

Next

2. Change the Database Type to **MS Access**.



1 Configure ..... 2 Field Mapping ..... 3 Summary

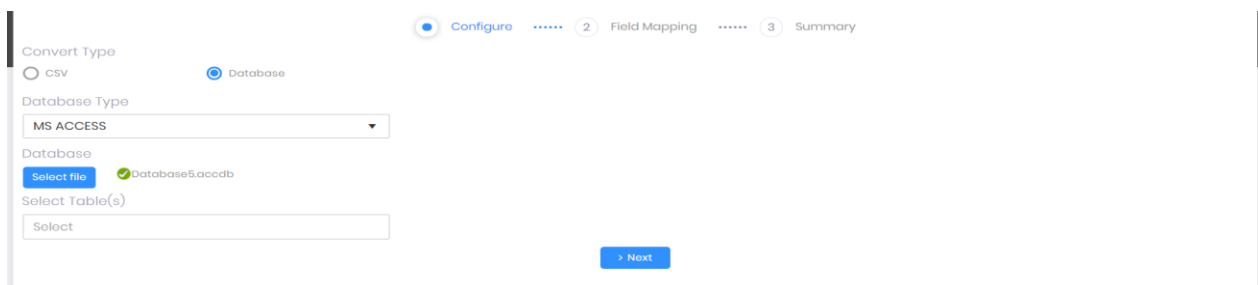
Convert Type  
☐ csv ☒ Database

Database Type  
 MS ACCESS

Database  
 Select file

Next

3. Select the MS Access Database file.



1 Configure ..... 2 Field Mapping ..... 3 Summary

Convert Type  
☐ csv ☒ Database

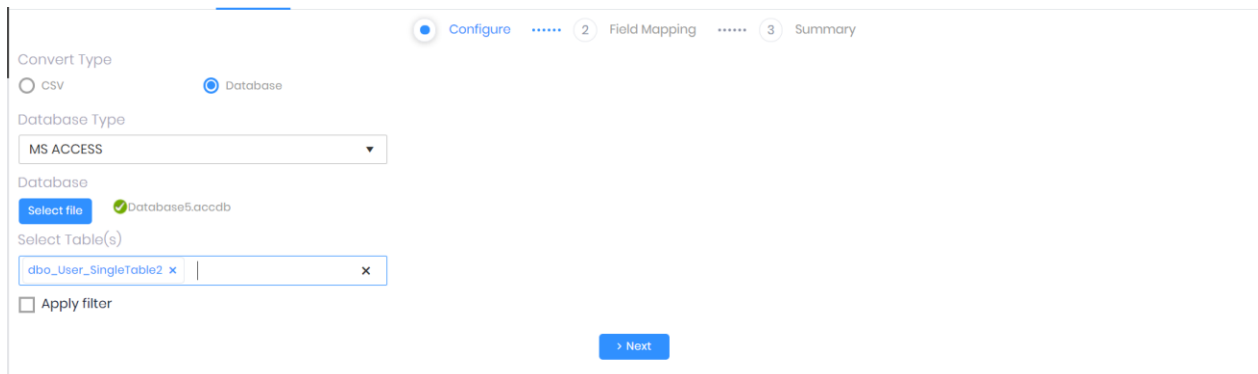
Database Type  
 MS ACCESS

Database  
 Select file Database5.accdb

Select Table(s)  
 Select

Next

4. Select the database name & table(s) which contains user details & biometric data. A maximum of 5 tables can be selected, and the primary table name is required if more than 1 table is selected. All the selected tables must have a relationship between them.



Convert Type  
☐ CSV ☒ Database

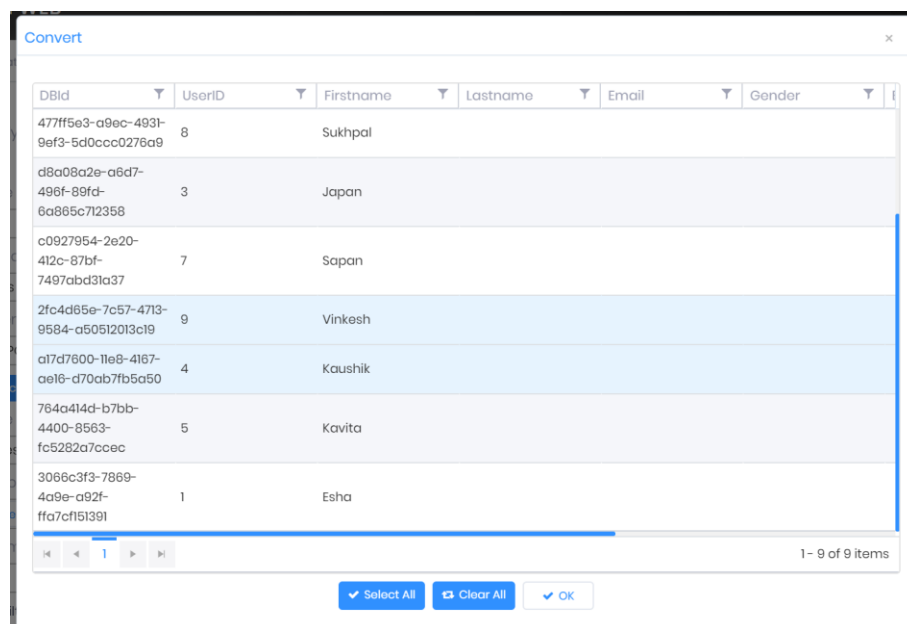
Database Type  
 MS ACCESS

Database  
 Database5.accdb

Select Table(s)  
 dbo\_User\_SingleTable2 x

☐ Apply filter

5. If biometric templates of selected existing users need to be converted, then select the "Apply filter" checkbox. This will show you a list of users available in the primary table. Select the required user(s) and click **OK**.



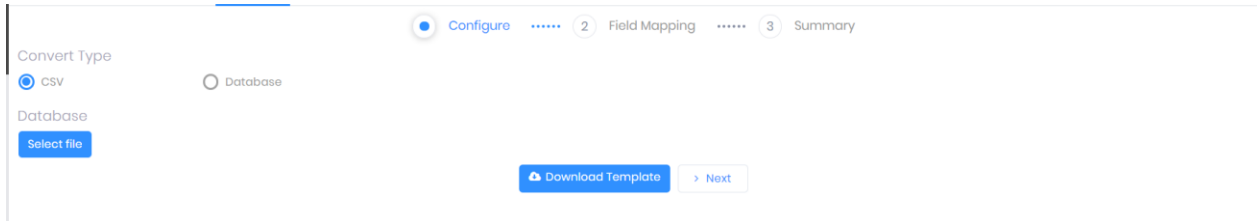
DBId	UserID	Firstname	Lastname	Email	Gender
477ff5e3-a9ec-4931-9ef3-5d0ccc0276a9	8	Sukhpai			
d8a08a2e-a6d7-496f-89fd-6a865c712358	3	Japan			
c0927954-2e20-412c-87bf-7497abd31a37	7	Sapan			
2fc4d65e-7c57-4713-9584-a50512013c19	9	Vinkesh			
a17d7600-11e8-4167-a616-d70ab7fb5a50	4	Kaushik			
764a414d-b7bb-4400-8563-fc5282a7cc0c	5	Kavita			
3066c3f3-7869-4a9e-a92f-ffa7cf151391	1	Esha			

1 - 9 of 9 items

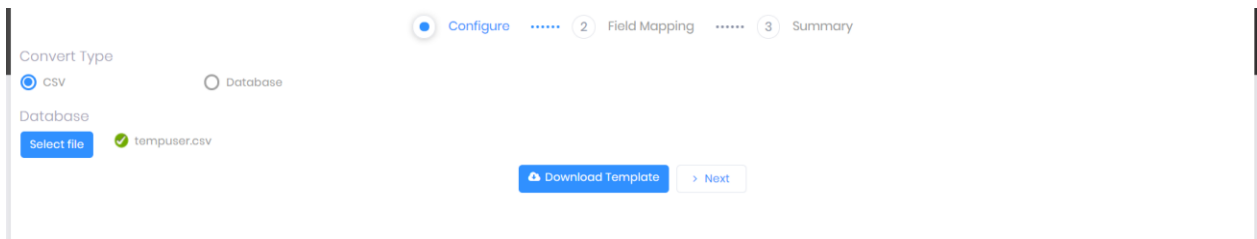
6. Click **Next** and follow the same process mentioned from Step # 5 onwards in the section "Configuring SQL Database" (Page - 7).

## Convert using CSV file

1. From Home Screen >> Expand the **Left Navigation Pane** >> Navigate to the **Tools** tab >> Click **Convert**. Select **CSV**.



2. Click on Download Template to download the sample CSV file.
3. Add data into the CSV file and upload the file to IXM WEB by clicking **Select file**.



4. Click **Next** and follow the same process mentioned from Step # 5 onwards in the section “Configuring SQL Database” (Page - 7).



## Convert Guidelines

1. Following templates or image types can be converted to Invixium standard templates:
  - RAW
  - BMP
  - WSQ
  - JPEG/JP2
  - ANSI 378
  - ISO 19794-2
2. Convert only allows conversions of good and average quality fingerprints. Poor conversions will not be considered.
3. Convert allows saving of the original data i.e. fingerprint image.
4. Convert allows overwriting existing data.
5. Average quality fingerprints may require re-enrollment in case of failed authentication.
6. The principle of data conversion says that all user conversions should either succeed/fail. Please keep in mind that at least one above-average fingerprint quality is required. No conversion will take place in case of poor or low-quality fingerprints.
7. One table should have a primary key defined.
8. In case there is more than one table used for the Convert process as a source then both the tables should have a master-detail table relationship.
9. During analysis, if any biometric record displays status as Poor then those biometric records will not convert to Invixium Templates.
10. Only Good and Average quality fingerprints will convert eventually.



## Support

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

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