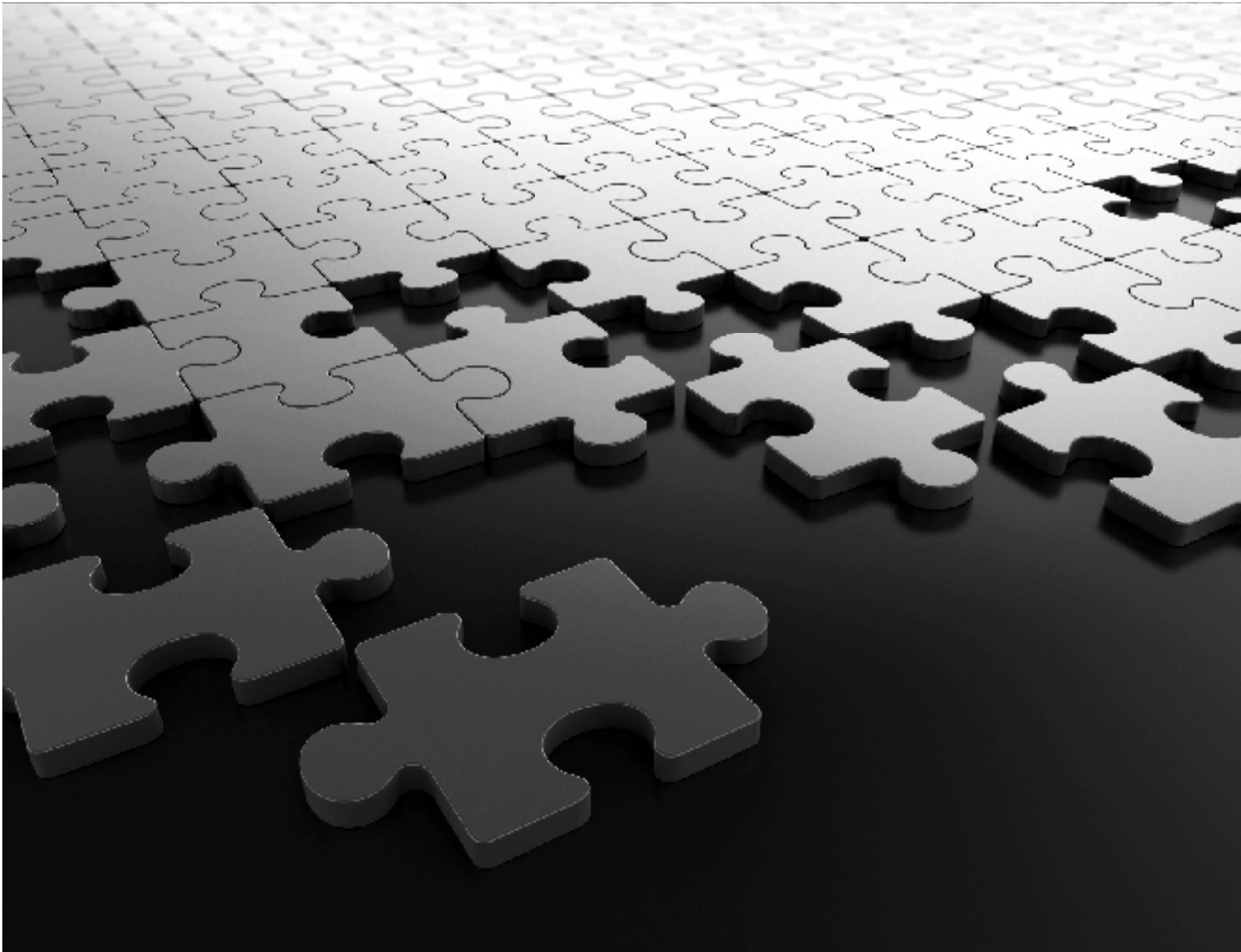
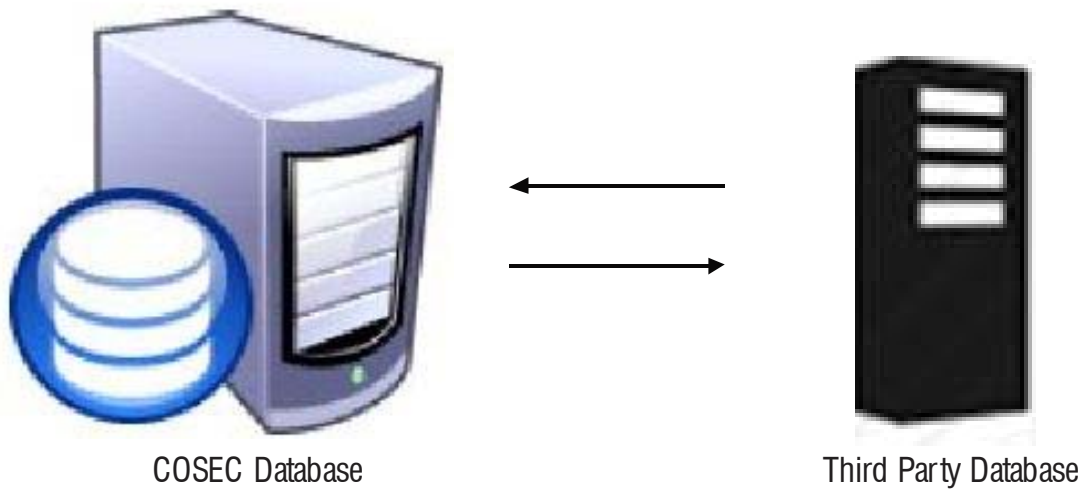


COSEC INTEGRATE

User Manual



COSEC INTEGRATE User Manual



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Version 15

Release date: December 14, 2022

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Introduction

The COSEC INTEGRATE module enables the administrator to configure the following functionalities.

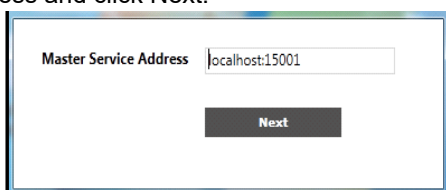
- Export data from the COSEC database to a third party MS SQL or Oracle database.
- Import user data from external data sources like MSSQL, Oracle, Postgre and the Microsoft Active Directory.
- Import User data from customized SAP table in MSSQL or Oracle.
- Export Device data and event logs to predefined tables in Postgre database.
- Import event data from 3rd party database (MS SQL and Oracle).

The COSEC installer utility has the COSEC INTEGRATE module option which needs to be selected for this application to be installed.

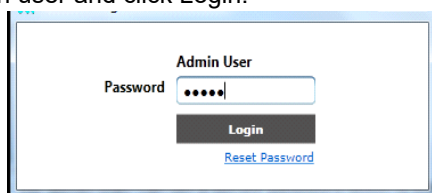
To access this application, double click on the COSEC INTEGRATE Module icon on the computer desktop. The following login page appears.

For COSEC VYOM, Enter the Tenant ID and Master Service Address as shown below. Both the parameters are available in Tenant activation Email sent to the Tenant by the Tenant administrator.

Enter the Master Service Address and click Next.

A screenshot of a web application window. It has a title bar with standard OS controls. The main content area has a label 'Master Service Address' followed by a text input field containing 'localhost:15001'. Below the input field is a dark grey button with the text 'Next' in white.

Enter the password of the admin user and click Login.

A screenshot of a web application window. It has a title bar with standard OS controls. The main content area has a label 'Admin User' above a text input field. To the left of the input field is the label 'Password'. The input field contains five dots. Below the input field is a dark grey button with the text 'Login' in white. Below the 'Login' button is a blue hyperlink that says 'Reset Password'.

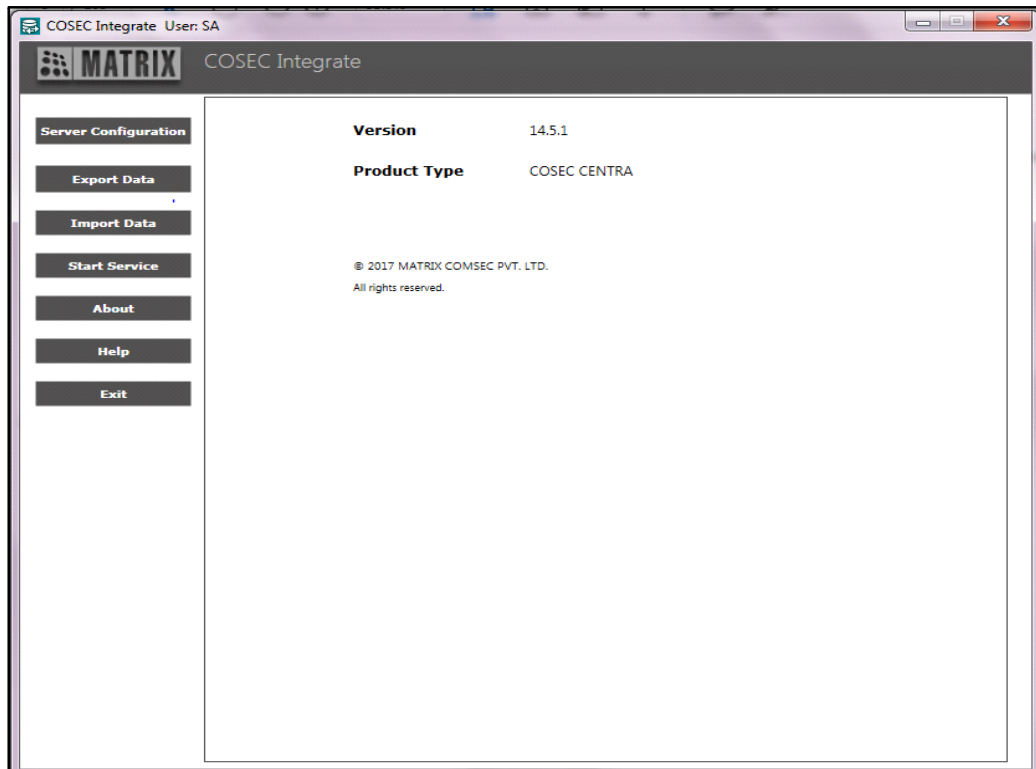
When logging in to the application for the first time, the admin user can set a secure password which is then set as the login password for subsequent logins.

The Reset Password option enables the user to reset the password in the event of the admin user forgetting the set password. Contact the authorized dealer or Matrix support for the reset code.



For COSEC Integrate to work properly, it must be ensured that actual DB fields as well as their renamed versions (if any, i.e. if DB field is renamed with an alias during export template configuration) are both included in the template configuration. This shall be applicable to all exports.

Click on the **Login** button after entering the password. The COSEC INTEGRATE home page appears as shown.



The COSEC INTEGRATE service needs to be stopped prior to starting the configuration of the various COSEC INTEGRATE parameters. Click on the **Stop Service** button as shown.



To know about the Export and Import from other database click on the following links.

[“Export to MS SQL/ORACLE”](#)

[“Export to MySQL”](#)

[“Export to CSV”](#)

[“Export to Text”](#)

[“Export to Postgre Server”](#)

[“Export to DB2”](#)

[“Export to People Works”](#)

[“Export FP Template to File”](#)

[“Custom Export- FP Template”](#)

[“Export to Progress OpenEdge”](#)

[“Import from MS SQL/Oracle/Postgre”](#)

[“Import from My SQL”](#)

[“Importing Data from a Customized SAP”](#)

[“Import from Active Directory”](#)

[“Import Events”](#)

[“Import from Progress OpenEdge”](#)

Export to MS SQL/ORACLE

The application allows the administrator to map the data fields of the COSEC application database to the data fields of another SQL/Oracle database.

Server Configuration

Click on the **Server Configuration** button to configure the Web server and Destination database for Export and Source database for Import.

Depending on the Integration mode selected, you must configure **Destination Database/ Destination Location/ Source Database**.

Select the **Export to MS SQL Server** option in the **Integration Mode** field.

The screenshot shows the 'COSEC Integrate User: SA' window. On the left is a sidebar with buttons: 'Server Configuration' (highlighted), 'Export Data', 'Import Data', 'Start Service', 'About', 'Help', and 'Exit'. The main area is titled 'COSEC Integrate' and contains two configuration panels. The 'Integration Mode' dropdown is set to 'Export to MS SQL Server'. The 'COSEC Web Server' panel has fields for 'Web URL' (http://192.168.104.12/COSEC/api.svc/v), 'User Name' (sa), and 'Password' (masked with dots), with a 'Test Connection' button. The 'Destination Database' panel has fields for 'Database Type' (Sql Server), 'Server' ((local)\sqlexpress), 'Database Name' (COSECDB_V13R2), 'User Name' (sa), and 'Password' (masked with dots), also with a 'Test Connection' button. At the bottom of the main area are 'Edit', 'Save', 'Cancel', and 'Delete' buttons.

Click on the **Edit** button.

In the **COSEC Web Server** section:

- Specify the web URL of the API service of the COSEC WEB application as shown above.
- Enter the User Name and Password of the system administrator (sa) as set in the COSEC WEB application.

In the **Destination Database** Server section:

- The **Database Type** will be SQL SERVER.
- **Server:** Enter the database server name in the following format - **Database server name\Instance Name** e.g. dbserver\sqlexpress.

- **Database Name:** Specify the database name of the destination database as per the site settings. Eg: COSECDB_V13R2 is the destination database which is newly created from Database Utility. You can export the data to this database.



For newly created database, ensure that you have set the password in COSEC Web application. Then only Test connection from COSEC Integrate with Web server will be successful.

- **User Name:** Specify the database administrator ID in this field. This is the user name which you have set while installing SQL Server Management Studio in your computer.
- **Password:** Enter the password of the Database administrator as per the site settings. This is the password which you have set while installing SQL Server Management Studio in your computer.

The **Test Connection** button is provided to test the connections with the web server as well as the SQL Server database.

Click on **Save** once done.

In the event of selecting the **Export to Oracle Server** option in the **Integration Mode** field, specify the Oracle server destination address as well as the user name and the password (case-sensitive for Oracle Server) in the respective fields as shown.

Test the connection and Save the configuration.

Export Data Configuration

This option enables the Admin user to map the fields from the COSEC database tables to fields in a third party database. Click on the **Export Data** button. The following page appears.

COSEC Integrate User: SA

MATRIX COSEC Integrate

Server Configuration

Export Data

Import Data

Start Service

About

Help

Exit

Export

Database: MS SQL Server

Source Data Template: Template_Daily

Table-Field Mapping

Destination Table: Mx_ATDEventTrn **Select Table**

Source Field: ACTIVEFLAG | NUMERIC | 1 | 0

Destination Field: BLECode | numeric | 4 | 0

Add

Source Field	Data Type	Length	Decima	Destination Field	Data Type	Length	Decima	Clear
--------------	-----------	--------	--------	-------------------	-----------	--------	--------	-------

Schedule

Add **Edit** **Save** **Manual Transfer** **Cancel** **Filter**

The COSEC INTEGRATE application provides four data templates in line with the default **Database Views** as shown. The COSEC System provides the following four Database views which would provide the relevant field options to be mapped with the fields of a destination database.

- Monthly Attendance Summary, for details refer to [“Monthly Attendance Summary”](#)
- Daily Attendance Detail, for details refer to [“Daily Attendance Detail”](#)
- Attendance Events, for details refer to [“Attendance Events or Access Control Events -Schedule”](#)
- Access Control Events, for details refer to [“Attendance Events or Access Control Events -Schedule”](#)

The following templates can be configured from COSEC Web which can be exported to other database.

- First and Last Attendance Events
- Daily Attendance Template1
- Daily Cafeteria Events
- Monthly Cafeteria Summary
- Monthly Job Summary
- User Details

For details, refer [“Custom Template - User Details Template-Schedule”](#)

Each of the above database views would provide the relevant fields whose values can be exported from the COSEC database. Select the required data template and click on the **Edit** button.

Export

The **Destination Table** can be selected by clicking the **Select Table** button. Table Selection window appears as shown below. The desired table can be selected by scrolling or searching.

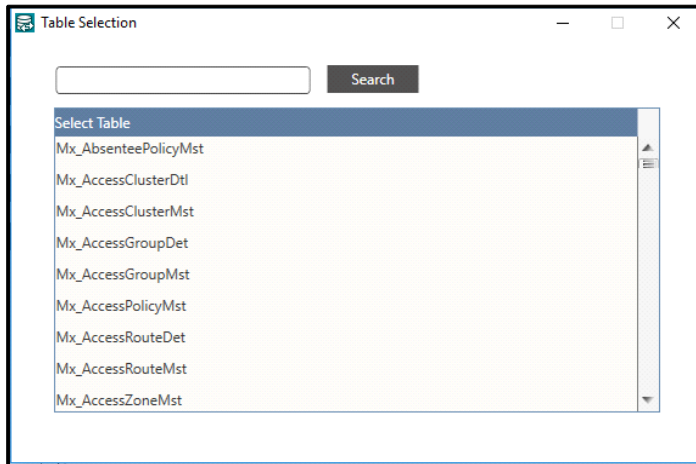
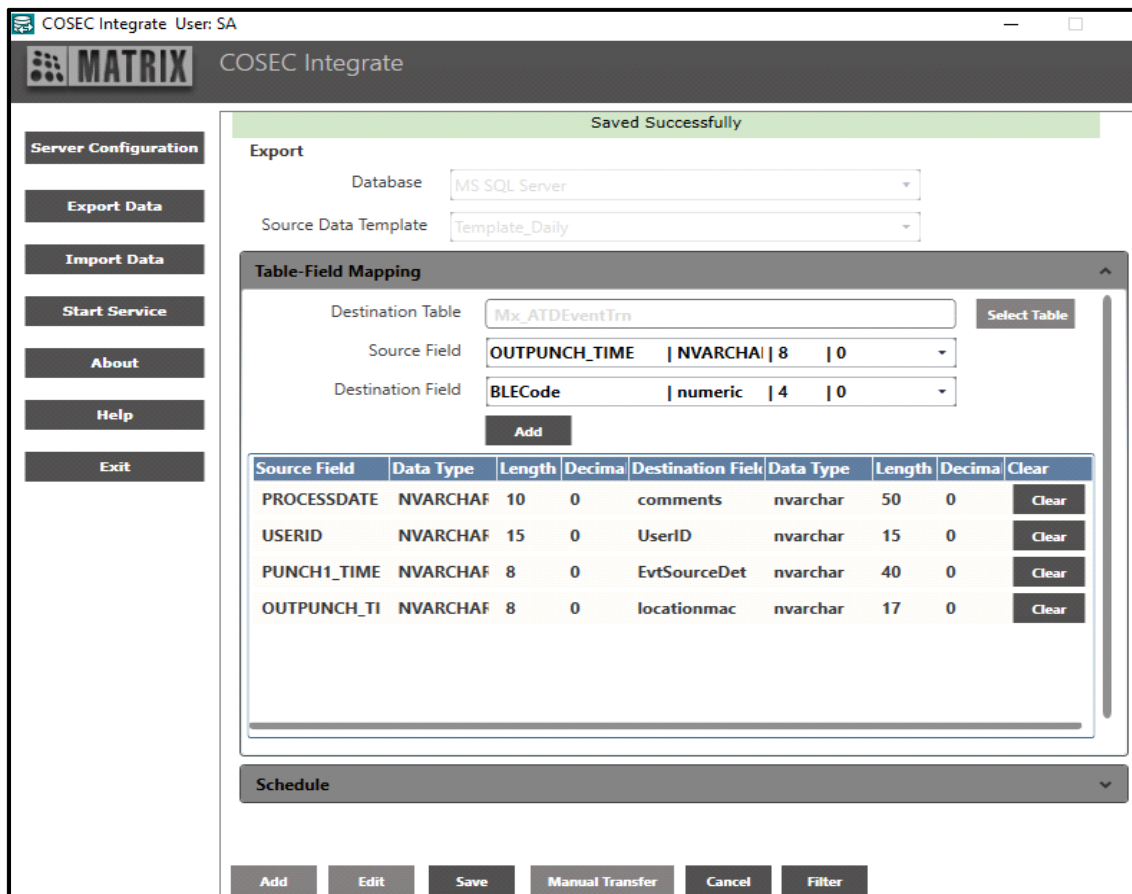


Table Field Mapping

Now the Admin user can start the mapping of the fields from the source database to that of the destination database as shown.



- Select the **Source field** from the COSEC database.
- Select the **Destination field** from the drop down options to map with the source field.
- Click on the **Add** button. The mapped fields will be visible in the bottom grid.



In the case of Attendance Events and Access Control Events the user needs to map the UserID and the EventDateTime_D source fields to fields in the destination table.

Map the UserID, PMonth and Pyear source fields to appropriate fields in the destination table in the case of the Monthly Attendance Summary.

Map the UserID and ProcessDate_D source fields to appropriate fields in the destination table in the case of the Daily Attendance Detail.

The mapping between the following data types is allowed. Only a warning message is shown in case of mismatch in data types.

Source data type	Destination data type
Text (char, varchar,varchar2...)	Number (numeric, int, bigint, smallint, float, number, double,int32...)
Text	Datetime formats(depending on the date format configured for DB server. If format matches, the record will be accepted)
Number	Text
Date Time	Text



The mapping from Number and Date time to Date time and Number respectively is restricted.

Schedule

The **Schedule** section enables the Admin user to schedule the data export process. The schedule option vary based on the selected Source Data Template.

Daily Attendance Detail

The **Daily Attendance detail** will have the following options as shown.

The screenshot shows a configuration window titled 'Export'. It contains the following sections and controls:

- Export** section:
 - Database: MS SQL Server (dropdown)
 - Source Data Template: API_Template_Daily (dropdown)
- Table-Field Mapping** section (collapsed).
- Schedule** section (expanded):
 - Active: ☐
 - Enable Filter: ☐
 - Schedule: Daily (dropdown)
 - Filter Date By: Process Date (dropdown)
 - Every: 1 (dropdown) Day of the Month
 - Run time (HH:MM): (text input)
 - Retry Count: 1 (dropdown)
 - Retry Interval: 1 (dropdown) Hour
 - Daily Attendance Of: ☒ Previous Day ☐ Current Day
 - Enable Alerts For: ☐ Success ☐ Failure

At the bottom of the window are buttons: Add, Edit, Save, Manual Transfer, Cancel, and Filter.

- Check the **Active** box to enable the schedule.
- The **Enable Filter** option is provided to enable the administrator to filter the events/users whose data is to be exported. Check this check box and click on the **Filter** button.

The Event Selection and User Selection Filters pop-up appears.



Event Selection is applicable when Template selected is API_Template_ATDEvents or API_Template_ACSEvents or Template_ATDEvents or Template_ACSEvents.

Event Selection

☒ All
☐ Allowed Events
☐ Denied Events

User Selection

☐ All
☐ Select Groups
☒ Select Users

Group

user

Search

user

Search

<input type="checkbox"/> Select	ID	user
<input type="checkbox"/>	2678	Parth Kapadia
<input type="checkbox"/>	2Person	2Person
<input type="checkbox"/>	2Person01	2Person01

Apply

Cancel

- **User Selection:** Select the desired option — All, Select Groups or Select Users.
 - If you select **All**, data of all the users will be exported.
 - If you select **Selected Groups**, the list of Groups appear in the grid. Select the check boxes of the desired Groups whose data is to be exported.
 - If you select **Selected Users**, the list of Users appear in the grid. Select the check boxes of the desired Users whose data is to be exported.
- Click **Apply** to save the configurations done or click **Cancel** to discard. The Filter pop-up closes.
- In **Schedule**, select the desired option for data transfer— **Daily** or **Monthly**.

- On selection of **Monthly** option, user can set data transfer process to run only once in a month. By default, **Monthly** option would be selected.

Export

Database
MS SQL Server

Source Data Template
API_Template_Daily

Table-Field Mapping

Schedule

Active
☐

Enable Filter
☐

Schedule
Monthly
Filter Date By
Process Date

Every
1
Day of the Month

Run time (HH:MM)

Retry Count
1

Retry Interval
1
Hour

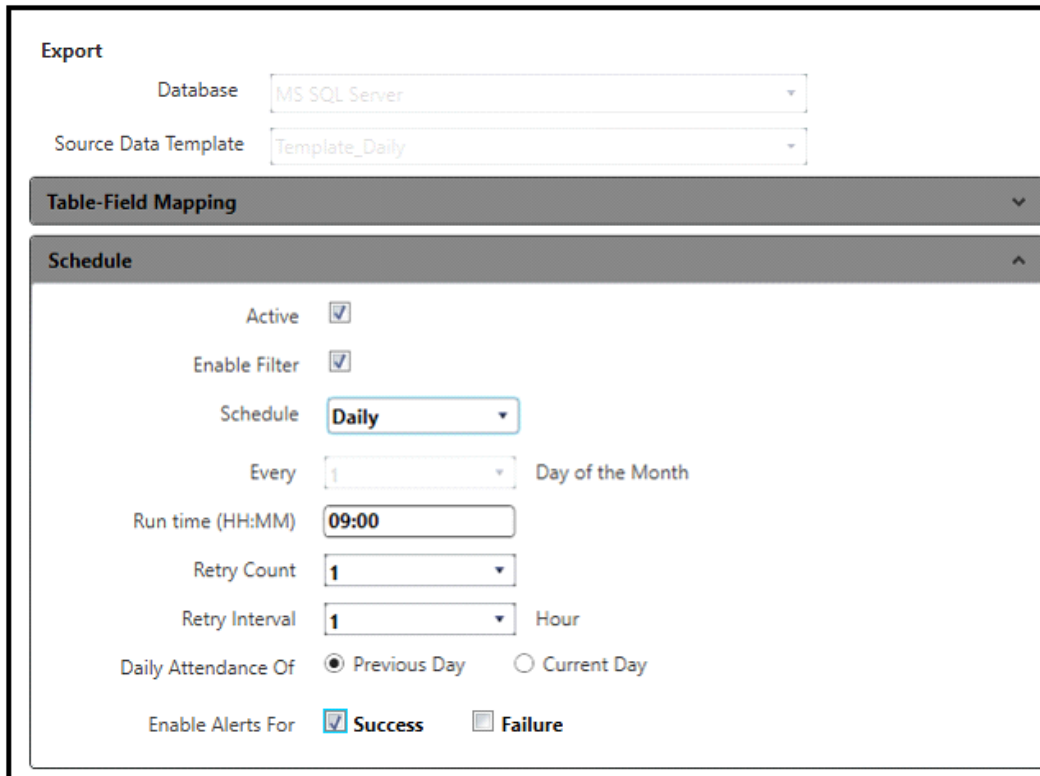
Attendance Period
1
Day of
Current Month
To
1
Day of
Current Month

Enable Alerts For
☐ Success
☐ Failure

Add
Edit
Save
Manual Transfer
Cancel
Filter

- If you select Monthly, configure the **Attendance Period**, that is, the starting and the ending day of the attendance period for which the data is to be exported. Select the from Day of the Current/Previous Month to the Day of the Current/Previous Month

- When selecting **Daily** option for Schedule, the options appears as shown.



Export

Database: MS SQL Server

Source Data Template: Template_Daily

Table-Field Mapping

Schedule

Active: ☒

Enable Filter: ☒

Schedule: Daily

Every: 1 Day of the Month

Run time (HH:MM): 09:00

Retry Count: 1

Retry Interval: 1 Hour

Daily Attendance Of: ☒ Previous Day ☐ Current Day

Enable Alerts For: ☒ Success ☒ Failure

- If you select **Daily**, configure the **Daily Attendance of**. Configure to transfer data for either **Previous Day** attendance data or **Current Day** attendance data with respect to schedule run day.
- In **Every __ Day of the Month**, specify the day of the month on which the export process is to be run.
- Specify the **Run time** in HH:MM format when the export process is to be run.
- Set the **Retry Count** to retry again for export in case of export failure.
- Set the **Retry Interval** in hours from the drop down list. This parameter specifies the time period between successive retries.
- Enable Alert For:** When scheduled process gets completed then it will send an Alert to the configured COSEC Server. The Alert can be sent for both Successful as well as Failed transfers.

Select the check boxes as per your requirement:

Select **Success** check box to send an alert mentioning the details of successfully transferred records to the configured COSEC Server.

Select **Failure** check box to send an alert mentioning the details of failure in transferring records to the configured COSEC Server.

If you require Alerts for both the above events, select both the check boxes.

In case of partial data transfer, that is, if both the above check boxes are selected then the connection status will be considered as Failure and Reason for Failure will be displayed in the Alert.

Example: There are in total 100 records which are to be transferred.

Now, out of 100 records, only 60 records are transferred Successfully and the remaining 40 records have Failed. Such data transfers are known as partial data transfers.

So here the connection status will be Failure and an alert will be sent to the configured COSEC Server along with the reason for failed data transfer.



It is to be supported for all integrate modes defined in COSEC Integrate where enable alerts provision is present i.e. for all the integration modes except for Custom Export-FP Template & Export FP Template to File.

Monthly Attendance Summary

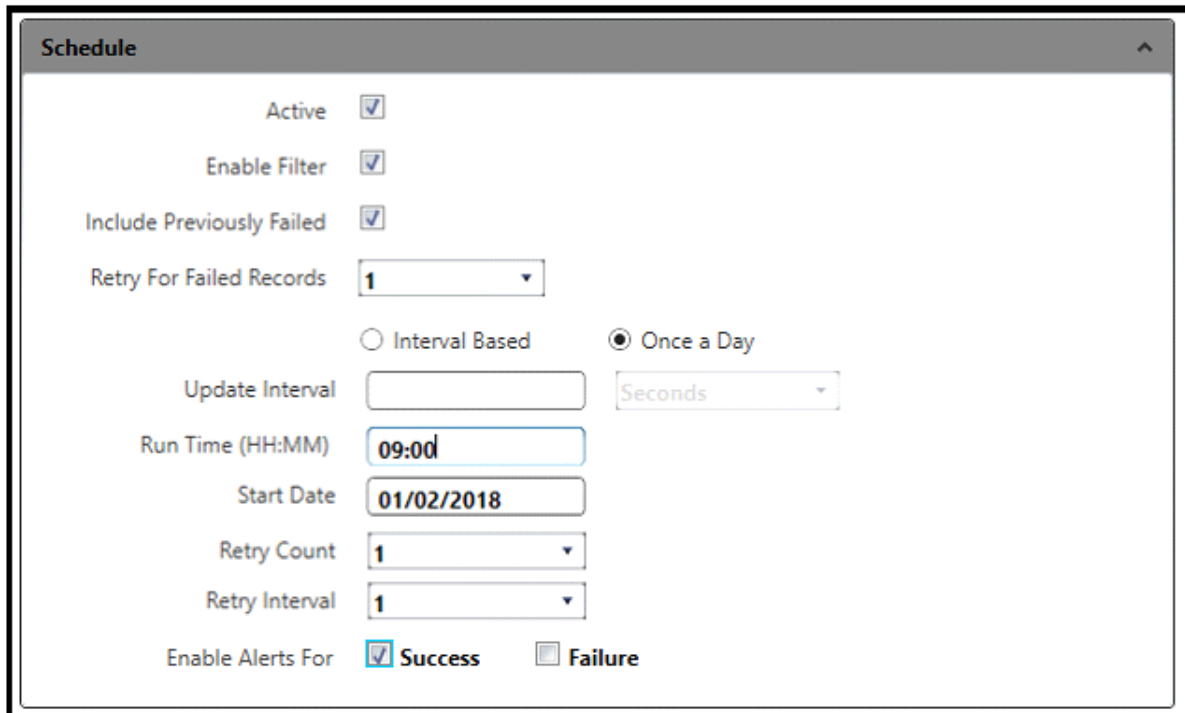
The **Monthly Attendance Summary** will have the following unique options as shown.

- The configuration of the parameters is similar to Daily Attendance Details, except the below mentioned parameter.
- Select the **Attendance Period** for which the monthly Attendance summary data is to be exported. The Admin user can select either the **Previous Month** or **Current Month** option.

For details of other parameters, refer to [“Daily Attendance Detail”](#).

Attendance Events or Access Control Events -Schedule

The following schedule options will be available.



The screenshot shows a 'Schedule' configuration window with the following settings:

- Active:** ☒
- Enable Filter:** ☒
- Include Previously Failed:** ☒
- Retry For Failed Records:**
- Update Interval:**
- Run Time (HH:MM):**
- Start Date:**
- Retry Count:**
- Retry Interval:**
- Enable Alerts For:** ☒ **Success** ☐ **Failure**

- Select the **Active** check box to enable the schedule.
- The **Enable Filter** option is provided to enable the administrator to filter the events/users whose data is to be exported. Check this check box and click on the **Filter** button.

The Event Selection and User Selection Filters pop-up appears.



Event Selection is applicable when Template selected is API_Template_ATDEvents or API_Template_ACSEvents or Template_ATDEvents or Template_ACSEvents.

Event Selection

☒ All ☐ Allowed Events ☐ Denied Events

User Selection

☐ All ☐ Select Groups ☒ Select Users

Group: user

Search: user

<input type="checkbox"/> Select	ID	user
<input type="checkbox"/>	2678	Parth Kapadia
<input type="checkbox"/>	2Person	2Person
<input type="checkbox"/>	2Person01	2Person01

- **Event Selection:** Select the desired option — All, Allowed Events or Denied Events.
 - If you select **Both**, all Allowed and Denied events will be exported.
 - If you select **Allowed Events**, only Allowed events will be exported.
 - If you select **Denied Events**, only Denied events will be exported.
- **User Selection:** Select the desired option — All, Select Groups or Select Users.
 - If you select **All**, data of all the users will be exported.
 - If you select **Selected Groups**, the list of Groups appear in the grid. Select the check boxes of the desired Groups whose data is to be exported.
 - If you select **Selected Users**, the list of Users appear in the grid. Select the check boxes of the desired Users whose data is to be exported.
- Click **Apply** to save the configurations done or click **Cancel** to discard. The Filter pop-up closes.
- **Include Previously Failed Records:** By enabling this check box, the records which are failed to export previously will be exported in the next retry.

The IN-OUT Attendance events and Access Control events of user which are failed to export during database connection error will be exported when database connection is restored.



Only failed records due to Destination Table connectivity issue should be considered for this functionality.

- **Retry for Failed Records:** Select the number of times for which the failed records will be tried again for export.
- Select the desired option for the frequency at which the application will update the destination database — Interval Based, Once a Day

Interval Based

If you select this option configure the **Update Interval** and **Start Date**.

- Specify the **Update Interval** in seconds, minutes or hours to define the frequency at which the application will update the destination database.

Once a Day

If you select this option configure the **Run Time**, **Retry Count** and **Retry Interval**.

- Select the **Once a Day** option to schedule the export once every day at a scheduled **Run Time (HH:MM)**.
- Specify the **Start Date** from which the export process is to be initiated. The records from the start date to the present date will be exported.
- Specify the **Retry count** as the number of times for which system will try again to export the failed records with an interval gap of hours set in **Retry Interval**.
- **Enable Alert For:** When scheduled process gets completed then it will send an Alert to the configured COSEC Server. The Alert can be sent for both Successful as well as Failed transfers.

Select the check boxes as per your requirement:

Select **Success** check box to send an alert mentioning the details of successfully transferred records to the configured COSEC Server.

Select **Failure** check box to send an alert mentioning the details of failure in transferring records to the configured COSEC Server.

If you require Alerts for both the above events, select both the check boxes.

In case of partial data transfer, that is, if both the above check boxes are selected then the connection status will be considered as Failure and Reason for Failure will be displayed in the Alert.

Custom Template - User Details Template-Schedule

This is not a default template. Custom Templates can be added from the COSEC Web. These are then visible in the Integrate. To add Custom Templates refer to the User Guide, Admin Module > System Utilities > Export Data.

- Check the **Active** box to enable the schedule.
- The **Enable Filter** option is provided to enable the administrator to filter the events/users whose data is to be exported. Check this check box and click on the **Filter** button.

The Event Selection and User Selection Filters pop-up appears.



Event Selection is applicable when Template selected is API_Template_ATDEvents or API_Template_ACSEvents or Template_ATDEvents or Template_ACSEvents.

Event Selection

☒ All
☐ Allowed Events
☐ Denied Events

User Selection

☐ All
☐ Select Groups
☒ Select Users

Group

user

Search

user

Search

<input type="checkbox"/> Select	ID	user
<input type="checkbox"/>	2678	Parth Kapadia
<input type="checkbox"/>	2Person	2Person
<input type="checkbox"/>	2Person01	2Person01

Apply

Cancel

- **User Selection:** Select the desired option — All, Select Groups or Select Users.
 - If you select **All**, data of all the users will be exported.
 - If you select **Selected Groups**, the list of Groups appear in the grid. Select the check boxes of the desired Groups whose data is to be exported.
 - If you select **Selected Users**, the list of Users appear in the grid. Select the check boxes of the desired Users whose data is to be exported.
- Click **Apply** to save the configurations done or click **Cancel** to discard. The Filter pop-up closes.
- **Include Previously Failed:** By enabling this check box, the records which are failed to export previously will be exported in the next retry.
- **Retry for Failed Records:** Select the number of times for which the failed records will be tried again for export.
- **Export Modified Only:** Enabling this check box will export only the changed or updated user details. Eg: at 10:00 hrs, details of 100 users is exported. At 14:00 hrs (interval based export) the change in 20 users is found. So details of only 20 users will be exported.
- **Export Update Time:** When the export of only modified records is done, then the time at which modified records were exported will get updated for the respective records in destination fields. Eg: For the modified 20 users, the timing will be displayed as 14:00 hours in the destination table..

- You can select the field from the drop down list where the export timing of modified records will be updated. Eg: Suppose you select Edatetime from the options, then the date time of export process will be displayed in Edatetime column of destination server.
- **Set Deleted User Flag:** Suppose the user is deleted from the COSEC system. But that user is already exported in the destination table. So by enabling this you can set the flag to 1 for the respective deleted users when next export will be done.
 - Select the field where the flag is to be updated.
- Select the desired option for the frequency at which the application will update the destination database — Interval Based, Once a Day

Interval Based

If you select this option configure the **Update Interval** and **Start Date**.

- Specify the **Update Interval** in seconds, minutes or hours to define the frequency at which the application will update the destination database.

Once a Day

If you select this option configure the **Run Time**, **Retry Count** and **Retry Interval**.

- Select the **Once a Day** option to schedule the export once every day at a scheduled **Run Time (HH:MM)**.
- Specify the **Retry count** as the number of times for which system will try again to export the failed records with an interval gap of hours set in **Retry Interval**.
- **Enable Alert For:** When scheduled process gets completed then it will send an Alert to the configured COSEC Server. The Alert can be sent for both Successful as well as Failed transfers.

Select the check boxes as per your requirement:

Select **Success** check box to send an alert mentioning the details of successfully transferred records to the configured COSEC Server.

Select **Failure** check box to send an alert mentioning the details of failure in transferring records to the configured COSEC Server.

If you require Alerts for both the above events, select both the check boxes.

In case of partial data transfer, that is, if both the above check boxes are selected then the connection status will be considered as Failure and Reason for Failure will be displayed in the Alert.

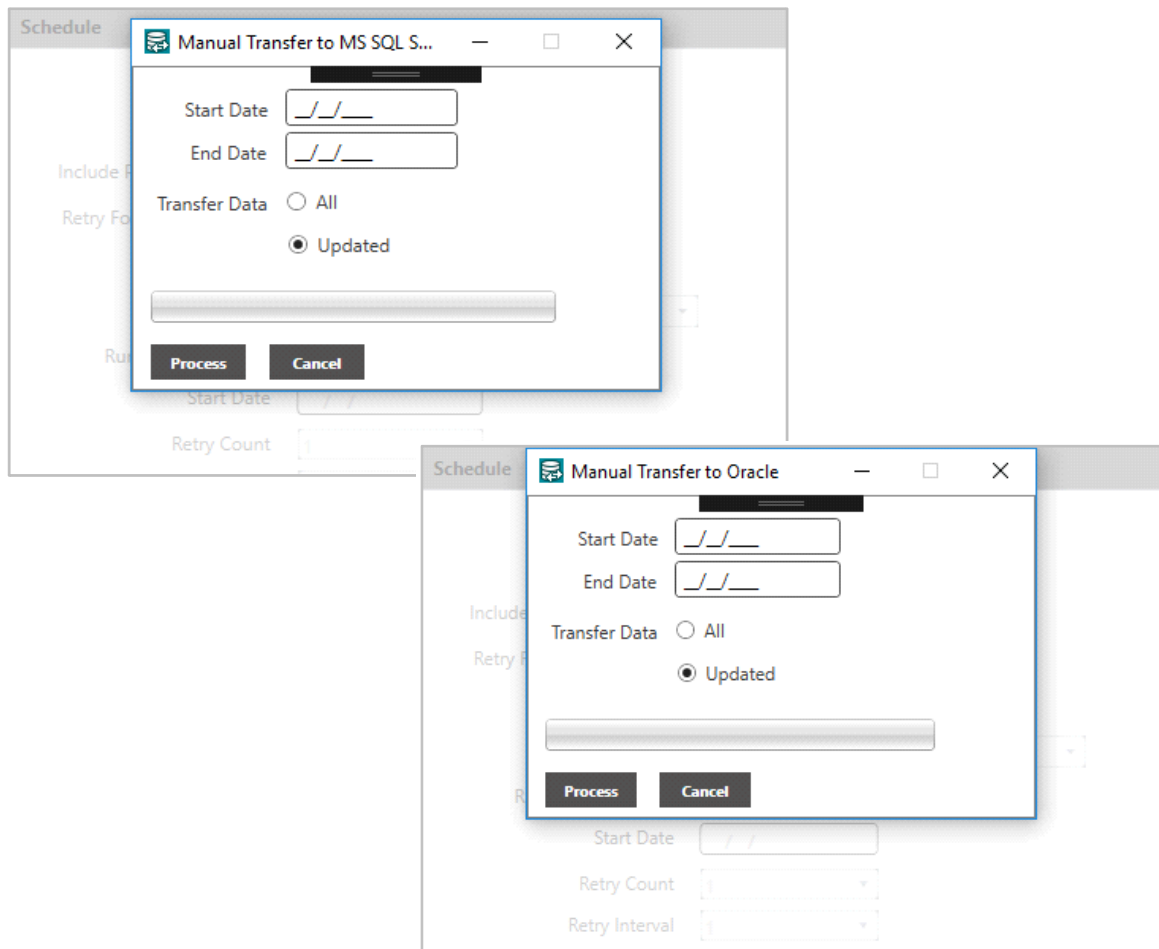
Manual Transfer

The Manual Transfer option provides the Admin user the flexibility to export data of a specific time period as and when required. In order to access this functionality click on the **Stop Service** button to stop the COSEC INTEGRATE service.

Click the **Export Data** button.

On the **Export Data** page, edit and save the export settings as per your requirement.

Click the **Manual Transfer** button. The following window appears for *Manual Transfer to MS SQL Server* and for *Oracle Manual Transfer to Oracle*.



Enter the **Start Date** and **End Date**.

Select the **Transfer Data** mode— **All** or **Updated**.

All: All the past data falling within the selected date range will be transferred.

Updated: All the updated data falling within the selected date range will be transferred.

Click the **Process** button. The data of the specified time period will be exported to the destination table.

Export to Postgre Server

The application allows the administrator to export device data and event logs from the COSEC application database to predefined tables of the Postgre SQL database. The Postgre SQL database needs to have the following tables in the database:

- **devices**
- **device logs**

The devices table holds the basic data of the COSEC devices like deviceid, serial number (MAC address), ipaddress. This information can be obtained by viewing the ControllerList view of the COSEC database. The MAC addresses however can be directly obtained from the devices. This table holds information on the last ping time and the last log download date for each of the devices.

The device logs table receives the event logs from the COSEC database received from each of the COSEC devices.

Server Configuration

In order to configure this functionality click on the **Server Configuration** button. Select the **Export to Postgre SQL (CGG)** option in the **Integration Mode** field.

Click on **Edit**. The following page appears.

The screenshot shows a 'Server Configuration' dialog box. At the top, there is a dropdown menu for 'Integration Mode' set to 'Export to Postgre Server'. Below this are two main sections: 'COSEC Web Server' and 'Postgre SQL'. The 'COSEC Web Server' section contains fields for 'Web URL' (http://localhost/COSEC/api.svc), 'User Name' (sa), and 'Password' (masked with dots), along with a 'Test Connection' button. The 'Postgre SQL' section contains fields for 'Server' (localhost), 'Port' (5433), 'Database Name' (cosec), 'User Name' (postgreqa), and 'Password' (masked with dots), also with a 'Test Connection' button. At the bottom of the dialog are three buttons: 'Edit', 'Save', and 'Cancel'.

In the **COSEC Web Server** section:

- Specify the web url of the api service of the COSEC WEB application as shown.
- Enter the User Name and Password of the sa user as set in the COSEC WEB application.

In the **Postgre SQL** section:

- **Server:** Enter the Postgre database server IP address or its network name.
- **Port:** Specify the TCP connection port as configured in the Postgre database server.

- **Database Name:** Specify the destination database name of the Postgre database.
- **User Name:** Specify the database owner ID in this field.
- **Password:** Enter the password of the Database owner as per the site settings.

The **Test Connection** button is provided to test the connections with the web server as well as the Postgre SQL Server database.

Click on **Save** once done.

The administrator can now start the COSEC INTEGRATE service by clicking on the **Start Service** button as explained earlier.

The Admin can now perform Export Data Configuration which is same as MSSQL/Oracle. For more information, refer "[Export Data Configuration](#)" of MS SQL/Oracle Server.

Manual Transfer

The Manual Transfer option provides the Admin user the flexibility to export data of a specific time period as and when required. In order to access this functionality click on the **Stop Service** button to stop the COSEC INTEGRATE service.

Click the **Export Data** button.

On the **Export Data** page, edit and save the export settings as per your requirement.

Click the **Manual Transfer** button. The following window appears for *Manual Transfer to Postgre*.

Enter the **Start Date** and **End Date**.

Select the **Transfer Data** mode— **All** or **Updated**.

All: All the past data falling within the selected date range will be transferred.

Updated: All the updated data falling within the selected date range will be transferred.

Click the **Process** button. The data of the specified time period will be exported to the destination table.

Export to CSV

The application allows the administrator to export data related to various user events to a **.csv file** which can be stored at a specific location on FTP/SFTP server or in a local folder on the hard disk.

Click on the **Server Configuration** option select the **Export to .csv option** as the **Integration Mode** field.

Click on the **Edit** button.

COSEC Integrate User: SA

Server Configuration

Integration Mode: **Export to .csv**

COSEC Web Server

Web URL:

User Name:

Password:

Test Connection

Destination Location

☒ Local Folder ☐ FTP ☐ SFTP

Save Path:

Sub-Folders: ☒

Separator:

Save

Edit Save Cancel Delete

In the **COSEC Web Server** section:

- Specify the Web URL of the API service of the COSEC WEB application as shown.
- Enter the User Name and Password of the “sa” user as set in the COSEC WEB application.

The **Test Connection** button is provided to test the connection with the web server.

COSEC Web Server Connection Tested Successfully

Integration Mode: **Export to .csv**

COSEC Web Server

Web URL:

User Name:

Password:

Test Connection

Destination Location

☒ Local Folder ☐ FTP ☐ SFTP

Save Path:

Sub-Folders: ☒

Separator:

Save

Edit Save Cancel Delete

In the **Destination Location** section, specify the path at which the system will store the .csv files. For description of FTP and SFTP see [“Export to Text”](#)

Select the **Sub-Folders** check-box to enable a folder hierarchy to be created at the export destination for the export file.

Select the appropriate **Separator** which will be used to separate the fields in exported file.

The screenshot shows a configuration window titled "CSV Data Saved Successfully". It has two main sections: "COSEC Web Server" and "Destination Location".

COSEC Web Server section:

- Integration Mode:
- Web URL:
- User Name:
- Password:
- Test Connection button

Destination Location section:

- Local Folder ☒ FTP ☐ SFTP ☐
- Save Path:
- Sub-Folders: ☒
- Separator:
- Save button

At the bottom of the window are four buttons: Edit, Save, Cancel, and Delete.

Click on **Save** once done.

Export Data Configuration

This option enables the Admin user to specify the fields whose values are to be exported to the .csv file.

Each database views would provide the relevant fields whose values can be exported from the COSEC database.

Source Data Template: Select the required data template and click on the **Edit** button. Now the admin user can start the selection of the fields from the source database as shown.

COSEC Integrate User: SA

MATRIX COSEC Integrate

Server Configuration

Export Data

Import Data

Start Service

About

Help

Exit

Export

Database: Export to .csv

Source Data Template: Template_Daily

Table-Field Mapping

Source Field: ACTIVEFLAG | NUMERIC | 1 | 0

Add

Source Field	Data Type	Length	Decima	Destination Field	Data Type	Length	Decima	Clear
USERNAME	NVARCHAR	45	0					Clear
JOINDT	NVARCHAR	10	0					Clear
PUNCH1	DATETIME	8	0					Clear
PDATE	DATETIME	8	0					Clear
OUTPUNCH	DATETIME	8	0					Clear

Schedule

Add Edit Save Manual Transfer Cancel Filter

Select the **Source field** from the drop down list and click on the **Add** button. The field will be added to the grid as shown above. You can remove a selected field by clicking on **Clear** button for the respective field.

The **Schedule** section enables the admin user to schedule the data export process. The schedule option vary based on the selected Source Data Template. The **Daily Attendance detail** will have the following options as shown.

- Check the **Active** box to enable the schedule.
- The **Enable Filter** option is provided to enable the administrator to filter the users whose data is to be exported. Check this box and click on the **Filter** button. The Multiple selection window appears. Select the users whose data is to be exported.
- **Destination FileName:** Enter a filename in this field. The max characters can be 200. The file name can include Alphanumeric characters, Special characters like `!@#$$%^&()_+=[]{}';',.<space> A-Z a-z 0-9` and **pair of asterisks(**)**.

You can type '*' in the text-area. This will show the list of variables as per the template type. Select the desired variable. It will be added by appending '*' at the end. During the deployment of file, the current date-time values will be fetched and replaced instead of these variables.



1. When '*' is typed in text area, another '*' will be added automatically as it is allowed only in pair.
2. When you are entering filename and the appearing variable list is disturbing then you can enter **ESC** key to hide the variables for the instance.

Example of Variables:

gdateDD- This variable will fetch and show the date on which the data is exported and file is generated. Similarly variables are available for month, year, hours. minute and seconds.

fromDD- This variable will fetch and show the date value of the Start Date. Similarly variables are available for month and year. Suppose Start date is 1st date of current month. If current month is Feb so the value of variable will be "1".

toDD- This variable will fetch and show the date value of the End Date. Similarly variables are available for month and year. Suppose End date is Last date of current month. If current month is Feb so the value of variable will be "28".

atdMM*- This variable will fetch and show the month value of attendance period. Similarly variables is available for year.

Example : A new template has been configured with Destination FileName = 'Atd. Events_ *fromDD*-*fromMM*-*fromYY*_to_*toDD*-*toMM*-*toYY*'

Now, this template is manually exported with date-range, 01-01-2016 to 02-01-2016. Thus, the exported file name will be Atd. Events_01-01-16_to_02-01-16.csv

The system creates a folder named **DailyAttendance** in the path as specified in the server configuration.

- **Schedule:** Select the option as **Daily** or **Monthly** to run the schedule
 - For **monthly schedule** specify the **day** of the month on which the export process is to be run. And select the **Attendance period** i.e. starting and the ending day of the attendance period for which the data is to be exported.
 - For **daily schedule** select the **Daily Attendance** of Previous Day or Current Day for which the attendance details is to be exported.
- **Run time:** Specify the Run time in HH:MM format when the export process is to be run.
- **Retry Count:** Set the Retry Count from the drop down list to retry the export if it gets failed.
- **Retry Interval:** Select the Retry Interval in hours from the drop down list. This parameter specifies the time period between successive retries.
- **Enable Alert For:** When scheduled process gets completed then it will send an Alert to the configured COSEC Server. The Alert can be sent for both Successful as well as Failed transfers.

Select the checkboxes as per your requirement:

Select **Success** checkbox to send an alert mentioning the details of successfully transferred records to the configured COSEC Server.

Select **Failure** checkbox to send an alert mentioning the details of failure in transferring records to the configured COSEC Server.

If you require Alerts for both the above events, select both the check boxes.

In case of partial data transfer i.e. if both the above checkboxes are selected then the connection status will be considered as Failure and Reason for Failure will be displayed in the Alert.

Example: There are in total 100 records which are to be transferred.

Now, out of 100 records, only 60 records are transferred Successfully and the remaining 40 records have Failed. Such data transfers are known as partial data transfers.

So here the connection status will be Failure and an alert will be sent to the configured COSEC Server along with the reason for failed data transfer.



It is to be supported for all integrate modes defined in COSEC Integrate where enable alerts provision is present i.e. for all the integration modes except for Custom Export-FP Template & Export FP Template to File.

Then click on **Save** button to save the schedule. Now you can start service for running the export schedule. See [“Exporting Data” on page 29.](#)

The **Monthly Template** will have the same options as mentioned above except the **Attendance Period** option.

The 'Schedule' dialog box for the Monthly Template includes the following fields and options:

- Active:** ☒
- Enable Filter:** ☒
- Destination FileName:** (../MonthlyAttendance)
- Every:** **Day of the Month**
- Run time (HH:MM):**
- Retry Count:**
- Retry Interval:** **Hour**
- Attendance Period:**
- Enable Alerts For:** ☒ **Success** ☐ **Failure**

The **ATD Events** and **ACS Events** templates' schedule is shown below.

The 'Schedule' dialog box for the ATD Events and ACS Events templates includes the following fields and options:

- Active:** ☒
- Enable Filter:** ☒
- Destination FileName:** (../AttendanceEvents)
- Update Interval:** ☒ **Interval Based** ☐ **Once a Day**
- Run Time (HH:MM):**
- Start Date:**
- Retry Count:**
- Retry Interval:**
- Enable Alerts For:** ☒ **Success** ☐ **Failure**

- Specify the **Update Interval** in seconds, minutes or hours to define the frequency at which the application will export the data to the csv file.
- Specify the **Start Date** from which the export process is to be initiated.




In the csv format for exporting data, the records in the csv file would be sorted in the same order as they were added.

Exporting Data

Schedule Export

For starting the export of file, after saving the schedule; click on **Start Service** button. The exported file will be exported at the path specified in Server configuration.

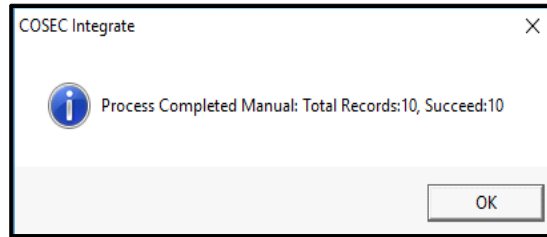
The Daily Attendance exported file is shown below.

This PC > New Volume (E:) > DailyAttendance				
Name	Date modified	Type	Size	
 Atd.Events_01 to 05	07-Feb-18 3:16 PM	Microsoft Excel C...	1 KB	

	A	B	C	D	E	F
1	Chirag		1-1-18 12:00 AM	9:00:00	19:00:00	
2	Khushbu		1-1-18 12:00 AM			
3	Chirag		2-1-18 12:00 AM	9:15:00	19:30:00	
4	Khushbu		2-1-18 12:00 AM			
5	Chirag		3-1-18 12:00 AM	9:00:54	19:00:53	
6	Khushbu		3-1-18 12:00 AM			
7	Chirag		4-1-18 12:00 AM	9:16:29	19:16:27	
8	Khushbu		4-1-18 12:00 AM			
9	Chirag		5-1-18 12:00 AM			
10	Khushbu		5-1-18 12:00 AM			
11						

Manual Export

You can also do the Manual transfer of data by clicking **Manual Transfer** button.



The name of the exported text file will be as per the Destination File name and data will be as per the Table field Mapping. The exported file will be as shown in Schedule export.

Export to MySQL

Select the **Export to MySQL Server** option in the **Integration Mode** field. Click on the **Edit** button.

The screenshot shows a configuration window titled 'Integration Mode' with a dropdown menu set to 'Export to MySQL'. Below this, there are two main sections: 'COSEC Web Server' and 'MySQL'. The 'COSEC Web Server' section contains fields for 'Web URL' (http://localhost/COSEC/api.svc), 'User Name' (sa), and 'Password' (masked with dots), along with a 'Test Connection' button. The 'MySQL' section contains fields for 'Server' (127.0.0.1), 'Port' (3306), 'Database Name' (new_schema), 'User Name' (root), and 'Password' (masked with dots), also with a 'Test Connection' button. At the bottom of the window are 'Edit', 'Save', and 'Cancel' buttons.

In the **COSEC Web Server** section:

- Specify the web url of the api service of the COSEC WEB application as shown.
- Enter the User Name and Password of the sa user as set in the COSEC WEB application.

In the **Destination Database** Server section:

- The **Database Type** will be SQL SERVER.
- **Server:** Enter the database server name in the following format - **Database server name\Instance Name** e.g. dbserver\squlexpress.
- **Database Name:** Specify the database name of the destination database as per the site settings.
- **User Name:** Specify the database administrator ID in this field.
- **Password:** Enter the password of the Database administrator as per the site settings.

The **Test Connection** button is provided to test the connections with the web server as well as the SQL Server database.

Click on **Save** once done.

Export Data Configuration

This option enables the Admin user to map the fields from the COSEC database tables to fields in a third party database. Click on the **Export Data** button. The following page appears.

Export

Database: MySQL Server

Source Data Template: Daily Attendance Detail

Table-Field Mapping

Destination Table: daily_attendance

Source Field: AdlUserID | numeric | 8 | 0

Destination Field: AdlUser_ID | Int32 | 11 | 0

Add

Source Field	Data Type	Length	Decimal	Destination Field	Data Type	Length	Decimal	Clear
AdlUserID	numeric	8	0	AdlUser_ID	Int32	11	0	Clear
ProcessDate_D	datetime	8	0	processdate_d	DateTime	19	0	Clear
UserID	varchar	10	0	UserID	VarChar	10	0	Clear

The COSEC INTEGRATE application provides four data templates in line with the default **Database Views** as shown. The COSEC System provides the following four Database views which would provide the relevant field options to be mapped with the fields of a destination database.

- Monthly Attendance Summary
- Daily Attendance Detail
- Attendance Events
- Access Control Events

Each of the above database views would provide the relevant fields whose values can be exported from the COSEC database. Select the required data template and click on the **Edit** button.

Now the Admin user can start the **mapping of the fields** from the source database to that of the destination database as shown.

Export

Database: MySQL Server

Source Data Template: Daily Attendance Detail

Table-Field Mapping

Destination Table: daily_attendance

Source Field: AdlUserID | numeric | 8 | 0

Destination Field: AdlUser_ID | Int32 | 11 | 0

Add

Source Field	Data Type	Length	Decimal	Destination Field	Data Type	Length	Decimal	Clear
AdlUserID	numeric	8	0	AdlUser_ID	Int32	11	0	Clear
ProcessDate_D	datetime	8	0	processdate_d	DateTime	19	0	Clear
UserID	varchar	10	0	UserID	VarChar	10	0	Clear

- Select the **Destination Table** from the pull down list.
- Select the **Source field** from the COSEC database.
- Select the **Destination field** from the selected destination table.
- Click on the **Add** button. The mapped fields will be visible in the bottom grid as shown.

In the case of Attendance Events and Access Control Events the user needs to map the UserID and the EventDateTime_D source fields to fields in the destination table.



Map the UserID, PMonth and Pyear source fields to appropriate fields in the destination table in the case of the Monthly Attendance Summary.

Map the UserID and ProcessDate_D source fields to appropriate fields in the destination table in the case of the Daily Attendance Detail.

The **Schedule** section enables the Admin user to schedule the data export process. The schedule option vary based on the selected Source Data Template. The **Daily Attendance detail** will have the following options as shown.

Schedule⤴

Active
☐

Enable Filter
☐

Schedule

Monthly

Every

1

Day of the Month

Run time (HH:MM)

Retry Count

1

Retry Interval

1

Hour

Attendance Period

1

Day of

Current Month

To

1

Day of

Current Month

Enable Alerts For

☐ **Success**
☐ **Failure**

- Check the **Active** box to enable the schedule.
- The **Enable Filter** option is provided to enable the administrator to filter the users whose data is to be exported. Check this box and click on the **Filter** button. The Multiple selection window appears. Select the users whose data is to be exported.
- Specify the day of the month on which the export process is to be run.
- Specify the **Run time** in HH:MM format when the export process is to be run.
- Set the **Retry Count** from the pull down list.
- Set the **Retry Interval** in hours from the pull down list. This parameter specifies the time period between successive retries.
- Specify the **Attendance Period** by specifying the starting and the ending day of the attendance period for which the data is to be exported.
- **Enable Alert For:** When scheduled process gets completed then it will send an Alert to the configured COSEC Server. The Alert can be sent for both Successful as well as Failed transfers.

Select the checkboxes as per your requirement:

Select **Success** checkbox to send an alert mentioning the details of successfully transferred records to the configured COSEC Server.

Select **Failure** checkbox to send an alert mentioning the details of failure in transferring records to the configured COSEC Server.

If you require Alerts for both the above events, select both the check boxes.

In case of partial data transfer i.e. if both the above checkboxes are selected then the connection status will be considered as Failure and Reason for Failure will be displayed in the Alert.

Example: There are in total 100 records which are to be transferred.

Now, out of 100 records, only 60 records are transferred Successfully and the remaining 40 records have Failed. Such data transfers are known as partial data transfers.

So here the connection status will be Failure and an alert will be sent to the configured COSEC Server along with the reason for failed data transfer.



It is to be supported for all integrate modes defined in COSEC Integrate where enable alerts provision is present i.e. for all the integration modes except for Custom Export-FP Template & Export FP Template to File.

Select any one option for data transfer i.e, Daily or Monthly in the field **Schedule**. On selection of Monthly option, user can set data transfer process to run only once in a month. By default, **Monthly** option would be selected. When selecting **Daily** option from the drop down list, the options appears as shown.

User can configure to transfer data for either previous day's attendance data or current day's attendance data with respect to schedule run day.

The **Monthly Attendance Summary** will have the following unique options:

- Select the **Attendance Period** for which the monthly Attendance summary data is to be exported. The Admin user can select either the **previous month** or **current month** option.

On selecting the **Attendance Events** or the **Access Control Events** the following schedule options will be available.

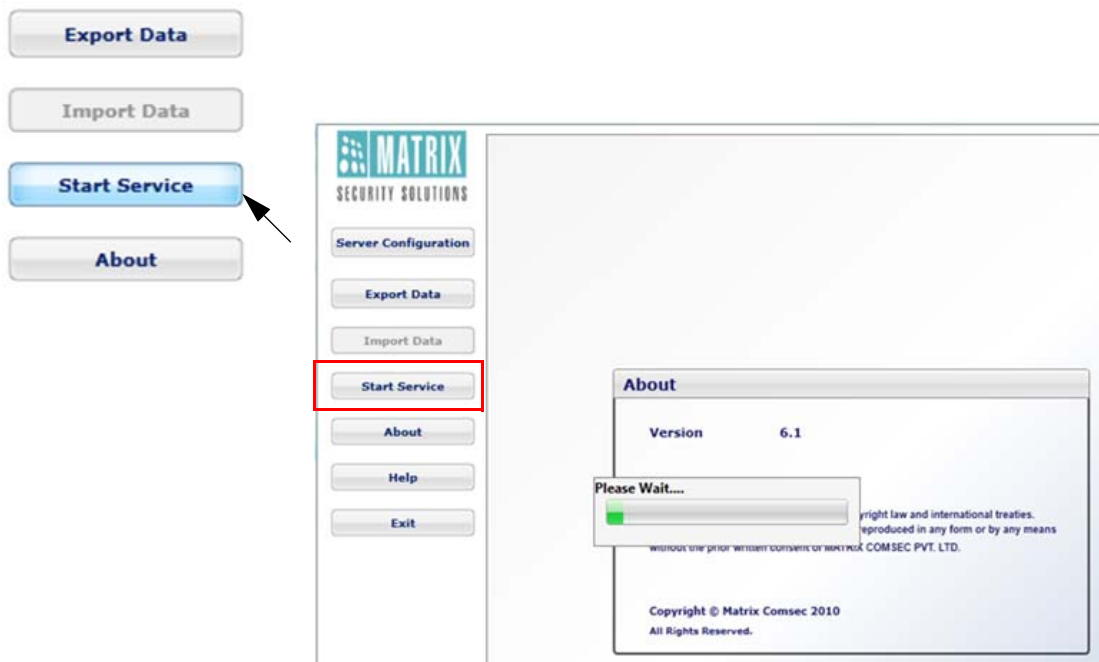


The screenshot shows a 'Schedule' window with the following settings:

- Active:** A checked checkbox.
- Enable Filter:** An unchecked checkbox.
- Update Interval:** A text box containing '20' and a dropdown menu set to 'Seconds'.
- Start Date:** A text box containing '01/07/2013'.

- Check the **Active** box to enable the schedule.
- Set the filter parameters as described earlier.
- Specify the **Update Interval** in seconds, minutes or hours to define the frequency at which the application will update the destination database.
- Specify the **Start Date** from which the export process is to be initiated.

After defining the above parameters, the Admin user has to click on the **Start Service** button.



The application will start the **COSEC INTEGRATE** service as shown.

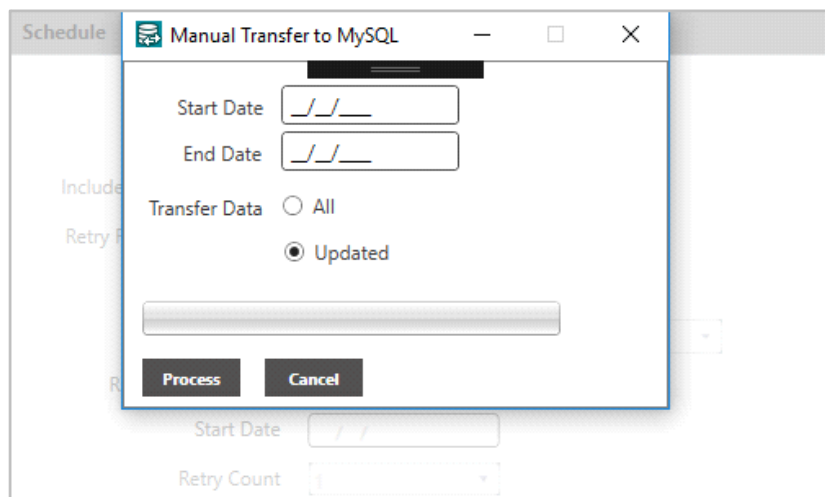
Manual Transfer

The Manual Transfer option provides the Admin user the flexibility to export data of a specific time period as and when required. In order to access this functionality click on the **Stop Service** button to stop the COSEC INTEGRATE service.

Click the **Export Data** button.

On the **Export Data** page, edit and save the export settings as per your requirement.

Click the **Manual Transfer** button. The following window appears for *Manual Transfer to MySQL*.



Enter the **Start Date** and **End Date**.

Select the **Transfer Data** mode— **All** or **Updated**.

All: All the past data falling within the selected date range will be transferred.

Updated: All the updated data falling within the selected date range will be transferred.

Click the **Process** button. The data of the specified time period will be exported to the destination table.

Export to Text

The application allows the administrator to export data related to various user events as mentioned earlier to a text file which can be stored at a specific location on FTP/SFTP server or in a local folder on the hard disk.

Click on the **Server Configuration** option and select the **Export to text file** option as the **Integration Mode**.

Click on the **Edit** button.

The screenshot shows a web application interface for server configuration. On the left is a vertical sidebar with buttons: 'Server Configuration' (highlighted), 'Export Data', 'Import Data', 'Start Service', 'About', 'Help', and 'Exit'. The main area is titled 'Integration Mode' with a dropdown menu set to 'Export to Text File'. Below this are two panels. The 'COSEC Web Server' panel contains fields for 'Web URL' (http://localhost/COSEC/api.svc/v2), 'User Name' (sa), and 'Password' (masked with dots), followed by a 'Test Connection' button. The 'Destination Location' panel has radio buttons for 'Local Folder' (selected), 'FTP', and 'SFTP'. It includes a 'Save Path' field (D:\Security Documents\Sheetal\Cui), a 'Sub-Folders' checkbox (checked), and a 'Separator' dropdown (comma). A 'Save' button is at the bottom right of this panel. At the very bottom of the main area are four buttons: 'Edit', 'Save', 'Cancel', and 'Delete'.

In the **COSEC Web Server** section:

- Specify the Web URL of the API service of the COSEC WEB application as shown.
- Enter the User Name and Password of the sa user as set in the COSEC WEB application.

The **Test Connection** button is provided to test the connections with the web server

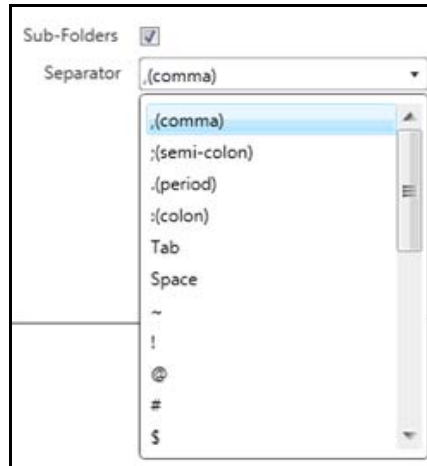
In the **Destination Location** section, you can select the storage as Local, FTP or SFTP.

1. Local Folder:

Specify the **Path** at which the system will store the text files.

Select the **Sub-Folders** checkbox to enable a folder hierarchy to be created at the export destination for the text file.

Separator: Select the separator which will be used to separate the fields in text file.



2. FTP:

Specify the **FTP** path to store the text file. The purpose for Sub-folders and Separator is described in Local Folder section.

Enter the **User Name** and **Password** to access the path.

A screenshot of a configuration window titled "COSEC Web Server". It has two main sections: "COSEC Web Server" and "Destination Location".
In the "COSEC Web Server" section:
- "Integration Mode" is set to "Export to Text File".
- "Web URL" is "http://localhost/COSEC/api.svc/v2".
- "User Name" is "sa".
- "Password" is masked with dots.
- There is a "Test Connection" button.
In the "Destination Location" section:
- Radio buttons for "Local Folder", "FTP" (selected), and "SFTP".
- "Save Path" is "ftp://192.168.104.16/Textftp/".
- "Sub-Folders" is checked.
- "Separator" is ,(comma).
- "User Name" is "user".
- "Password" is masked with dots.
- There is a "Save" button.
At the bottom of the window are buttons for "Edit", "Save", "Cancel", and "Delete".

3. SFTP:

SSH File Transfer Protocol (SFTP) is a network protocol which provides secure file transfer capabilities. The user has to configure the SFTP server, and provide login credentials which are to be used by COSEC Integrate to login as a client.

Server: Specify the IP address where SFTP server is installed.

COSEC Integrate works with SFTP on default port number 22. If user wants to use other port Eg: Port 33 then server can be written with port number like 192.168.104.20:33 in SFTP server configuration.

Save Path: Specify the path where the export data are to be saved. This path can be pre-configured while installing the SFTP server. In this case you can specify Path as "\\".

The purpose for Sub-folders and Separator is described Local Folder section.

Specify the **UserName** and **Password** to access the PC 192.168.104.20 where SFTP server is installed.

If you select **With Key** option, then you will need to enter the RSA key generated by the SFTP server. You can find the key in SFTP server Settings.

If you select **Without Key** option, then key is not required.

Click on **Save** after the configuration is done.

Export Data Configuration

This option enables the admin user to specify the fields whose values are to be exported to the text file.

Each database views would provide the relevant fields whose values can be exported from the COSEC database.

Source Data Template: Select the required data template

Text File Template: The templates will be generated once the Text file configuration is done. For configuring Text file template, click on **Add** button by scrolling the Text file Configuration section.

If the Text file template is available then you can select it and click on the **Edit** button for selecting the fields from the source database.

Text File Configuration

Template: Specify the name of the Template to which the source file is to be mapped.

File Header: Click on the check box to enable this option. Click on the drop down arrow to select the options as mentioned below

- **Column Name:** Enable the checkbox. You can specify the name of the columns while selecting Data type and the related fields which is described later. The Column Name will then be exported as the header.
- **Custom:** For a common header of the page, you can select the custom option and specify a file header name in adjacent box.

The allowed functions are mentioned below:

AVG: Returns the average. Syntax: AVG(arg1)

CONVERT: Converts particular expression to a specified .NET framework type. Syntax: Convert(expression, type)

COUNT: Counts how many numbers are in the list of arguments. Syntax: COUNT(arg1,)

IIF: Specifies a logical test to perform. Syntax: IIF(expression, [value_if_true],[value_if_false])

ISNULL: Checks an expression and either returns the checked expression or a replacement value.
Syntax: ISNULL(expression, replacement value)

MAX: Returns the maximum value in a list of arguments. Syntax: MAX(arg1)

MIN: Returns the minimum value in a list of arguments. Syntax: MIN(arg1)

LEN: Gets the length of a String. Syntax: CONVERT(expression)

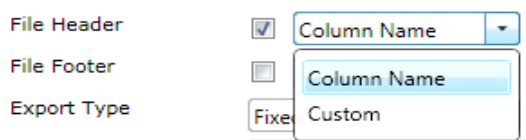
SUBSTRING: Gets a sub-string of a specified length, starting at a specified point in the string.
Syntax: SUBSTRING(expression, start, length)

SUM: Adds its arguments. Syntax: SUM(arg1)

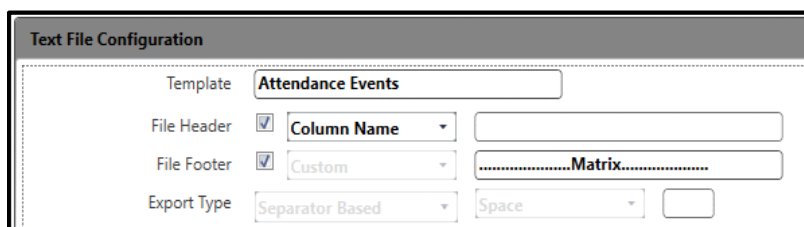
STDEV: Estimates standard deviation based on a sample. Syntax: STDDEV(arg1)

VAR: Estimates variance based on a sample. Syntax: VAR(arg1)

TRIM: Removes all leading and trailing blank characters like \r, \n, \t. Syntax: TRIM(arg1)



File Footer: Click on the check box to enable this option. Specify the desired footer in the adjacent box as shown below.



Export Type: Click on the drop down arrow to select the export type as Fixed Position based or Separator based.



The Export type option can be selected when the template is created for the first time. When the template is edited then Export type will be disabled.

1. **Fixed Position Based:** Select this option if you want the columns to be fixed position based.
 - **Start-End Position:** Enter the position value. Eg: 0 to 10 position is set by entering end position as 10
 - **Length** will be updated automatically according to the fixed position value. You can manually enter the Length value less than the position value.
 - **Alignment** can be selected as Left or Right.
 - **Padding:** Select the Padding value from the drop down options for appending it after the data end point upto the position end point.
 - **Data formatting:** Select the Data formatting if required.

Text File Configuration

Template: User Data

File Header: ☒ Column Name

File Footer: ☐ Custom

Export Type: Fixed Position Based

Data Type: Database Field

Database Field: USERNAME | NVARCHAR | 45 | 0

Column Name: Name

Start-End Position: 10 Length: 11

Alignment: Left

Padding: :colon

Data Formatting: None

Buttons: Add, Edit, Cancel, Delete

2. **Separator Based:** Select this option if you want the columns to be Separator based.

- Select the separator options from the drop down list as shown below. You can also select the custom separator option and specify the separator in the adjacent box.

Text File Configuration

Template: User Data_Separator based

File Header: ☒ Column Name

File Footer: ☐ Custom

Export Type: Separator Based

Data Type: Database Field

Database Field: USERNAME | NVAR

Column Name: Name

Start-End Position: 10 Length: 11

Alignment: Left

Padding: :colon

Data Formatting: None

Buttons: Add, Edit, Cancel, Delete

Separator Options: Space, ,(comma), ;(semi-colon), .(period), :colon, Tab, ~, !, @, #, \$

Data Type: Click on the drop down arrow to select the type of data to be exported.

Data Type: Database Field

Database Field: Database Field

Column Name: Fixed

Start-End Position: Custom Field

Alignment: Filler

Data Formatting: None

Buttons: Add, Edit, Cancel, Delete

Field Replace

- Fixed:** Select this option and enter the value in the Fixed value field as shown below. For eg: the organization name remains common to all the employees, so it is considered as fixed value.
- Custom Field:** Select this option and enter the value in the Custom value field as shown below.

- **Filler:** If Export type is selected as Fixed position based, then the data type can be selected as Filler. This is used as the gap between the columns. Filler itself acts as a column, which has value other than data for eg: space, comma etc. Specify the filler value from the drop down list.

The screenshot shows a configuration window with a 'Data Type' dropdown set to 'Filler'. Below it, a 'Filler Value' dropdown is set to '.(comma)'. A list of other filler values is visible: '.(comma)', '.(semi-colon)', '.(period)', '.(colon)', '~', '!', '@', '#', '\$', '%', and '^'.

- **Database Field:** Click the drop down arrow and select the database field options.

The screenshot shows a configuration window with a 'Database Field' dropdown. The dropdown list is open, showing a table of database fields:

Database Field	Column Name	Start-End Position	Alignment	Data Formatting
USERID	USERID	VARCHAR	10	0
USERNAME	USERNAME	VARCHAR	45	0
WODAYS	WODAYS	NUMERIC	3	0
WORKTIME	WORKTIME	NUMERIC	5	0
WORKTIMEW1	WORKTIMEW1	NUMERIC	5	0
WORKTIMEW1_HHMM	WORKTIMEW1_HHMM	VARCHAR	9	0
WORKTIMEW2	WORKTIMEW2	NUMERIC	5	0
WORKTIMEW2_HHMM	WORKTIMEW2_HHMM	VARCHAR	9	0
WORKTIMEW3	WORKTIMEW3	NUMERIC	5	0
WORKTIMEW3_HHMM	WORKTIMEW3_HHMM	VARCHAR	9	0

When **Data Type** is selected as **Database Field**, then you have the option to Replace value. [“Example: Replace Value”](#)

When **Data Type** is selected as **Custom field**, the user can create an expression with the fields available in the selected export view template. The expression should be validated same as in the Text File Configuration section of Export to Text.

"Field Conditions support replacing value after performing comparison of field value with some fixed value / database field.

Example: Replace Value

To compare punch event date-time (EDateTime) and insertion date-time (IDateTime).

During door offline condition suppose only first punch(9:00 hrs) is recorded and after that punch was not recorded for that day. So punch can be inserted after the first punch.

The system will compare the inserted punch> event punch, then the Noteflag column will be replaced with the value 1. You can give any name to the column for the fields.

Click the Field Replace button  to replace the desired field value.

Condition	Field Value	Replace Value	Clear

Field Value can be Database Field value or fixed value with which the database field value (selected from the Text file configuration) will be compared.

Replace Value can be a fixed value or any custom value. (Here If IDATETIME > EDATETIME, then column will be replace with value 1)

Condition	Field Value	Replace Value	Clear
>	EVENTDATETIME	1	Clear

Schedule Section

The **Schedule section** enables the Admin user to schedule the data export process. The schedule option vary based on the selected Source Data Template.

The **Daily Template** will have the following options as shown. (Attendance Period for monthly schedule and Daily Attendance for Daily schedule.)

The screenshot shows the 'Schedule' configuration window. It includes the following fields and options:

- Active:** A checked checkbox.
- Enable Filter:** An unchecked checkbox.
- File Generation:** A dropdown menu set to 'Single'. A secondary 'Organization' dropdown is visible to its right.
- Destination FileName:** A text field containing 'Matrix_attendance "from DD" to "to dd"'. An 'Extension' field next to it is set to 'txt'.
- Schedule:** A dropdown menu set to 'Monthly'.
- Every:** A dropdown menu set to '1', with the label 'Day of the Month' to its right.
- Run time (HH:MM):** A text field containing '15:30'.
- Retry Count:** A dropdown menu set to '1'.
- Retry Interval:** A dropdown menu set to '1', with the label 'Hour' to its right.
- Attendance Period:** A dropdown menu set to '1', with the label 'Day of' to its right.
- Day of:** A dropdown menu set to 'Current Month', followed by the text 'To'.

- Check the **Active** box to enable the schedule.
- The **Enable Filter** option is provided to enable the administrator to filter the users whose data is to be exported. Check this box and click on the **Filter** button. The Multiple selection window appears. Select the users whose data is to be exported.
- **File Generation:** Select **Single** or **Multiple** configuration for the file generation based on Enterprise groups. On Selecting Multiple option, second drop-down of File Generation will be activated. It enables to generate different files based on enterprise groups as shown below.

This screenshot shows the 'Schedule' configuration window with the 'File Generation' dropdown set to 'Multiple'. The 'Destination FileName' field now contains 'attendance "from dd" to "to dd"'. All other settings, including 'Active', 'Enable Filter', 'Schedule', 'Every', 'Run time', 'Retry Count', 'Retry Interval', and 'Attendance Period', remain the same as in the previous screenshot.

- **Destination FileName:** Enter a filename in this field. The max characters can be 200. The file name can include Alphanumeric characters, Special characters like !@#\$%^&()_+=[]{};',.<space> A-Z a-z 0-9 and pair of asterisks(**).

You can type '*' in the text-area. This will show the list of variables as per the template type. Select the desired variable. It will be added by appending '*' at the end. During the deployment of file, the current date-time values will be fetched and replaced instead of these variables.



1. When '*' is typed in text area, another '*' will be added automatically as it is allowed only in pair.
2. When you are entering filename and the appearing variable list is disturbing then you can enter **ESC** key to hide the variables for the instance.

Example of Variables:

gdateDD- This variable will fetch and show the date on which the data is exported and file is generated. Similarly variables are available for month, year, hours, minute and seconds.

fromDD- This variable will fetch and show the date value of the Start Date. Similarly variables are available for month and year. Suppose Start date is 1st date of current month. If current month is Feb so the value of variable will be "1".

toDD- This variable will fetch and show the date value of the End Date. Similarly variables are available for month and year. Suppose End date is Last date of current month. If current month is Feb so the value of variable will be "28".

atdMM*- This variable will fetch and show the month value of attendance period. Similarly variables is available for year.

Example : A new template has been configured with Destination FileName = 'Atd. Events_*fromDD*-*fromMM*-*fromYY*_to_*toDD*-*toMM*-*toYY*'

Now, this template is manually exported with date-range, 01-01-2016 to 02-01-2016. Thus, the exported file name will be Atd. Events_01-01-16_to_02-01-16.txt

- **Schedule:** Select the option as **Daily** or **Monthly** to run the schedule.
 - For **monthly schedule** specify the **day** of the month on which the export process is to be run. And select the **Attendance period** i.e. starting and the ending day of the attendance period for which the data is to be exported.
 - For **daily schedule** select the **Daily Attendance** of Previous Day or Current Day for which the attendance details is to be exported.
- **Run time:** Specify the Run time in HH:MM format when the export process is to be run.
- **Retry Count:** Set the Retry Count from the drop down list to retry the export if it gets failed.
- **Retry Interval:** Select the Retry Interval in hours from the drop down list. This parameter specifies the time period between successive retries.
- **Enable Alert For:** When scheduled process gets completed then it will send an Alert to the configured COSEC Server. The Alert can be sent for both Successful as well as Failed transfers.

Select the checkboxes as per your requirement:

Select **Success** checkbox to send an alert mentioning the details of successfully transferred records to the configured COSEC Server.

Select **Failure** checkbox to send an alert mentioning the details of failure in transferring records to the configured COSEC Server.

If you require Alerts for both the above events, select both the check boxes.

In case of partial data transfer i.e. if both the above checkboxes are selected then the connection status will be considered as Failure and Reason for Failure will be displayed in the Alert.

Example: There are in total 100 records which are to be transferred.

Now, out of 100 records, only 60 records are transferred Successfully and the remaining 40 records have Failed. Such data transfers are known as partial data transfers.

So here the connection status will be Failure and an alert will be sent to the configured COSEC Server along with the reason for failed data transfer.



It is to be supported for all integrate modes defined in COSEC Integrate where enable alerts provision is present i.e. for all the integration modes except for Custom Export-FP Template & Export FP Template to File.

Then click on **Save** button to save the schedule. Now you can start service for running the export schedule. [See "Exporting Data" on page 49.](#)

The **Monthly Template** will have the same options as mentioned above except the **Attendance Period** option.

A screenshot of a 'Schedule' configuration window. The window has a title bar 'Schedule' and a close button. Inside, there are several settings: 'Active' with a checked checkbox, 'Enable Filter' with a checked checkbox, 'File Generation' set to 'Multiple' and 'Organization' set to a dropdown, 'Destination FileName' set to 'Matrix Attendance *atdMM*-*atdYY*' and 'Extension' set to 'txt'. Below these are 'Every' set to '1' and 'Day of the Month', 'Run time (HH:MM)' set to '12:30', 'Retry Count' set to '1', and 'Retry Interval' set to '1' and 'Hour'. The 'Attendance Period' is set to 'Previous Month' with a dropdown arrow. At the bottom, 'Enable Alerts For' has two checkboxes: 'Success' (checked) and 'Failure' (unchecked). A black arrow points to the 'Attendance Period' dropdown.

The **ATD Events** and **ACS Events** templates' schedule is shown below.

Schedule

Enable Filter ☐

File Generation: **Multiple** Organization:

Destination FileName: **MatrixAttendance *from DD*- *fromMM*- *fromYY* to *toDD*- *toMM*- *toYY*** Extension: **txt**

☐ Interval Based ☒ Once a Day

Update Interval: Seconds

Run Time (HH:MM): **15:30**

Start Date: **28/05/2019**

Retry Count: **1**

Retry Interval: **1**

Enable Alerts For: ☒ Success ☐ Failure

Exporting Data

Schedule Export

For starting the export of file, after saving the schedule; click on **Start Service** button. The exported file will be exported at the path specified in Server configuration.

The data in the exported file is as per the Text file configuration shown below.

Matrix Attendance 01 to 10 - Notepad

File Edit Format View Help

Punch Date	Shift	Name	IN Time	OUT Time
01/01/2018	GS	Chirag	09:00:00	19:00:00
GS Khushbu				
02/01/2018	GS	Chirag	09:15:00	19:30:00
GS Khushbu				
03/01/2018	GS	Chirag	09:00:54	19:00:53
GS Khushbu				
04/01/2018	GS	Chirag	09:16:29	19:16:27

Text File Configuration

Database Field: **OUTPUNCH_TIME** NVARCHAR(8) 0

Column Name: **OUT Time**

Start-End Position: **0** Length:

Alignment: **Left** Padding: **Space**

Data Formatting: **None**

Add Edit Cancel Delete

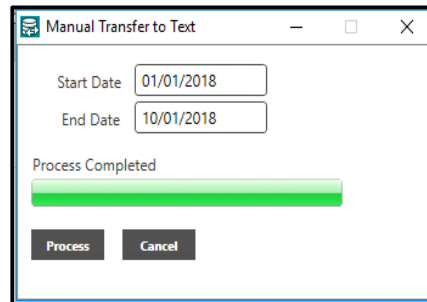
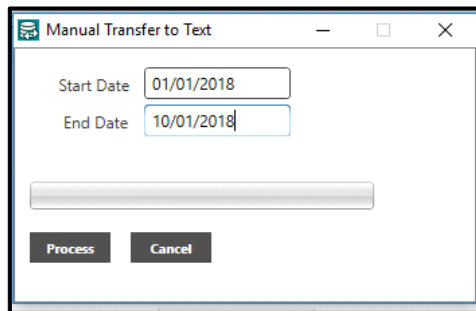
Sr No	Data Type	Value	Column Name	Start Pos	End Pos	Length
1	Database	PUNCH1	Punch Date			
2	Database	SCHEDULESHIFT	Shift			
3	Database	USERNAME	Name			
4	Database	PUNCH1_TIME	IN Time			
5	Database	OUTPUNCH_TIME	OUT Time			

Schedule

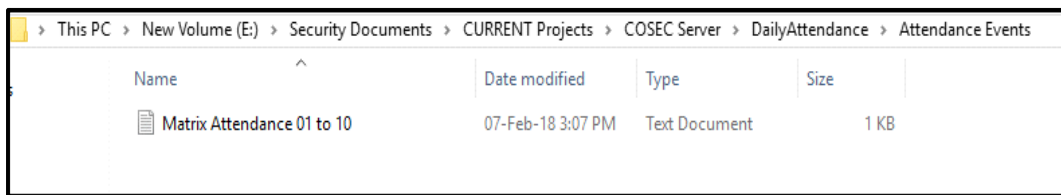
Add Edit Save Manual Transfer Cancel Filter

Manual Export

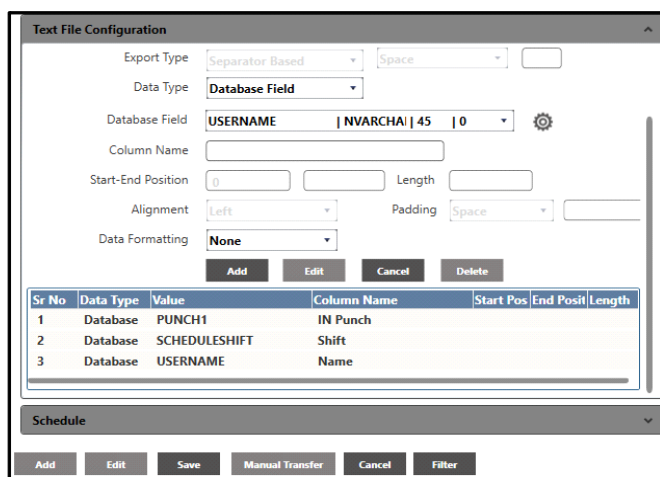
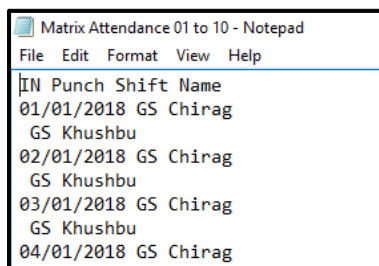
You can also do the Manual transfer of data by clicking **Manual Transfer** button.



The name of the exported text file is as per the Destination File name.



The data in the exported file is as per the Text file configuration shown below.



Export to DB2

The application allows the administrator to export access events from the COSEC application database to a destination **IBM DB2 database server** (supported version 10.5.3 and above).

Click on the **Server Configuration** button to start the configuring process.

The following page appears. Select the **Export to DB2** option in the **Integration Mode** field.

The screenshot shows the 'COSEC Integrate User: SA' window. On the left is a sidebar with buttons: 'Server Configuration' (highlighted), 'Export Data', 'Import Data', 'Start Service', 'About', 'Help', and 'Exit'. The main area has a title bar 'COSEC Integrate' and a dropdown menu 'Integration Mode' set to 'Export to DB2'. Below this are two panels: 'COSEC Web Server' and 'DB2'. The 'COSEC Web Server' panel has fields for 'Web URL' (http://localhost/COSEC/api.svc/v2/), 'User Name' (sa), and 'Password' (masked with dots), with a 'Test Connection' button below. The 'DB2' panel has fields for 'Server' (192.168.153.143), 'Port' (50000), 'Database Name' (sample), 'User Name' (db2admin), and 'Password' (masked with dots), with a 'Test Connection' button below. At the bottom of the main area are 'Edit', 'Save', and 'Cancel' buttons.

Click on the **Edit** button.

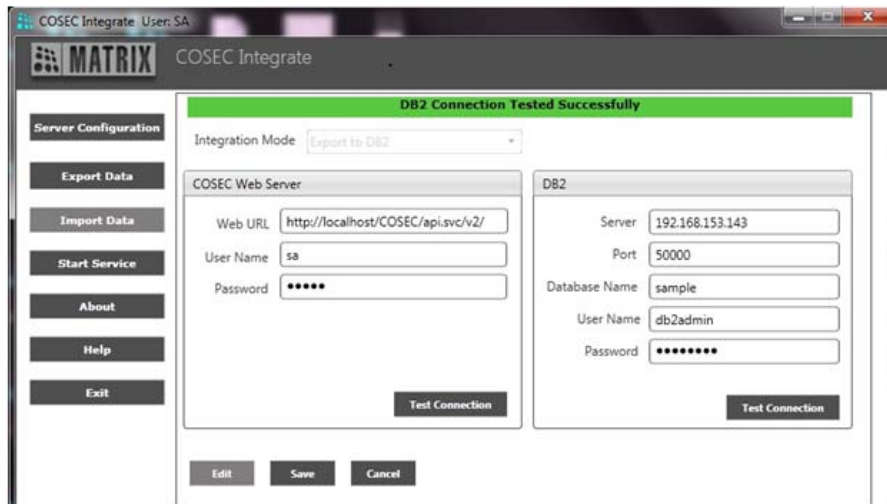
In the **COSEC Web Server** section:

- Specify the web url of the API service of the COSEC WEB application as shown.
- Enter the User Name and Password of the system administrator (sa) as set in the COSEC WEB application.

In the **DB2** destination database server section:

- Enter the database server name and port.
- Specify the database name of the destination database as per the site settings.
- Specify the database administrator ID as user name.
- Enter the password of the database administrator as per the site settings.

The **Test Connection** button is provided to test the connections with the web server as well as the DB2 database.

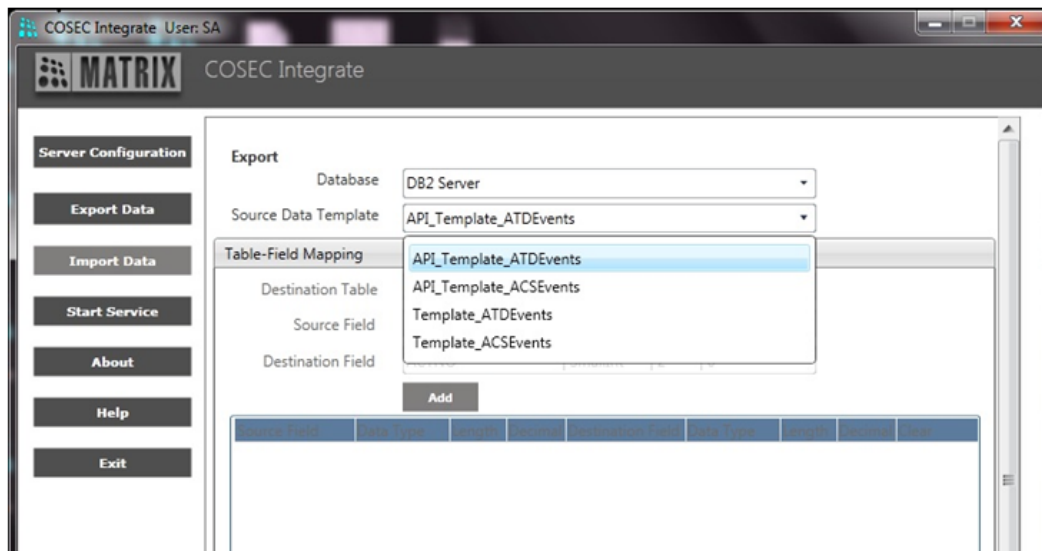


Click on **Save** once done.

Export Data Configuration

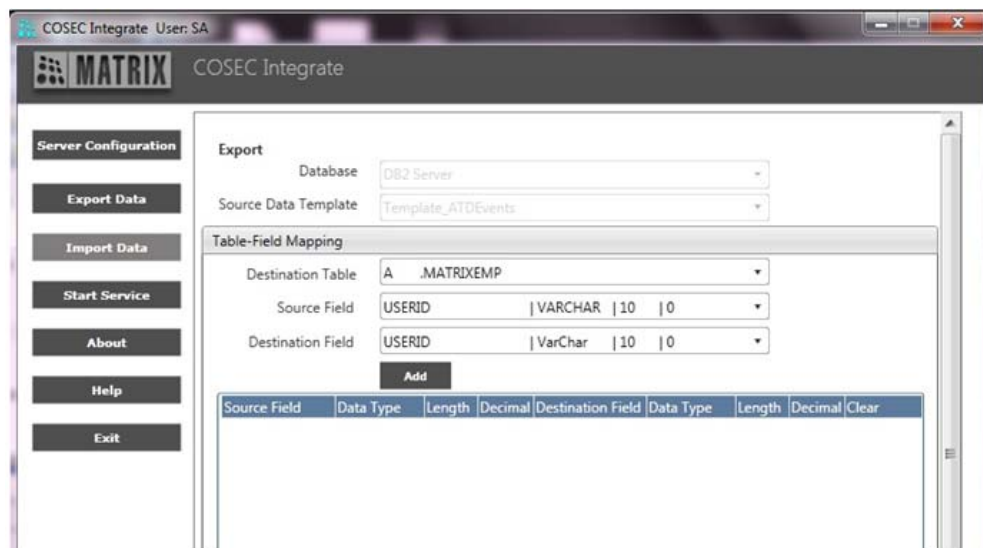
Click the **Export Data** button to map fields between source and destination tables.

For the DB2 Server Database, select a source template from the system-defined data templates or other custom export templates defined on COSEC that appear for selection.

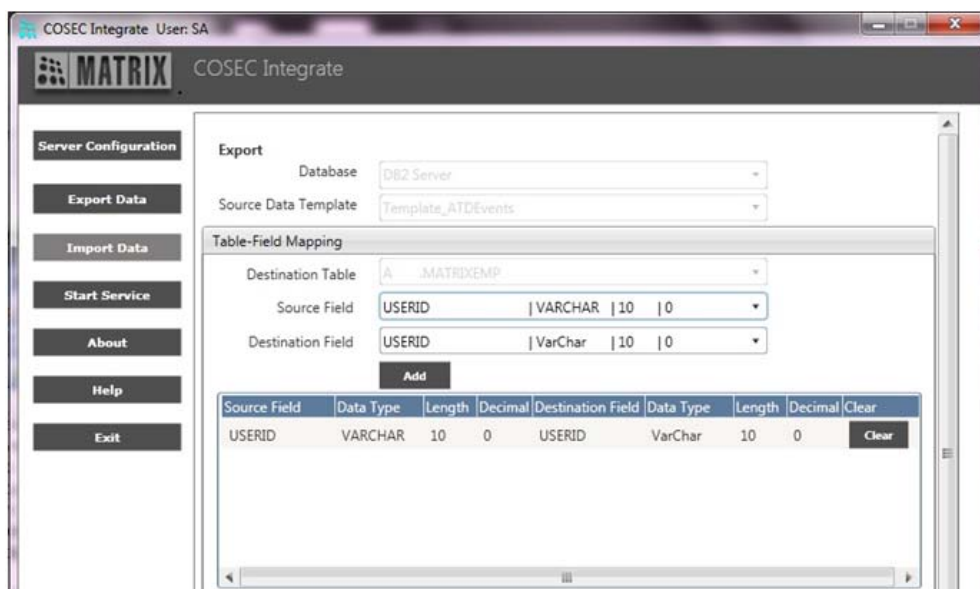


Each of the above database views would provide the relevant fields whose values can be exported from the COSEC database. Select the required data template and click on the **Edit** button.

Now the admin user can start the mapping of the fields from the source database to that of the destination database as shown.



- Select the **Destination Table** from the pull down list.
- Select the **Source field** from the COSEC database.
- Select the **Destination field** from the selected destination table.
- Click on the **Add** button. The mapped fields will be visible in the bottom grid as shown.



In the **Schedule** panel, user can set up a schedule for data update between source and destination databases or update data manually using the **Manual Transfer** option.

The screenshot shows the 'Export' configuration window with the 'Schedule' tab selected. The 'Active' checkbox is checked. Other options include 'SAP Integration', 'Enable Filter', 'Include Previously Failed', 'Retry For Failed Records' (set to 1), 'Update Interval' (set to 1 Second), 'Run Time (HH:MM)', 'Start Date' (set to / /), 'Retry Count' (set to 1), 'Retry Interval' (set to 1), and 'Enable Alerts For' with 'Success' and 'Failure' checkboxes.

- Check the **Active** box to enable the schedule.
- The **Enable Filter** option is provided to enable the administrator to filter the users whose data is to be exported. Check this box and click on the **Filter** button. The Multiple selection window appears. Select the users whose data is to be exported.
- To use the exported data for SAP Integration, enable the **SAP Integration** checkbox.
- To set **Interval Based** data update, specify the **Update Interval**.
- To schedule data update **Once a Day**, specify the **Run time** in HH:MM format, **Start Date** (i.e. date since when export data is to be fetched from COSEC database), **Retry Count** and **Retry Interval**.
- **Enable Alert For:** When scheduled process gets completed then it will send an Alert to the configured COSEC Server. The Alert can be sent for both Successful as well as Failed transfers.

Select the checkboxes as per your requirement:

Select **Success** checkbox to send an alert mentioning the details of successfully transferred records to the configured COSEC Server.

Select **Failure** checkbox to send an alert mentioning the details of failure in transferring records to the configured COSEC Server.

If you require Alerts for both the above events, select both the check boxes.

In case of partial data transfer i.e. if both the above checkboxes are selected then the connection status will be considered as Failure and Reason for Failure will be displayed in the Alert.

Example: There are in total 100 records which are to be transferred.

Now, out of 100 records, only 60 records are transferred Successfully and the remaining 40 records have Failed. Such data transfers are known as partial data transfers.

So here the connection status will be Failure and an alert will be sent to the configured COSEC Server along with the reason for failed data transfer.



It is to be supported for all integrate modes defined in COSEC Integrate where enable alerts provision is present i.e. for all the integration modes except for Custom Export-FP Template & Export FP Template to File.

- Click **Save** and start service.

Export to People Works

This feature allows the user to export data from the COSEC application database to a user-defined FTP location in the .XLSX format. The export filename will follow the below format:

“PeopleWorks<ddmmyyyy><hhmm>.xlsx”

Click on the **Server Configuration** button to start the configuring process.

The following page appears. Select the **Export to PeopleWorks** option in the **Integration Mode** field.

The screenshot shows the 'COSEC Integrate User: SA' window. On the left is a sidebar with buttons: Server Configuration, Export Data, Import Data, Start Service, About, Help, and Exit. The main area is titled 'COSEC Integrate' and contains the following fields and buttons:

- Integration Mode:** A dropdown menu set to 'Export to PeopleWorks'.
- COSEC Web Server:**
 - Web URL:** http://localhost/COSEC/api.svc/v2
 - User Name:** sa
 - Password:** masked with dots
 - Test Connection:** A button.
- Destination Location:**
 - Save Path:** ftp://192.168.102.46
 - Sub-Folders:** A checked checkbox.
 - User Name:** ftpuser
 - Password:** masked with dots
 - Save:** A button.
- Footer buttons:** Edit, Save, Cancel, Delete.

Click on the **Edit** button.

In the **COSEC Web Server** section:

- Specify the Web URL of the API service of the COSEC WEB application as shown.
- Enter the User Name and Password of the system administrator (sa) as set in the COSEC WEB application.

The **Test Connection** button is provided to test the connections with the web server

In the **Destination Location** section, specify the FTP based storage path (and access credentials) on which the system will export data as shown. Select the **Sub-Folders** checkbox to enable a folder hierarchy to be created at the export destination for the file.

Click on **Save** to save the destination settings.

COSEC Web Server Connection Tested Successfully

Integration Mode Export to PeopleWorks

COSEC Web Server

Web URL

User Name

Password

Test Connection

Destination Location

Save Path

Sub-Folders ☒

User Name

Password

Save

Edit Save Cancel Delete

Data Saved Successfully

Integration Mode Export to PeopleWorks

COSEC Web Server

Web URL

User Name

Password

Test Connection

Destination Location

Save Path

Sub-Folders ☒

User Name

Password

Save

Edit Save Cancel Delete

Click on **Save** to save the server configuration.

PeopleWorks Export Configuration

Click the **Export Data** button to map fields between source and destination tables. Select the Database type as **Export to PeopleWorks**.

The screenshot shows the COSEC Integrate User Interface. On the left is a sidebar with buttons: Server Configuration, Export Data, Import Data, Start Service, About, Help, and Exit. The main window is titled 'COSEC Integrate' and has a 'File Configuration' section. In the 'Export' section, 'Database' is set to 'Export to PeopleWorks' and 'Source Data Template' is 'API_Template_Daily'. The 'File Configuration' section has a 'Data Type' dropdown set to 'Database Field'. Below it, 'Database Field' is 'ACTIVEFLAG' and 'Column Name' is empty. There are 'Add', 'Edit', 'Cancel', and 'Delete' buttons. A table lists the current configuration:

Sr No	Data Type	Value	Column Name
1	Serial No	SerialNo	SI No
2	Database	PROCESSDATE_D	Date
3	Database	USERID	Code
4	Database	USERNAME	EmpName
5	Database	DEPARTMENT	Department
6	Database	DESIGNATION	Designation

At the bottom, there is a 'Schedule' section and a row of buttons: Add, Edit, Save, Manual Transfer, Cancel, and Filter.

Click on the **Edit** button.

Select a **Data Type** to configure fields. There are four data types to choose from:

- **Database Field:** Select a Database Field from the drop-down list to be added to the export file and define a new column name against it. Click **Add**.

The screenshot shows the 'File Configuration' window. 'Data Type' is 'Database Field'. 'Database Field' is 'JOINDT' and 'Column Name' is 'JoiningDate'. There are 'Add', 'Save', 'Cancel', and 'Delete' buttons. A table lists the current configuration:

Sr No	Data Type	Value	Column Name
9	Database	OUTPUNCH_TIME	Out
10	Database	EARLYOUT_HHMM	Early out
11	Database	EARLYIN_HHMM	Early In
12	Database	WORKTIME_HHMM	Work Hour
13	Database	JOINDT	JoiningDate

An arrow points to the row with 'JOINDT' and 'JoiningDate'. At the bottom, there is a 'Schedule' section.

- **Fixed:** Select this option to set a fixed value for a field as shown below. For eg: the organization name remains common to all the employees, so it is considered as fixed value. Click **Add**.

The screenshot shows the 'File Configuration' dialog box. At the top, there are three input fields: 'Data Type' set to 'Fixed', 'Fixed Value' set to 'Matrix Comsec', and 'Column Name' set to 'Organization'. Below these fields are four buttons: 'Add', 'Edit', 'Cancel', and 'Delete'. At the bottom, there is a table with the following data:

Sr No	Data Type	Value	Column Name
9	Database	OUTPUNCH_TIME	Out
10	Database	EARLYOUT_HHMM	Early out
11	Database	EARLYIN_HHMM	Early In
12	Database	WORKTIME_HHMM	Work Hour
13	Fixed	Matrix Comsec	Organization

An arrow points to the 'Organization' column name in the last row of the table.

- **Custom Field:** Select this option to assign a custom value to a field. Click **Add**.
- **Serial No:** Select this option to set serial number as value for a column. Click **Add**.

The screenshot shows the 'File Configuration' dialog box. At the top, there are three input fields: 'Data Type' set to 'Custom Field', 'Custom Value' set to 'Database Field', and 'Column Name' set to 'Fixed'. Below these fields are four buttons: 'Add', 'Edit', 'Cancel', and 'Delete'. At the bottom, there is a table with the following data:

Sr No	Data Type	Value	Column Name
	Custom Field	Database Field	Fixed

The 'Custom Field' option is highlighted in the 'Data Type' dropdown menu.

In the **Schedule** section, user can set up a daily or monthly schedule for data export or export data manually using the **Manual Transfer** option.

Schedule

Active ☒

Enable Filter ☒

FileName Format **Date Only**

Append to FileName **Date (dd-mmm-yyyy)** **Time (HHMM)**

Schedule **Daily**

Every **1** Day of the Month

Run time (HH:MM) **09:00**

Retry Count **1**

Retry Interval **1** Hour

Daily Attendance Of ☒ Previous Day ☐ Current Day

Enable Alerts For ☒ Success ☐ Failure

Schedule

Active ☒

Enable Filter ☒

FileName Format **Date Only**

Append to FileName **Date (mmm-yyyy)** **None**

Schedule **Monthly**

Every **1** Day of the Month

Run time (HH:MM) **09:00**

Retry Count **1**

Retry Interval **1** Hour

Attendance Period **1** Day of **Previous Month** To **31** Day of **Previous Month**

Enable Alerts For ☒ Success ☐ Failure

The description of above fields is given in Export to MSSQL.

- **Enable Alert For:** When scheduled process gets completed then it will send an Alert to the configured COSEC Server. The Alert can be sent for both Successful as well as Failed transfers.

Select the checkboxes as per your requirement:

Select **Success** checkbox to send an alert mentioning the details of successfully transferred records to the configured COSEC Server.

Select **Failure** checkbox to send an alert mentioning the details of failure in transferring records to the configured COSEC Server.

If you require Alerts for both the above events, select both the check boxes.

In case of partial data transfer i.e. if both the above checkboxes are selected then the connection status will be considered as Failure and Reason for Failure will be displayed in the Alert.

Example: There are in total 100 records which are to be transferred.

Now, out of 100 records, only 60 records are transferred Successfully and the remaining 40 records have Failed. Such data transfers are known as partial data transfers.

So here the connection status will be Failure and an alert will be sent to the configured COSEC Server along with the reason for failed data transfer.

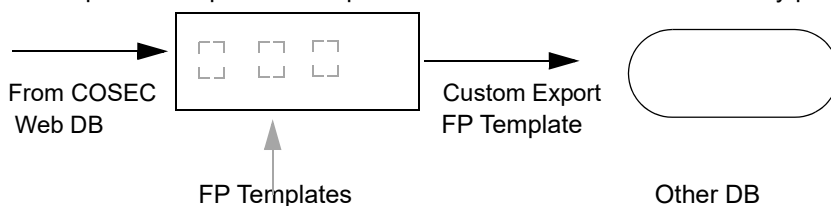


It is to be supported for all integrate modes defined in COSEC Integrate where enable alerts provision is present i.e. for all the integration modes except for Custom Export-FP Template & Export FP Template to File.

Click **Save** and start service.

Export FP Template to File

It is required to export FP Template of selected user to some directory path in physical file.



Click on the **Server Configuration** option and select the **Export FP Template to file** option as the **Integration Mode**.

Click on the **Edit** button.

The screenshot shows a web application interface with a sidebar on the left containing buttons: **Server Configuration**, **Export Data**, **Import Data**, **Start Service**, **About**, **Help**, and **Exit**. The main area is titled **Integration Mode** and has a dropdown menu set to **Export FP Template to File**. Below this, there are two main sections: **COSEC Web Server** and **Destination Location**. The **COSEC Web Server** section contains fields for **Web URL** (http://localhost/COSEC/api.svc/v2), **User Name** (sa), and **Password** (masked with dots), along with a **Test Connection** button. The **Destination Location** section has radio buttons for **Local Folder** (selected), **FTP**, and **SFTP**, and a **Save Path** field (D:\Security Documents). At the bottom of the main area are buttons for **Edit**, **Save**, **Cancel**, and **Delete**.

In the **COSEC Web Server** section:

- Specify the web url of the API service of the COSEC WEB application as shown.
- Enter the User Name and Password of the sa user as set in the COSEC WEB application.

The **Test Connection** button is provided to test the connections with the web server

In the **Destination Location** section, you can select the storage as Local, FTP or SFTP.

1. Local Folder:

Specify the **Path** at which the system will store the FP template files.

2. FTP:

Specify the **FTP** path to store the text file.

Enter the **User Name** and **Password** to access the path.

The image shows two side-by-side configuration windows. The left window, titled 'COSEC Web Server', contains fields for 'Web URL' (http://localhost/COSEC/api.svc/v2), 'User Name' (sa), and 'Password' (masked with dots). A 'Test Connection' button is at the bottom. The right window, titled 'Destination Location', has radio buttons for 'Local Folder', 'FTP' (selected), and 'SFTP'. Below these is a 'Save Path' field (ftp://192.168.104.16/), followed by 'User Name' (user) and 'Password' (masked). A 'Save' button is at the bottom.

3. SFTP:

SSH File Transfer Protocol (SFTP) is a network protocol which provides secure file transfer capabilities. The user has to configure the SFTP server, and provide login credentials which are to be used by COSEC Integrate to login as a client.

This image shows the same configuration windows as above, but with SFTP settings. In the 'Destination Location' window, the 'SFTP' radio button is selected. The 'Server' field is set to 192.168.104.20, and the 'Save Path' is \E. The 'Without Key' radio button is selected under the key options.

Server: Specify the IP address where SFTP server is installed.

Save Path: Specify the path where the export data are to be saved. This path can be pre-configured while installing the SFTP server. In this case you can specify Path as “\”.

Specify the **UserName** and **Password** to access the PC 192.168.104.20 where SFTP server is installed.

If you select **With Key** option, then you will need to enter the RSA key generated by the SFTP server. You can find the key in SFTP server Settings.

If you select **Without Key** option, then key is not required.

Click on **Save** after the configuration is done.

Export Data Configuration

This option enables the admin user to specify the fields whose values are to be exported to the FP template file.

The screenshot shows the 'Export' section of the configuration form. The 'Database' dropdown is set to 'Export FP Template to File'. Below this is the 'User Selection' section, which includes a 'User ID' input field containing the value '1220' and a 'Select' button. A table below the input field has columns for 'User ID' and 'Name', and a 'Clear' button.

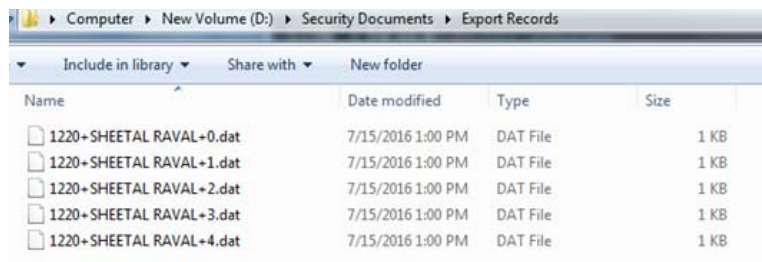
Enter the **User ID** of the user whose FP templates are to be backed up. And click on **Select** button. The user ID and name will be displayed in the grid.

The screenshot shows the 'Export' section of the configuration form. The 'Database' dropdown is set to 'Export FP Template to File'. Below this is the 'User Selection' section, which includes a 'User ID' input field and a 'Select' button. A table below the input field has columns for 'User ID' and 'Name', and a 'Clear' button. The table contains one row with the user ID '1220' and the name 'SHEETAL RAVAL'. An 'Export' button is visible at the bottom of the form.

Now click on **Export** button. The export completion will be shown as below:

The screenshot shows the 'Export' section of the configuration form. The 'Database' dropdown is set to 'Export FP Template to File'. A green banner at the top of the form displays the message 'Process Completed: Succeed: 5'.

Here you can find 5 FP templates of selected user which are exported as individual files at the Destination location.

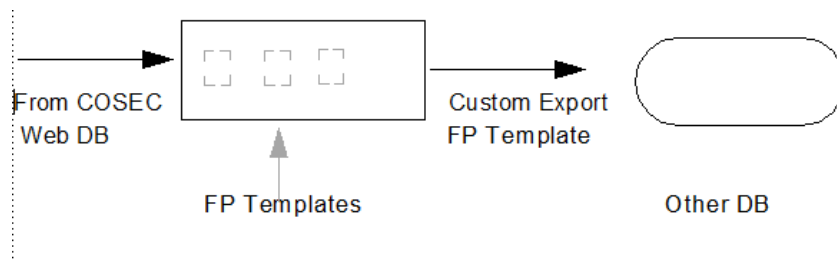


The screenshot shows a Windows File Explorer window with the address bar displaying the path: Computer > New Volume (D:) > Security Documents > Export Records. The window contains a table of files with columns for Name, Date modified, Type, and Size. There are five files listed, all named with a sequence number followed by 'SHEETAL RAVAL' and a '.dat' extension. All files are 'DAT File' type and are 1 KB in size, with a 'Date modified' of '7/15/2016 1:00 PM'.

Name	Date modified	Type	Size
1220+SHEETAL RAVAL+0.dat	7/15/2016 1:00 PM	DAT File	1 KB
1220+SHEETAL RAVAL+1.dat	7/15/2016 1:00 PM	DAT File	1 KB
1220+SHEETAL RAVAL+2.dat	7/15/2016 1:00 PM	DAT File	1 KB
1220+SHEETAL RAVAL+3.dat	7/15/2016 1:00 PM	DAT File	1 KB
1220+SHEETAL RAVAL+4.dat	7/15/2016 1:00 PM	DAT File	1 KB

Custom Export- FP Template

Provision is required in Integrate from where user can select physical file of FP templates and insert them to configured database's table with various user details like user id, name, user photo and finger print location. This purpose is served through "Custom Export of FP Template".



Click on the **Server Configuration** option and select the **Custom Export- FP Template** option as the **Integration Mode**.

Click on the **Edit** button.

COSEC Web Server	Template Location
Web URL <input type="text" value="http://localhost/COSEC/api.svc/v2"/>	Database Type <input type="text" value="Sql Server"/>
User Name <input type="text" value="sa"/>	Server <input type="text" value="(local)\sqlexpress"/>
Password <input type="password" value="....."/>	Database Name <input type="text" value="COSEC_HO"/>
	User Name <input type="text" value="sa"/>
	Password <input type="password" value="....."/>
<input type="button" value="Test Connection"/>	<input type="button" value="Test Connection"/>

In the **COSEC Web Server** section:

- Specify the web url of the API service of the COSEC WEB application as shown.
- Enter the User Name and Password of the sa user as set in the COSEC WEB application.

The **Test Connection** button is provided to test the connections with the web server

In the **Template Location** section:

- The **Database Type** can be selected as SQL SERVER or ORACLE server.
- **Server:** Enter the database server name in the following format - **Database server name\Instance Name** e.g. dbserver\sqlexpress.
- **Database Name:** Specify the database name of the destination database as per the site settings. Eg: COSEC_HO is the destination database to which you can export the data.



For newly created database, ensure that you have set the password in COSEC Web application. Then only Test connection from COSEC Integrate with Web server will be successful.

- **User Name:** Specify the database administrator ID in this field. This is the username which you have set while installing SQL Server Management Studio in your computer.
- **Password:** Enter the password of the Database administrator as per the site settings. This is the password which you have set while installing SQL Server Management Studio in your computer.

The **Test Connection** button is provided to test the connections with the web server as well as the SQL Server database.

Click on **Save** once done.

In the event of selecting the **Export to Oracle Server** option in the **Integration Mode** field, specify the Oracle server destination address as well as the username and the password (case-sensitive for Oracle Server) in the respective fields as shown below:

Test the connection and Save the configuration.

Export Data Configuration

This option enables the admin user to specify the fields whose values are to be exported.

Select the Database "**Custom Export-FP Template SQL Server**".

Select the Mode as **Add Templates** to add the FP templates or **Delete Templates** to delete the FP templates.

Click the **Table Mapping** button. Then select the table where the user details are to be mapped.

Table Name: Mx_ACSEventTrn Select Table

Field Name: UserID | varchar | 15 | 0

Mapped Field Name: UserID | VARCHAR | 15 | 0

Add

Table Field	Data Type	Length	Decimal	Mapped Field	Data Type	Length	Decimal	Clear
UserID	VARCHAR	15	0	UserID	varchar	15	0	Clear

Save

You have to map all the user fields shown below to the desired field selected from “Field Name” in above table mapping.

Mapped Field Name: UserPhoto | IMAGE | 0 | 0

Table Field	Data Type	Length	Decimal
UserID	VARCHAR	15	0
Name	VARCHAR	45	0
FPLocation	VARCHAR	2	0
RowData	IMAGE	0	0
UserPhoto	IMAGE	0	0

Eg: Name is mapped with locationmac as shown in second row.

Table Name: Mx_ACSEventTrn Select Table

Field Name: MID | numeric | 5 | 0

Mapped Field Name: UserPhoto | IMAGE | 0 | 0

Add

Table Field	Data Type	Length	Decimal	Mapped Field	Data Type	Length	Decimal	Clear
UserID	VARCHAR	15	0	UserID	varchar	15	0	Clear
Name	VARCHAR	45	0	locationmac	varchar	17	0	Clear
FPLocation	VARCHAR	2	0	EvtSourceDet	varchar	40	0	Clear
RowData	IMAGE	0	0	comments	varchar	50	0	Clear
UserPhoto	IMAGE	0	0	MID	numeric	5	0	Clear

Save

After mapping all the user fields, click on **Save** button.

Now click on **Browse** button and select the FP template from the path (Local folder/FTP/SFTP) where the templates are stored.

Add Templates




Select FP Template Browse

Database
Custom Export-FP Template SQL Server
Table Mapping

Mode
Add Templates

Add Templates

Select FP Template
Browse

User Photo	User ID	User Name	FP Location	File Path	Edit	Remove
	1220	SHEETAL RAVAL	1	D:\Security Documents \Export Records \1220+SHEETAL RAVAL+1.dat		

Add

The template with User photo, ID, Name and FP location will appear as shown above.

Finally click **Add** button. System will insert/update records in mapped template table.

Clicking **Remove** will remove all records from mapped template table with selected User ID.

Export to Progress OpenEdge

Click on the **Server Configuration** button to configure the Web server and Destination database for Export.

Select the **Export to Progress OpenEdge** option in the **Integration Mode** field. Click on the **Edit** button.

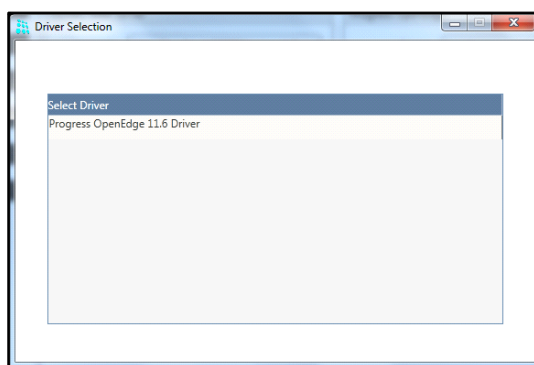
The screenshot shows the 'COSEC Integrate' application window. On the left is a sidebar with buttons: 'Server Configuration' (highlighted), 'Export Data', 'Import Data', 'Start Service', 'About', 'Help', and 'Exit'. The main area is titled 'COSEC Integrate' and contains an 'Integration Mode' dropdown set to 'Export to Progress OpenEdge'. Below this are two configuration panels. The 'COSEC Web Server' panel has fields for 'Web URL' (http://localhost/COSEC/api.svc/v2), 'User Name' (sa), and 'Password' (masked with dots), with a 'Test Connection' button. The 'Progress OpenEdge' panel has fields for 'Server' (localhost), 'Driver Name' (Progress OpenEdge 11.6), 'Port' (5003), 'Database Name' (cosecDB), 'User Name' (cosec), and 'Password' (masked with dots), also with a 'Test Connection' button. At the bottom are 'Edit', 'Save', 'Cancel', and 'Delete' buttons.

In the **COSEC Web Server** section:

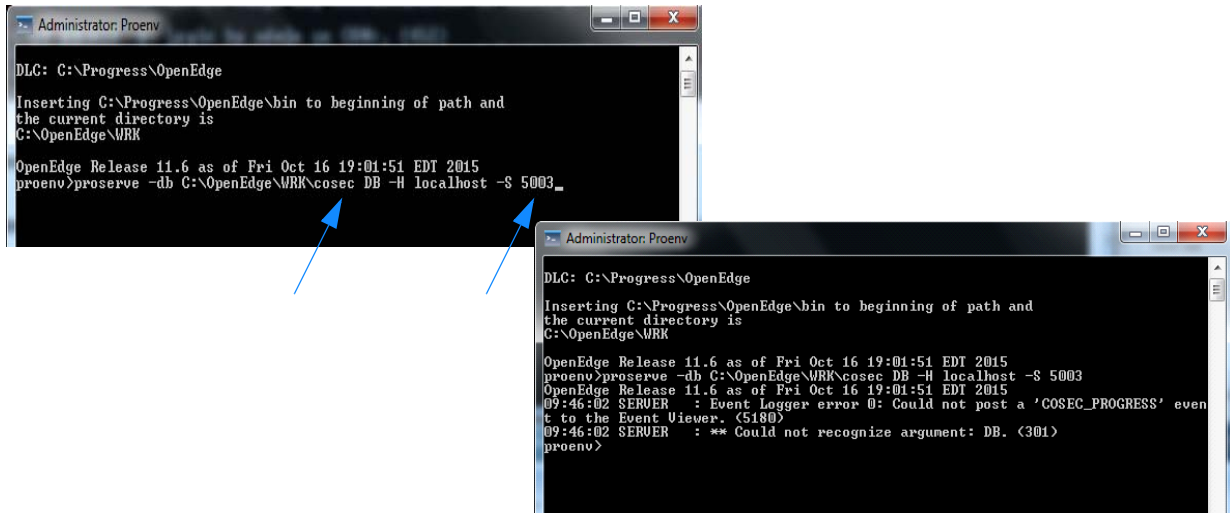
- Specify the web url of the api service of the COSEC WEB application as shown.
- Enter the User Name and Password of the sa user as set in the COSEC WEB application.

In the **Progress OpenEdge** section:

- **Server:** Enter the server name with which the Progress OpenEdge database is started.
- **Driver Name:** Select the Progress OpenEdge driver from the picklist. It is the software driver which will appear in picklist, once the database is installed.

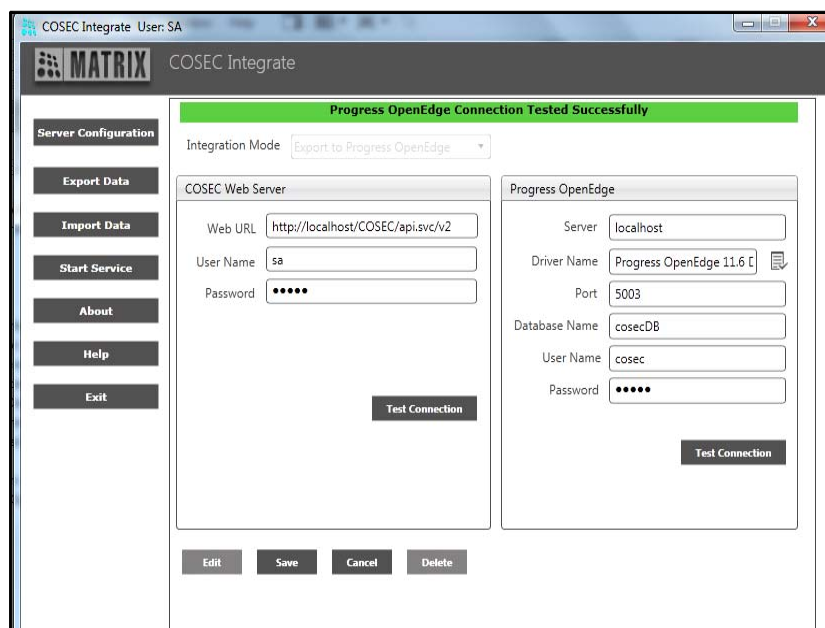


- **Port:** Enter the port number at which the Progress OpenEdge database is running. It is the port number(eg: 5003) entered in command prompt while starting the database as shown below.
- **Database Name:** Enter the database name with which Progress OpenEdge database is started. It is case sensitive. Thus if Database is started with name cosecDB as shown below then enter the name as "cosecDB".



- **User Name:** Specify the username as entered while creating the database.
- **Password:** Specify the password as entered while creating the database. Eg: Username is cosec and Password is cosec.

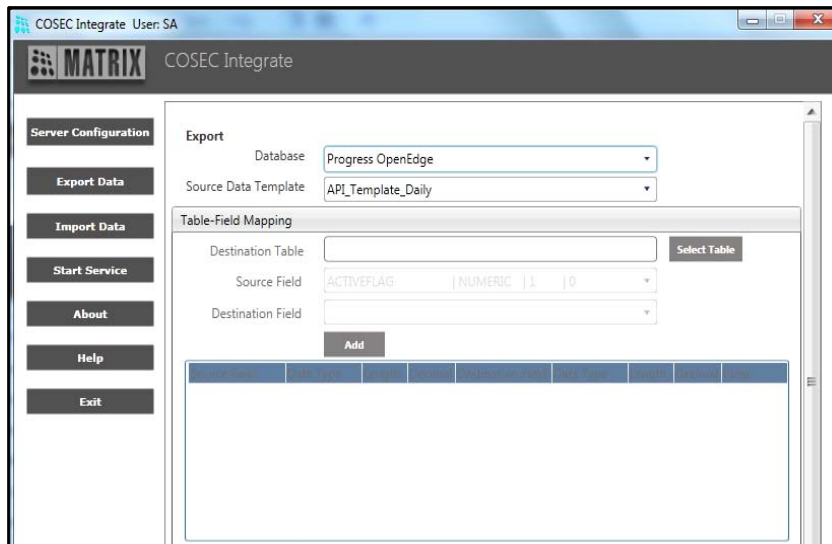
The **Test Connection** button is provided to test the connections with the web server as well as the Progress OpenEdge database.



Click on **Save** button to save the server configuration.

Export Data Configuration

This option enables the admin user to map the fields from the COSEC database tables to fields in a third party database. Click on the **Export Data** button. The following page appears.



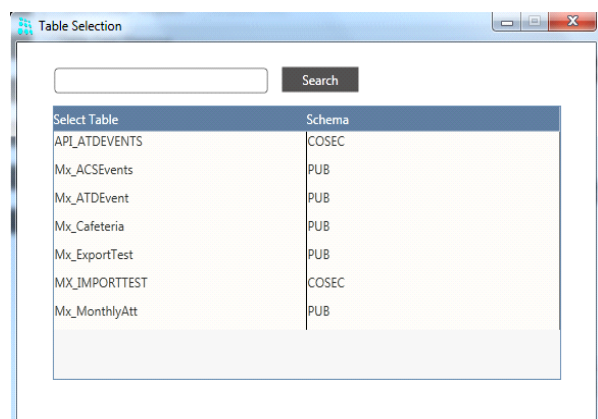
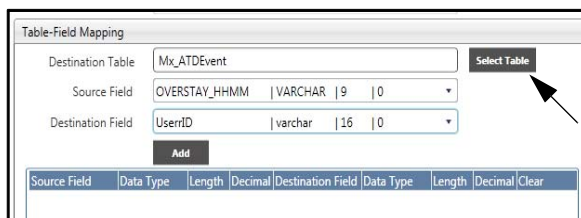
The COSEC INTEGRATE application provides four data templates in line with the default **Database Views** as shown. The COSEC System provides the following four Database views which would provide the relevant field options to be mapped with the fields of a destination database.

- Monthly Attendance Summary
- Daily Attendance Detail
- Attendance Events
- Access Control Events

Each of the above database views would provide the relevant fields whose values can be exported from the COSEC database. Select the required data template and click on the **Edit** button at the bottom of the page.

Now the admin user can start the **mapping of the fields** from the source database to that of the destination database as shown.

- Select the **Destination Table** by clicking **Select Table** button. The table selection picklist appears as below.



Select Table	Schema
API_ATDEVENTS	COSEC
Mx_ACSEvents	PUB
Mx_ATDEvent	PUB
Mx_Cafeteria	PUB
Mx_ExportTest	PUB
MX_IMPORTTEST	COSEC
Mx_MonthlyAtt	PUB

- Select the **Source field** from the COSEC database.

- Select the **Destination field** from the selected destination table.
- Click on the **Add** button. The mapped fields will be visible in the bottom grid as shown.

Source Field	Data Type	Length	Decimal	Destination Field	Data Type	Length	Decimal	Clear
OVERSTAY_HHMM	VARCHAR	9	0	UserID	varchar	16	0	Clear
AUTHORIZEDCOFF	VARCHAR	9	0	EventID	varchar	32	0	Clear
LATEIN_HHMM	VARCHAR	9	0	EventType	varchar	16	0	Clear



In the case of Attendance Events and Access Control Events the user needs to map the UserID and the EventDateTime_D source fields to fields in the destination table.

Map the UserID, PMonth and Pyears source fields to appropriate fields in the destination table in the case of the Monthly Attendance Summary.

Map the UserID and ProcessDate_D source fields to appropriate fields in the destination table in the case of the Daily Attendance Detail.

The **Schedule** section enables the admin user to schedule the data export process. The schedule option varies based on the selected Source Data Template. The **Daily Attendance detail** will have the following options as shown.

- Check the **Active** box to enable the schedule.
- The **Enable Filter** option is provided to enable the administrator to filter the users whose data is to be exported. Check this box and click on the **Filter** button. The Multiple selection window appears. Select the users whose data is to be exported.
- Specify the day of the month on which the export process is to be run.
- Specify the **Run time** in HH:MM format when the export process is to be run.
- Set the **Retry Count** from the drop down list.
- Set the **Retry Interval** in hours from the drop down list. This parameter specifies the time period between successive retries.
- Specify the **Attendance Period** by specifying the starting and the ending day of the attendance period for which the data is to be exported.
- **Enable Alert For:** When scheduled process gets completed then it will send an Alert to the configured COSEC Server. The Alert can be sent for both Successful as well as Failed transfers.

Select the checkboxes as per your requirement:

Select **Success** checkbox to send an alert mentioning the details of successfully transferred records to the configured COSEC Server.

Select **Failure** checkbox to send an alert mentioning the details of failure in transferring records to the configured COSEC Server.

If you require Alerts for both the above events, select both the check boxes.

In case of partial data transfer i.e. if both the above checkboxes are selected then the connection status will be considered as Failure and Reason for Failure will be displayed in the Alert.

Example: There are in total 100 records which are to be transferred.

Now, out of 100 records, only 60 records are transferred Successfully and the remaining 40 records have Failed. Such data transfers are known as partial data transfers.

So here the connection status will be Failure and an alert will be sent to the configured COSEC Server along with the reason for failed data transfer.



It is to be supported for all integrate modes defined in COSEC Integrate where enable alerts provision is present i.e. for all the integration modes except for Custom Export-FP Template & Export FP Template to File.

Select any one option for data transfer i.e, Daily or Monthly in the field **Schedule**. On selection of Monthly option, user can set data transfer process to run only once in a month.

User can configure to transfer data for either previous day's attendance data or current day's attendance data with respect to schedule run day.

The **Monthly Attendance Summary** will have the following unique options:

- Select the **Attendance Period** for which the monthly Attendance summary data is to be exported. The Admin user can select either the **previous month** or **current month** option.

The 'Schedule' window contains the following fields and options:

- Active:** ☐
- Enable Filter:** ☐
- Every:** **Day of the Month**
- Run time (HH:MM):**
- Retry Count:**
- Retry Interval:** **Hour**
- Attendance Period:**
- Enable Alerts For:** ☒ **Success** ☐ **Failure**

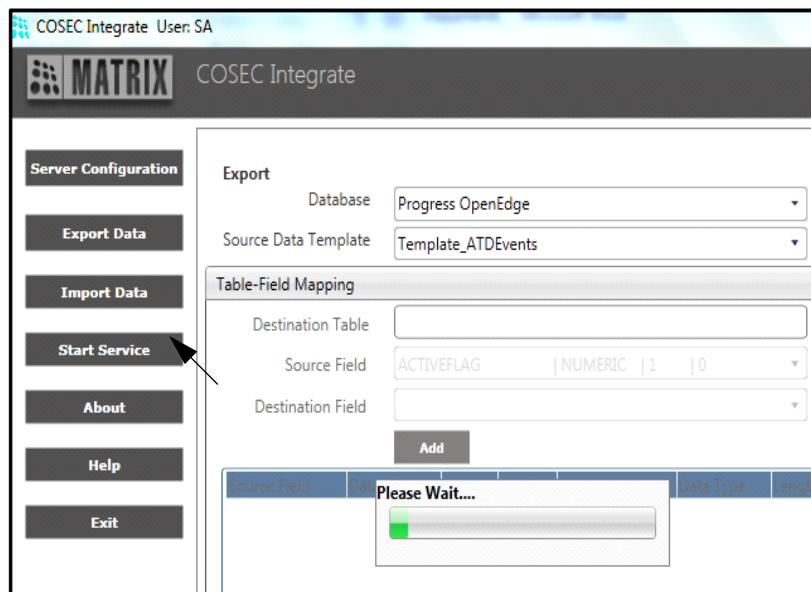
On selecting the **Attendance Events** or the **Access Control Events** the following schedule options will be available.

The 'Schedule' window contains the following fields and options:

- Active:** ☐
- Enable Filter:** ☐
- Include Previously Failed:** ☐
- Retry For Failed Records:**
- Update Interval:** **Seconds** (selected from dropdown)
- Run Time (HH:MM):**
- Start Date:**
- Retry Count:**
- Retry Interval:**
- Enable Alerts For:** ☒ **Success** ☐ **Failure**

- Check the **Active** box to enable the schedule.
- Set the filter parameters as required.
- For **Interval based** schedule; Specify the **Update Interval** in seconds, minutes or hours to define the frequency at which the application will update the destination database.
Specify the **Start Date** from which the export process is to be initiated.
- For **Once a Day** schedule, Specify the Run Time at which export will be initiated. You can mention Retry count and Retry Interval for which the retry for export will be done in case of failure.

After defining the above parameters, the admin user has to click on the **Start Service** button.



Import from MS SQL/Oracle/Postgre

The application allows the user to import user data from an external SQL, Oracle or Postgre database.

Click on the **Server Configuration** button to start the configuring process. The following page appears.

Select the **Import from MS SQL Server** option in the **Integration Mode** field. Click on the **Edit** button.

The screenshot shows the 'COSEC Integrate User: SA' application window. On the left is a sidebar with buttons: 'Server Configuration' (highlighted), 'Export Data', 'Import Data', 'Start Service', 'About', 'Help', and 'Exit'. The main area is titled 'COSEC Integrate'. It features an 'Integration Mode' dropdown menu which is open, displaying a list of options: 'Export to GRP', 'Export to DB2', 'Export to PeopleWorks', 'Export FP Template to File', 'Custom Export-FP Template', 'Export to Progress OpenEdge', 'Import From MS SQL Server' (highlighted), 'Import From Oracle Server', 'Import From Postgre', 'Import From Active Directory', and 'Import From Customized SAP'. Below this is the 'COSEC Web Server' section with input fields for 'Web URL' (containing 'http'), 'User Name' (containing 'sa'), and 'Password' (masked with dots). To the right is the 'Destination Database' section with input fields for 'Database Type' (containing 'SQL Server'), 'Server' (containing 'ATHIRANAIR\SQLEXPRESS'), 'Database Name' (containing 'AthiraCosec12'), 'User Name' (containing 'sa'), and 'Password' (masked with dots). A 'Test Connection' button is located below these fields. At the bottom of the main area are four buttons: 'Edit', 'Save', 'Cancel', and 'Delete'.

In the **COSEC Web Server** section:

- Specify the web URL of the API service of the COSEC WEB application as shown.
- Enter the User Name and Password of the SA user as set in the COSEC WEB application.

The screenshot shows the 'COSEC Integrate User: SA' window. On the left is a sidebar with buttons: 'Server Configuration' (highlighted), 'Export Data', 'Import Data', 'Start Service', 'About', 'Help', and 'Exit'. The main area is divided into two panels. The top panel has 'Integration Mode' set to 'Import From MS SQL Server'. Below it are two panels: 'COSEC Web Server' and 'Source Database'. The 'COSEC Web Server' panel contains fields for 'Web URL' (http://localhost/COSEC/api.svc/v2), 'User Name' (sa), and 'Password' (masked with dots), with a 'Test Connection' button below. The 'Source Database' panel contains fields for 'Database Type' (SQL Server), 'Server' (ATHIRANAIR\SQLEXPRESS), 'Database Name' (AthiraCosec12), 'User Name' (sa), and 'Password' (masked with dots), with a 'Test Connection' button below. At the bottom of the main area are buttons for 'Edit', 'Save', 'Cancel', and 'Delete'.

In the Source Database Server section:

- Select the **Database Type** as SQL SERVER.
- **Server:** Enter the database server name in the following format:
Database server name\Instance Name e.g. dbserver\sqlexpress.
- **Database Name:** Specify the database name of the source SQL database as per the site settings.
- **User Name:** Specify the database administrator ID in this field.
- **Password:** Enter the password of the Database administrator as per the site settings.

The **Test Connection** button is provided to test the connections with the web server as well as the MS SQL or Oracle Server database.

Click on **Save** once done.

In the event of selecting the **Import from Oracle Server** option in the **Integration Mode** field, specify the source Oracle server address as well as the user name and the password (case-sensitive for Oracle server) in the respective fields as shown.

The screenshot shows the 'Server Configuration' window with the 'Integration Mode' dropdown set to 'Import From Oracle Server'. The left sidebar contains buttons for 'Server Configuration', 'Export Data', 'Import Data', 'Start Service', 'About', 'Help', and 'Exit'. The main area is divided into two panels: 'COSEC Web Server' and 'Oracle'. The 'COSEC Web Server' panel has fields for 'Web URL' (http://localhost/COSEC/api.svc/v2), 'User Name' (sa), and 'Password' (masked with dots), along with a 'Test Connection' button. The 'Oracle' panel has fields for 'Server' (192.168.102.38), 'User Name' (cosec1), and 'Password' (masked with dots), also with a 'Test Connection' button. At the bottom are 'Edit', 'Save', 'Cancel', and 'Delete' buttons.

In the event of selecting the **Import from Postgre SQL** option in the **Integration Mode** field, specify the source Postgre SQL server address, Port number as well as the user name and the password (case-sensitive for Postgre SQL server) in the respective fields as shown.

The screenshot shows the 'Server Configuration' window with the 'Integration Mode' dropdown set to 'Import From Postgre'. The left sidebar is identical to the previous screenshot. The main area is divided into two panels: 'COSEC Web Server' and 'Postgre SQL'. The 'COSEC Web Server' panel has fields for 'Web URL' (http://localhost/COSEC/api.svc/v2), 'User Name' (sa), and 'Password' (masked with dots), along with a 'Test Connection' button. The 'Postgre SQL' panel has fields for 'Server' (Postgre SQL), 'Port' (5060), 'Database Name' (dbserver\postgresql), 'User Name' (admin), and 'Password' (masked with dots), also with a 'Test Connection' button. At the bottom are 'Edit', 'Save', 'Cancel', and 'Delete' buttons.

Import Data Configuration

After completing the server configuration, click on **Import Data** button. The page appears as shown below.

COSEC Integrate User: SA

MATRIX COSEC Integrate

Server Configuration

Export Data

Import Data

Start Service

About

Help

Exit

Import

Source: MS SQL Server

Data: User Details

Fields Mapping

Source Table: Mx_AbsenteePolicyMst

Source Field: ABPLCID | numeric | 2 | 0

Destination Field: AADHAR-NO | NVARCHA | 12 | 0

Add

MS SQL Field	Data Type	Length	Decimal	Destination Field	Data Type	Length	Decimal	Class
--------------	-----------	--------	---------	-------------------	-----------	--------	---------	-------

Schedule

Edit Save Manual Transfer Cancel

Source: If import from SQL server is to be done then the source will be MS SQL Server. If import from Oracle is to be done then the source will be Oracle.

Data: You can select the option as User Details to import the details of user, User-Wise Shift Assignment to import the shifts assigned to user on specific dates, Leave Transactions to import leave transactions and Leave Balance to import the available leave balance.

Source: MS SQL Server

Data: User Details

User Details

User-Wise Shift Assignment

Leave Transactions

Leave Balance

Now click on the **Edit** button. The Admin user can start mapping of the fields from the external source database table to that of the destination COSEC database table as shown.

- Select the **Source Table** whose fields are to be mapped.

Source Table: **Mx_AbsenteePolicyMst**

Source Field: **Mx_AbsenteePolicyMst**

Destination Field: (empty)

Field	Data Type
Mx_AbsenteePolicyMst	
Mx_AccessClusterDtl	
Mx_AccessClusterMst	
Mx_AccessGroupDet	
Mx_AccessGroupMst	
Mx_AccessPolicyMst	
Mx_AccessRouteDet	
Mx_AccessRouteMst	
Mx_AccessZoneMst	
Mx_ACSEventTrn	
Mx_ACSEventTrnbak	
Mx_ActivityFilter	

- Select the **Source field** from the COSEC database. Source field is dependent on the Source selected from the Source Table.

E.g: If Mx_LeaveBal is selected as source from the Source table then the Source field will show all the fields related to leave balance as shown below.

Source Table: **Mx_LeaveBal**

Source Field: **AVLLeave | numeric | 6 | 1**

Destination Field: (empty)

SQL Field	Data Type	Length	Scale
AVLLeave	numeric	6	1
CFBal	numeric	7	2
CLBal	numeric	7	2
CRLeave	numeric	7	2
DBLeave	numeric	7	2
ENCLLeave	numeric	7	2
LeaveID	nvarchar	2	0
OPBal	numeric	7	2
PMonth	numeric	2	0
PYear	numeric	4	0
TotOverflow	numeric	7	2
UsedOverflow	numeric	7	2

- Select the **Destination** field from the drop down options to map with the source field. Destination field will always be fixed. It is dependent neither on Source table nor on Source field.

Destination Field

ACCURAL-POLICY	NUMERIC	2	0
ACCURAL-POLICY	NUMERIC	2	0
C-OFFHRS	NUMERIC	4	0
CREDIT-MODE	NUMERIC	1	0
DATE	DATETIME	8	0
DAYS	NUMERIC	6	2
ENCASHMENT-MOD	NUMERIC	1	0
ENCASHMENT-TYPE	NUMERIC	1	0
ENTRY-TYPE	NVARCHAR	1	0
LASTUPDATEDTIME	DATETIME	8	0
LEAVE-CODE	NVARCHAR	2	0
MONTH	NUMERIC	2	0
PERIOD	NVARCHAR	1	0
PRO-RATA	NUMERIC	1	0
REMARK	NVARCHAR	30	0
USERID	NVARCHAR	15	0
YEAR	NUMERIC	4	0

- Click on the **Add** button. The mapped fields will be visible in the bottom grid as shown.

COSEC Integrate User: SA

MATRIX COSEC Integrate

Server Configuration

Export Data

Import Data

Start Service

About

Help

Exit

Import

Source: MS SQL Server

Data: Leave Balance

Fields Mapping

Source Table: Mx_LeaveBal

Source Field: CFBal | numeric | 7 | 2

Destination Field: PRO-RATA | NUMERIC | 1 | 0

Add

MS SQL Field	Data Type	Length	Decima	Destination Field	Data Type	Length	Decima	Clear
CFBal	numeric	7	2	DAYS	NUMERIC	6	2	Clear
CFBal	numeric	7	2	ENCASHMENT-	NUMERIC	1	0	Clear
CFBal	numeric	7	2	MONTH	NUMERIC	2	0	Clear
CFBal	numeric	7	2	PRO-RATA	NUMERIC	1	0	Clear

Schedule

Edit Save Manual Transfer Cancel



The mapping between the following data types is allowed. Only a warning message is shown in case of mismatch in data types.

Source data type	Destination data type
Text(char, varchar,varchar2...)	Number (numeric, int, bigint, smallint, float, number, double,int32...)
Text	Datetime formats(depending on the date format configured for DB server. If format matches, the record will be accepted)
Number	Text
Date Time	Text

The mapping from Number and Date time to Date time and Number respectively is restricted.



Source field's data type must always match with the Destination field's data type. In case of mismatch, a warning is generated as shown below and mapping will not be done.

Source field does not match with Destination field

Import

Source: MS SQL Server

Data: Leave Balance

Fields Mapping

Source Table: Mx_LeaveBal

Source Field: CFBal | numeric | 7 | 2

Destination Field: DATE | DATETIME | 8 | 0

Add

MS SQL Field	Data Type	Length	Decima	Destination Field	Data Type	Length	Decima	Clear
CFBal	numeric	7	2	DAYS	NUMERIC	6	2	Clear
CFBal	numeric	7	2	ENCASHMENT-	NUMERIC	1	0	Clear
CFBal	numeric	7	2	MONTH	NUMERIC	2	0	Clear
CFBal	numeric	7	2	PRO-RATA	NUMERIC	1	0	Clear
CFBal	numeric	7	2	YEAR	NUMERIC	4	0	Clear



In case of mismatch of lengths of data types of source field and destination field, a warning is generated but if you click on Yes, mapping will be done.

Fields Mapping

Source Table: Mx_AbsenteePolicyMst

Source Field: ABPLCID | numeric | 2 | 0

Destination Field: ALLOW-OFFLINE-PI | NUMERIC | 1 | 0

Field Mapping

Length of Field is not Matching. Do you still want to Continue ?

Yes No

MS SQL Field	Data Type	Length	Decima
ABPLCID	NUMERIC	2	0



In the case of selecting data as **User details**, the user needs to map the UserID, Name and BLNUPDATEFIELD/LASTUPDATEDTIME destination fields to fields in the source table.

In the case of selecting Data as **User-Wise Shift Assignment**, the user needs to map UserID, Shift-ID, StartDate and EndDate destination fields to fields in the source table.

In the case of selecting Data as **Leave Transaction**, the user needs to map UserID, StartDate, Leave-Code and LASTUPDATEDTIME destination fields to fields in the source table.

In the case of selecting Data as **Leave Balance**, the user needs to map UserID, Entry-Type, Days, Accrual-Policy, Leave-Code, Date, C-Offhrs and LASTUPDATEDTIME source fields to fields in the destination table.

The **Schedule** section enables the Admin user to schedule the data import process. After saving the data you can manually transfer the data.

Import

Source: MS SQL Server

Data: User-Wise Shift Assignment

Fields Mapping

Schedule

Active: ☒

Schedule: Monthly

Every: 1 Day Of the Month

Run Time (HH:MM): 09:00

Start Date: 01/02/2018

Update Records: Duration-Based

Duration Prior Current Date: 7 (Days)

Duration Post Current Date: 7 (Days)

Enable Alerts For: ☒ Success ☐ Failure

Check the **Active** box to enable the schedule.

Select the **Schedule** for data transfer as **Daily** or **Monthly**.

- On selection of **Monthly** option, user can select the day for data transfer process to run once in a month. By default, **Monthly** option would be selected.
- On selection of **Daily** option, you can run the schedule “once in a day” or “Interval based”. Enter the value in minutes or hours for interval based schedule.

- Specify the **Run time** in HH:MM format when the import process is to be run.
- Enter the **Start date** from which import process is to be started.
- **Update Records:** You can select the option as **Duration- Based** or **Differential** based on which records is to be updated.

Duration-Based

- **Duration Prior Current Date (Days):** Enter the no. of days to be considered for import before current date. Suppose Current date or the process date is 20th, and duration prior is set as 5 so the import will run from 15th.
- **Duration Post Current Date (Days):** Enter the no. of days to be considered for import after current date. Suppose Current date or the process date is 20th, and duration post is set as 8 so the import will run upto 28th.

Differential

If Update Records is switched from Duration-Based to Differential, a pop-up (with close icon and OK button) will be displayed with the message: All Records will be imported for First Time. Thereafter, only updated ones will be imported.

- **Enable Alert For:** When scheduled process gets completed then it will send an Alert to the configured COSEC Server. The Alert can be sent for both Successful as well as Failed transfers.

Select the checkboxes as per your requirement:

Select **Success** checkbox to send an alert mentioning the details of successfully transferred records to the configured COSEC Server.

Select **Failure** checkbox to send an alert mentioning the details of failure in transferring records to the configured COSEC Server.

If you require Alerts for both the above events, select both the check boxes.

In case of partial data transfer i.e. if both the above checkboxes are selected then the connection status will be considered as Failure and Reason for Failure will be displayed in the Alert.

Example: There are in total 100 records which are to be transferred.

Now, out of 100 records, only 60 records are transferred Successfully and the remaining 40 records have Failed. Such data transfers are known as partial data transfers.

So here the connection status will be Failure and an alert will be sent to the configured COSEC Server along with the reason for failed data transfer.

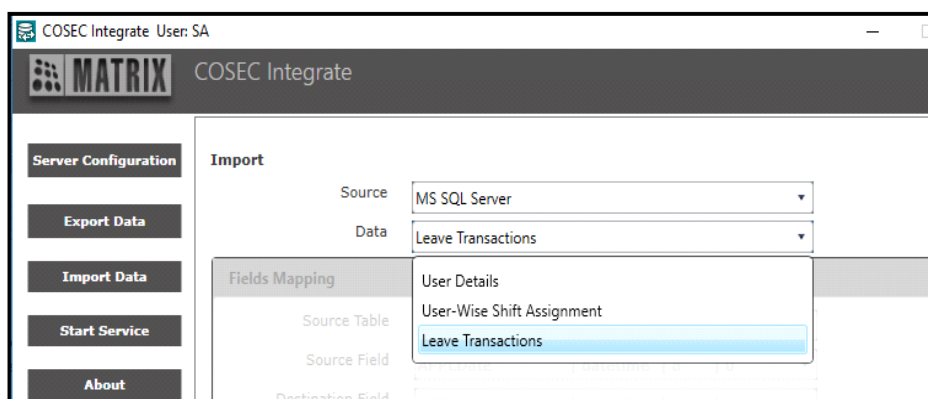


It is to be supported for all integrate modes defined in COSEC Integrate where enable alerts provision is present i.e. for all the integration modes except for Custom Export-FP Template & Export FP Template to File.

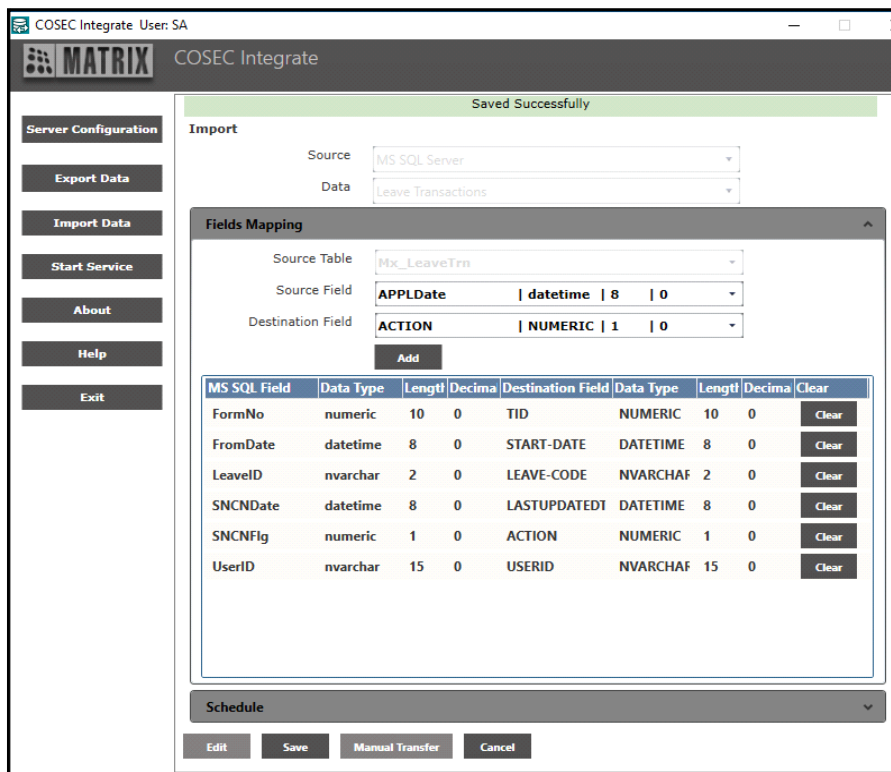
Import Leave Transactions

When leave data is in Human Resource software and T&A calculations are done by COSEC; then it is must to import leave data from Human Resource software to COSEC to perform calculations of T&A management.

The leave transactions can be imported from MS SQL database, Oracle database or Excel file via Integrate. Select the **Data** as Leave Transactions.



Then map the source and destination fields

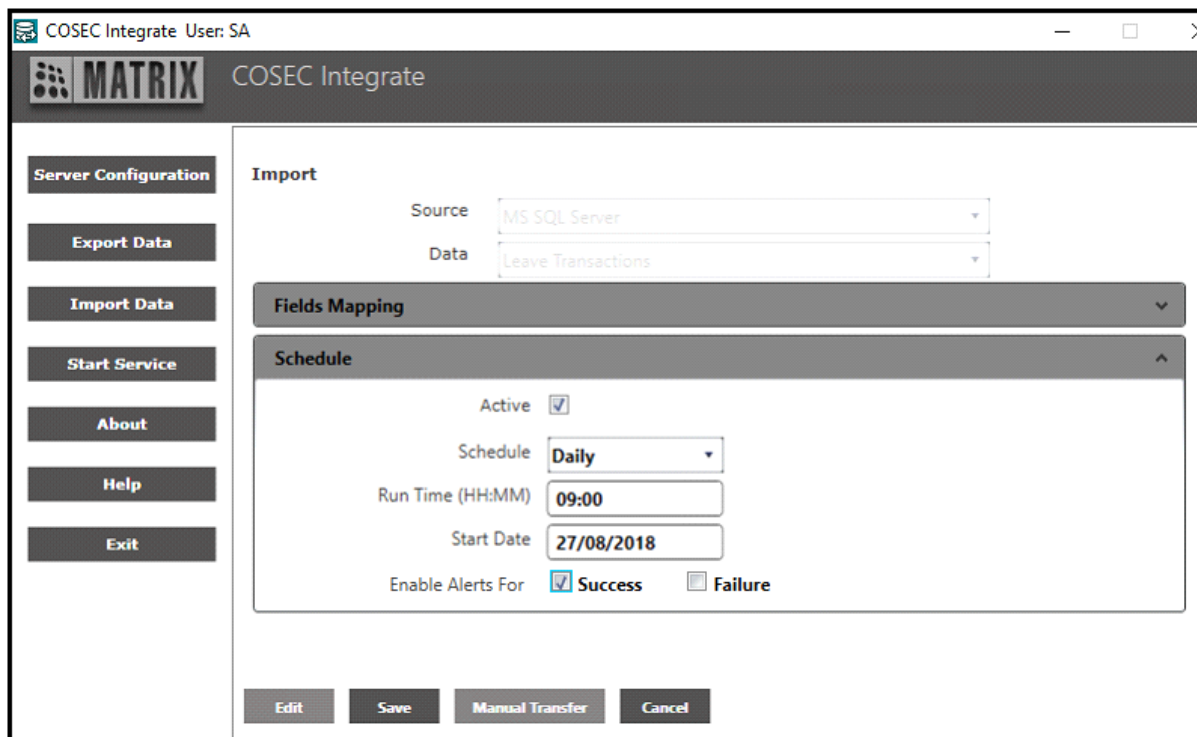


The screenshot shows the 'COSEC Integrate' application window. On the left is a sidebar with buttons: 'Server Configuration', 'Export Data', 'Import Data', 'Start Service', 'About', 'Help', and 'Exit'. The main area has a green banner at the top that says 'Saved Successfully'. Below it, the 'Import' section shows 'Source' as 'MS SQL Server' and 'Data' as 'Leave Transactions'. The 'Fields Mapping' section is expanded, showing 'Source Table' as 'Mx_LeaveTrn'. It lists 'Source Field' and 'Destination Field' with their respective data types and lengths. An 'Add' button is below the list. At the bottom, there is a 'Schedule' dropdown and buttons for 'Edit', 'Save', 'Manual Transfer', and 'Cancel'.

MS SQL Field	Data Type	Length	Decima	Destination Field	Data Type	Length	Decima	Clear
FormNo	numeric	10	0	TID	NUMERIC	10	0	Clear
FromDate	datetime	8	0	START-DATE	DATETIME	8	0	Clear
LeaveID	nvarchar	2	0	LEAVE-CODE	NVARCHAR	2	0	Clear
SNCNDate	datetime	8	0	LASTUPDATEDT	DATETIME	8	0	Clear
SNCNFlg	numeric	1	0	ACTION	NUMERIC	1	0	Clear
UserID	nvarchar	15	0	USERID	NVARCHAR	15	0	Clear

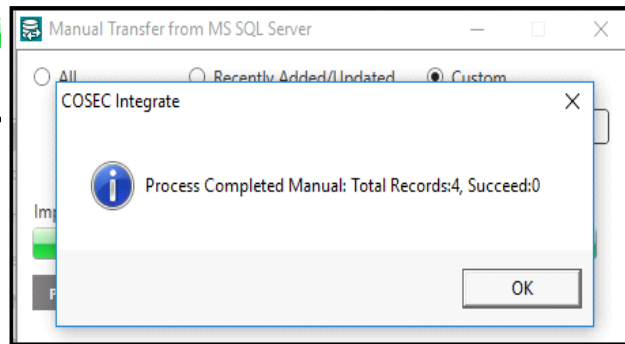
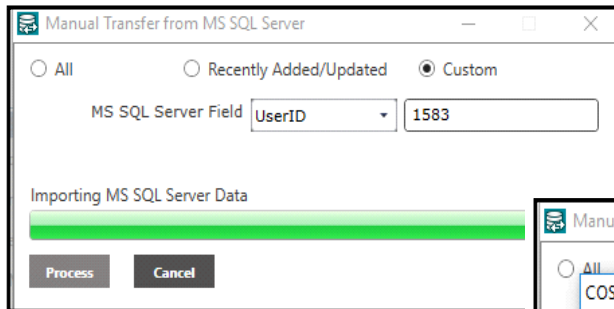
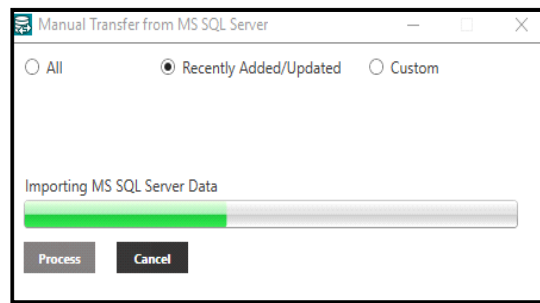
The fields USERID, START-DATE, LEAVE-CODE and LASTUPDATEDTIMESTAMP are mandatory for mapping. If TID is mapped; then ACTION is required to be mapped for importing based on TID.


After mapping, click on Save button.



The screenshot shows the 'COSEC Integrate' application window with the 'Schedule' section expanded. It shows 'Active' checked, 'Schedule' set to 'Daily', 'Run Time (HH:MM)' set to '09:00', and 'Start Date' set to '27/08/2018'. There are checkboxes for 'Enable Alerts For' with 'Success' checked and 'Failure' unchecked. At the bottom are buttons for 'Edit', 'Save', 'Manual Transfer', and 'Cancel'.

The import can be scheduled or manual transfer can be done.



 *Client database should have a field containing primary key.*

Import Leave Balance

Import Leave Balance allows user to perform **Leave Encashment** as the 'Credit/Debit', 'C-OFF Encashment' and 'Overflow Management' of the leave records. It can be done through the Import as shown below.

The Import can be done through the sources; **MS SQL/Oracle, Excel, Progress Open Edge, Postgre, Customized SAP** and **My SQL**. Select the respective source, the Data as Leave balance and configure the rest parameters the same way as described in Import Leave Transaction.

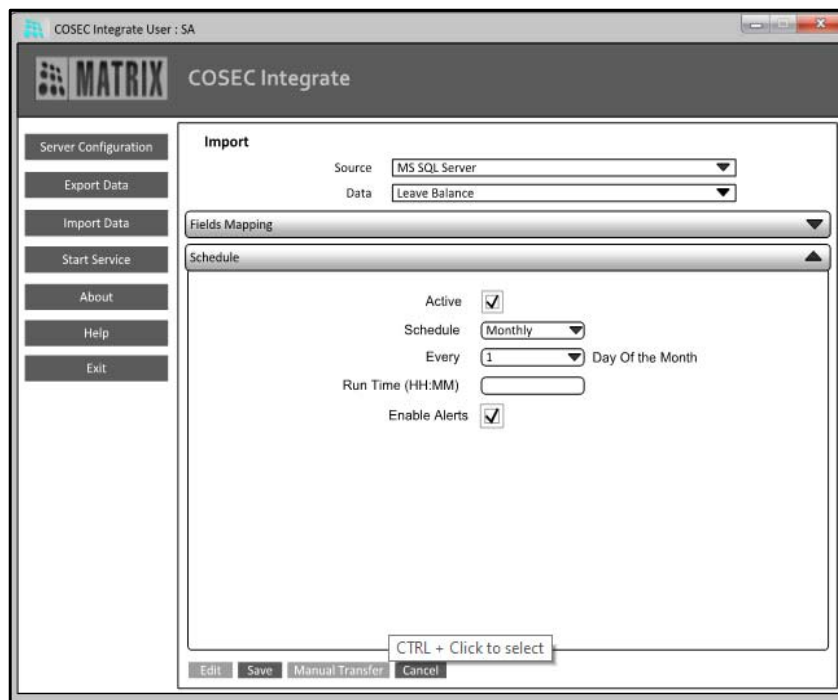
Map the source and destination fields from Fields Mapping.

The screenshot shows the 'COSEC Integrate' application window. On the left is a sidebar with buttons: 'Server Configuration', 'Export Data', 'Import Data', 'Start Service', 'About', 'Help', and 'Exit'. The main area is titled 'Import'. It contains two dropdown menus: 'Source' set to 'MS SQL Server' and 'Data' set to 'Leave Balance'. Below these is the 'Fields Mapping' section, which includes 'Source Table' (set to 'Mx_LeaveCRDTTrn'), 'Source Field' (set to 'UserID' with data type 'nvarchar', length '15', and decimal '0'), and 'Destination Field' (also set to 'UserID' with the same data type and length). An 'Add' button is located below the field mappings. At the bottom of the 'Fields Mapping' section is a table with columns: 'MS SQL Field', 'Data Type', 'Length', 'Decimal', 'Destination Field', 'Data Type', 'Length', 'Decimal', and 'Clear'. Below the table is a 'Schedule' dropdown menu. At the very bottom are buttons for 'Edit', 'Save', 'Manual Transfer', and 'Cancel'.

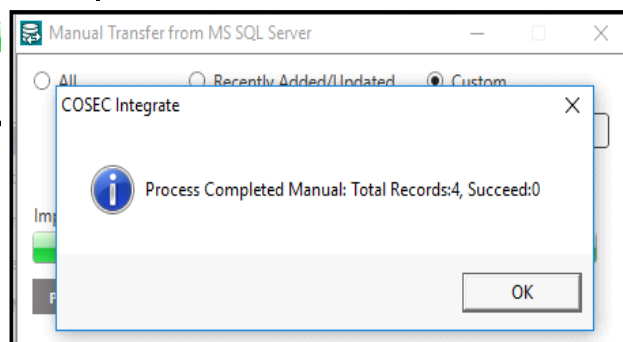
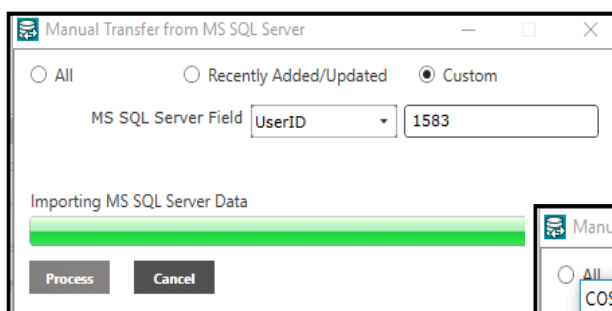
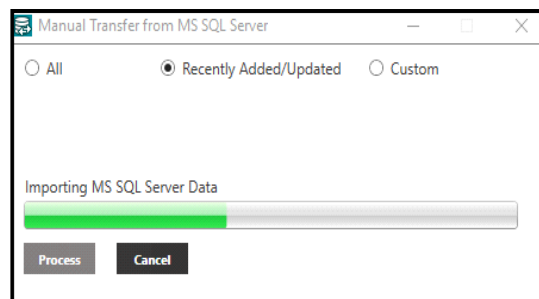
Map the source and destination fields from Fields Mapping.

The fields USERID, START-DATE, LEAVE-CODE and LASTUPDATEDTIMESTAMP are mandatory for mapping. If TID is mapped; then ACTION is required to be mapped for importing based on TID.

After mapping, click on Save button.



The import can be scheduled or manual transfer can be done.



The Import with the other sources are explained in further examples.

Import from Active Directory

The COSEC INTEGRATE application provides the functionality to import user data from the Active Directory service of Windows.

The application allows the administrator to map the data fields of the COSEC application database to the data fields of the active directory.

Now user can click on the **Server Configuration** button to start the configuring process. The following page appears. Select the **Import from Active Directory** option in the **Integration Mode** field.

The screenshot shows the 'COSEC Integrate' application window. On the left is a sidebar with buttons: 'Server Configuration' (highlighted), 'Export Data', 'Import Data', 'Start Service', 'About', 'Help', and 'Exit'. The main area has a title bar 'MATRIX COSEC Integrate'. Below it, 'Integration Mode' is a dropdown menu set to 'Import From Active Directory'. There are two main sections: 'COSEC Web Server' and 'Active Directory'. The 'COSEC Web Server' section contains fields for 'Web URL' (http://localhost/COSEC/api.svc/v2), 'User Name' (sa), and 'Password' (masked with dots), with a 'Test Connection' button below. The 'Active Directory' section contains fields for 'Server' (192.168.103.27), 'Port' (389), 'Domain' (DC=matrix,DC=cosectest2016), 'User Name' (anil), and 'Password' (masked with dots), with an 'Enable SSL' checkbox and a 'Test Connection' button. At the bottom of the main area are 'Edit', 'Save', 'Cancel', and 'Delete' buttons.

In the **COSEC Web Server** section:

- Specify the web url of the api service of the COSEC WEB application as shown.
- Enter the User Name and Password of the sa user as set in the COSEC WEB application.

In the **Active Directory** section:

- Specify the IP address or the network name of the Domain Controller.
- **Port:** Enter the port no. if configured.
- **Domain Name:** Specify the domain name as shown. For e.g. if the domain name is matrix.com the domain name is specified as: **dc=matrix,dc=com**.
- **User Name:** Specify the username having administrator rights in this field. e.g. **matrix\administrator**.
- **Password:** Enter the password of the administrator as per the site settings.
- **Enable SSL:** To establish secured connection and protecting Data, click on check-box given next to **Enable SSL**. It is compulsory to enable this check-box.

The **Test Connection** button is provided to test the connections with the web server as well as the Active Directory service.

Click on **Save** once done.

Active Directory Import Configuration

This option enables the Admin user to map the fields from the Active Directory service to the appropriate fields in the COSEC database. The application will list all the fields in the COSEC database which are relevant to the User Configuration. The administrator needs to select the relevant fields in the Active Directory and then map the same to the relevant fields of the COSEC database.

Click on the **Import Data** button. The following page appears.

Import

Source: Active Directory

Data: User Details

Fields Mapping

Source Field: uidNumber

Destination Field: NAME | VARCHAR | 45 | 0

Add

Active Directory	Data Type	Length	Decima	Destination Field	Data Type	Length	Decima	Clear
attributeDisplay				DSG	NUMERIC	6	0	Clear
fRSPprimaryMen				FULL-NAME	NVARCHAR	200	0	Clear
objectSid				DEVICE-GROUP	NUMERIC	5	0	Clear
telephoneNum1				OFFICIAL-CELL	VARCHAR	32	0	Clear
uid				ID	VARCHAR	15	0	Clear
uidNumber				NAME	VARCHAR	45	0	Clear

Schedule

Edit Save Manual Transfer Cancel

- Select **Active Directory** from the **Source** drop down list.
- Click on **Edit**.
- In the **Fields Mapping** section, select the **Source Field** and **Destination Field** from the respective drop down lists.

Click on the **Add** button. The mapped fields will be visible in the bottom grid as shown. The schedule section enables the administrator to set the frequency at which the COSEC service will check the active directory for updates.

Schedule

Active ☒

Update Interval: 5 Minutes

Enable Alerts For: ☒ Success ☐ Failure

Filter Records: Custom

Apply Filter As per: department dept11

- Check the **Active** box to enable the schedule.
- Specify the **Update Interval** in seconds, minutes or hours to define the frequency at which the application will update the destination COSEC database.
- **Enable Alert For:** When scheduled process gets completed then it will send an Alert to the configured COSEC Server. The Alert can be sent for both Successful as well as Failed transfers.

Select the checkboxes as per your requirement:

Select **Success** checkbox to send an alert mentioning the details of successfully transferred records to the configured COSEC Server.

Select **Failure** checkbox to send an alert mentioning the details of failure in transferring records to the configured COSEC Server.

If you require Alerts for both the above events, select both the check boxes.

In case of partial data transfer i.e. if both the above checkboxes are selected then the connection status will be considered as Failure and Reason for Failure will be displayed in the Alert.

Example: There are in total 100 records which are to be transferred.

Now, out of 100 records, only 60 records are transferred Successfully and the remaining 40 records have Failed. Such data transfers are known as partial data transfers.

So here the connection status will be Failure and an alert will be sent to the configured COSEC Server along with the reason for failed data transfer.



It is to be supported for all integrate modes defined in COSEC Integrate where enable alerts provision is present i.e. for all the integration modes except for Custom Export-FP Template & Export FP Template to File.

- **Filter Records:** You can filter the records that are to be imported at scheduled runtime by selecting All or Custom option.
 - If **Custom** option is selected then select the option for “**Apply Filter As Per**” and enter the respective value in the text box.

Click on **Save** once done.

Manual Transfer

The manual transfer option provides the admin user the flexibility to import user data from the active directory database as and when required. In order to access this functionality click on the **Stop service** button to stop the COSEC INTEGRATE service.

Click on the **Active Directory** button followed by the **Manual Transfer** button. The following window appears.

Manual Transfer from Active Directory

☐ All ☐ Recently Added/Updated ☒ Custom

Active Directory Field uid 1257

Select from one of the following options.

- **All** - Imports all users from the active directory database.
- **Recently Added/Updated** - Imports only those users whose records have been updated after the last import.
- **Custom** - Imports users as per the defined filter.

Click on the **Process** button. The application will import data of the users as per the specified filter and displays the status of the import process as shown.



Click on **OK** to close the window.

Importing Data from a Customized SAP

The application allows the user to import user data from a customized external SQL or Oracle database table. The following figure depicts a sample of the source table structure.

Column Name	Data Type	Allow Nulls
EMPNO	varchar(8)	<input type="checkbox"/>
ENAME	varchar(40)	<input checked="" type="checkbox"/>
DOB	datetime	<input checked="" type="checkbox"/>
DOJ	datetime	<input checked="" type="checkbox"/>
DOR	datetime	<input checked="" type="checkbox"/>
BGROUP	varchar(6)	<input checked="" type="checkbox"/>
GENDER	varchar(1)	<input checked="" type="checkbox"/>
ADDLOC	varchar(60)	<input checked="" type="checkbox"/>
ADDPER	varchar(60)	<input checked="" type="checkbox"/>
CITY	varchar(40)	<input checked="" type="checkbox"/>
PINCODE	varchar(10)	<input checked="" type="checkbox"/>
STATE	varchar(20)	<input checked="" type="checkbox"/>
COUNTRY	varchar(3)	<input checked="" type="checkbox"/>
DIDNO	varchar(30)	<input checked="" type="checkbox"/>
MOBNO	varchar(30)	<input checked="" type="checkbox"/>
EXTNO	varchar(30)	<input checked="" type="checkbox"/>
MAILID	varchar(100)	<input checked="" type="checkbox"/>
DEPT	varchar(4)	<input checked="" type="checkbox"/>
COMPCODE	varchar(4)	<input checked="" type="checkbox"/>
BRNLOC	varchar(4)	<input checked="" type="checkbox"/>
DESIG	varchar(60)	<input checked="" type="checkbox"/>
GRADE	varchar(2)	<input checked="" type="checkbox"/>
CATEGORY	varchar(1)	<input checked="" type="checkbox"/>
P_FLAG	numeric(1, 0)	<input checked="" type="checkbox"/>
insert_dt	datetime	<input checked="" type="checkbox"/>
process_dt	datetime	<input checked="" type="checkbox"/>
Module	char(1)	<input checked="" type="checkbox"/>

The user can map the required fields as explained earlier. In this case too, the following destination fields need to be compulsorily mapped with appropriate fields of the source table as shown.

- id
- name
- BLNUPDATEFIELD

The import data options have the following **Schedule** options.

Import

Source Customized SQL Server

Data User Details

Fields Mapping

Schedule

Active ☐

Update Interval Seconds

Enable Alerts For ☐ Success ☐ Failure

- Check the Active box to enable the schedule.

- Specify the **Update Interval** in seconds, minutes or hours to define the frequency at which the application will import the data from the source table.
- **Enable Alert For:** When scheduled process gets completed then it will send an Alert to the configured COSEC Server. The Alert can be sent for both Successful as well as Failed transfers.

Select the checkboxes as per your requirement:

Select **Success** checkbox to send an alert mentioning the details of successfully transferred records to the configured COSEC Server.

Select **Failure** checkbox to send an alert mentioning the details of failure in transferring records to the configured COSEC Server.

If you require Alerts for both the above events, select both the check boxes.

In case of partial data transfer i.e. if both the above checkboxes are selected then the connection status will be considered as Failure and Reason for Failure will be displayed in the Alert.

Example: There are in total 100 records which are to be transferred.

Now, out of 100 records, only 60 records are transferred Successfully and the remaining 40 records have Failed. Such data transfers are known as partial data transfers.

So here the connection status will be Failure and an alert will be sent to the configured COSEC Server along with the reason for failed data transfer.



It is to be supported for all integrate modes defined in COSEC Integrate where enable alerts provision is present i.e. for all the integration modes except for Custom Export-FP Template & Export FP Template to File.

Click on **Save** once done.

Import Events

The COSEC INTEGRATE application provides the functionality to import event data from 3rd party database i.e. MS SQL and Oracle as well as from Excel.

Now user can click on the **Server Configuration** button to start the configuring process. The following page appears. Select the **Import Events** option in the **Integration Mode** field.

The screenshot shows the COSEC Integrate application window. The title bar reads "COSEC Integrate User: SA". The main header features the "MATRIX" logo and the text "COSEC Integrate". A green status bar at the top indicates "Database Connection Tested Successfully". On the left, a sidebar contains buttons for "Server Configuration", "Export Data", "Import Data", "Start Service", "About", "Help", and "Exit". The "Server Configuration" section is active, showing a dropdown menu for "Integration Mode" set to "Import Events". Below this are two main panels: "COSEC Web Server" and "Source Details". The "COSEC Web Server" panel includes fields for "Web URL" (http://localhost/COSEC/api.svc/v2), "User Name" (sa), and "Password" (masked with dots), along with a "Test Connection" button. The "Source Details" panel includes a dropdown for "Import From" (Sql Server), and fields for "Server" (192.168.104.12\\sqlexpress), "Database Name" (COSEC_V13R2), "User Name" (sa), and "Password" (masked with dots), also with a "Test Connection" button. At the bottom of the main content area are buttons for "Edit", "Save", "Cancel", and "Delete".

In the **COSEC Web Server** section:

- Specify the web URL of the api service of the COSEC WEB application as shown.
- Enter the User Name and Password of the SA user as set in the COSEC WEB application.

In the **Source Details** section:

- Select the **Import From** option as SQL SERVER, ORACLE SERVER or EXCEL.
- **Server:** Enter the database server name in the following format - **Database server name\Instance Name** e.g. dbserver\\sqlexpress.
- **Database Name:** Specify the database name of the source database as per the site settings.
- **User Name:** Specify the database administrator ID in this field.
- **Password:** Enter the password of the Database administrator as per the site settings.

The **Test Connection** button is provided to test the connections with the web server as well as the MS SQL or Oracle Server database.

Click on **Save** once done.

Now click on **Import Data** button. The following page appears. This option enables the Admin user to select the external source database from where the data is to be imported in the destination COSEC table.

Select the source table from the drop down list. The system will get the details of the fields from the source table and display the same in the **Source Field** parameter.

Now the Admin user can start the mapping of the fields from the source database to that of the destination database as shown. Select the appropriate source and the destination fields and click on the **Add** button.

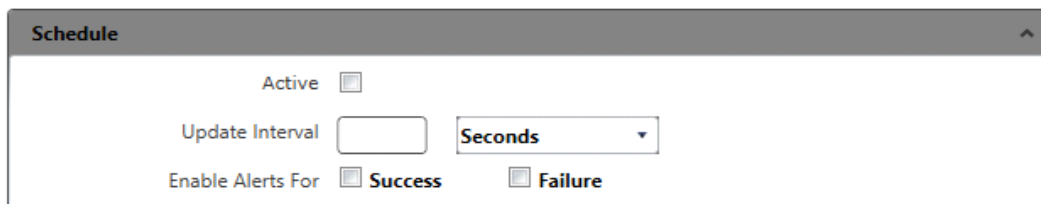
The mapped fields will be visible in the bottom grid as shown. The following destination fields need to be compulsorily mapped with appropriate fields of the source table as shown.

- userid

- event-datetime
- BLNUPDATEFIELD

Click on **Save** button to commit the changes.

The **Schedule** section enables the administrator to set the frequency at which the COSEC service will check the active directory for updates.



- Check the **Active** box to enable the schedule.
- Specify the **Update Interval** in seconds, Minutes or Hours to define the frequency at which the application will update the destination COSEC database.
- **Enable Alert For:** When scheduled process gets completed then it will send an Alert to the configured COSEC Server. The Alert can be sent for both Successful as well as Failed transfers.

Select the checkboxes as per your requirement:

Select **Success** checkbox to send an alert mentioning the details of successfully transferred records to the configured COSEC Server.

Select **Failure** checkbox to send an alert mentioning the details of failure in transferring records to the configured COSEC Server.

If you require Alerts for both the above events, select both the check boxes.

In case of partial data transfer i.e. if both the above checkboxes are selected then the connection status will be considered as Failure and Reason for Failure will be displayed in the Alert.

Example: There are in total 100 records which are to be transferred.

Now, out of 100 records, only 60 records are transferred Successfully and the remaining 40 records have Failed. Such data transfers are known as partial data transfers.

So here the connection status will be Failure and an alert will be sent to the configured COSEC Server along with the reason for failed data transfer.



It is to be supported for all integrate modes defined in COSEC Integrate where enable alerts provision is present i.e. for all the integration modes except for Custom Export-FP Template & Export FP Template to File.

Click on **Save** once done.

Import Events from Excel


The screenshot shows the 'COSEC Integrate' application window. The title bar reads 'COSEC Integrate User: SA'. The main header has the 'MATRIX' logo and 'COSEC Integrate'. A green status bar at the top says 'COSEC Web Server Connection Tested Successfully'. On the left is a sidebar with buttons: 'Server Configuration', 'Export Data', 'Import Data', 'Start Service', 'About', 'Help', and 'Exit'. The main area has a form for 'Import Events'. It includes a dropdown for 'Integration Mode' set to 'Import Events'. Below this is a 'COSEC Web Server' section with fields for 'Web URL' (http://localhost/COSEC/api.svc/v2), 'User Name' (sa), and 'Password' (masked with dots), followed by a 'Test Connection' button. To the right is a 'Source Details' section with 'Import From' set to 'Excel'. At the bottom are 'Edit', 'Save', 'Cancel', and 'Delete' buttons.

- Select the **Import From** option as Excel.
- Click Test connection button to test the connection with COSEC web server.
- Then click **Save** button.

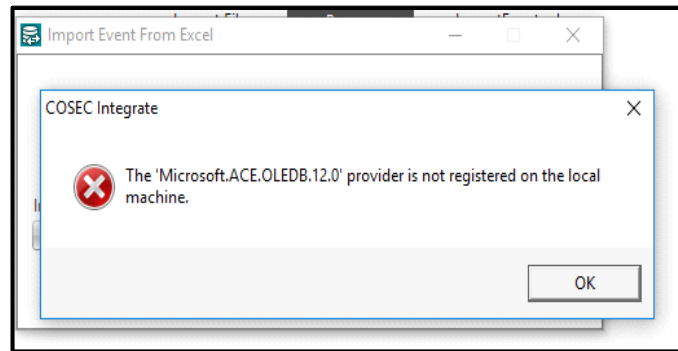
Import Data

In Import Data page, select the Source as Import Events from Excel.

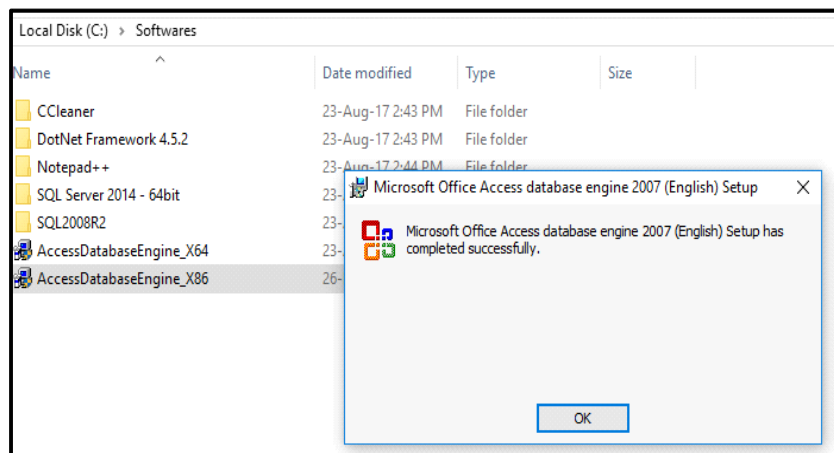
The screenshot shows the 'Import' configuration screen. It has a 'Source' dropdown set to 'Import Events From Excel' with a download icon to its right. Below it is a 'Data' dropdown set to 'User Details'. Further down is a 'Mode' dropdown set to 'Add Templates'. Below the 'Mode' dropdown is a button labeled 'Add Templates'. At the bottom, there is a 'Select FP Template' label and a 'Browse' button.

You can click on  to import the sample Import Events file. Then save the sample file at desired location. Click on **Browse** button and select the excel file for importing events. You can import excel file of max 15 MB.

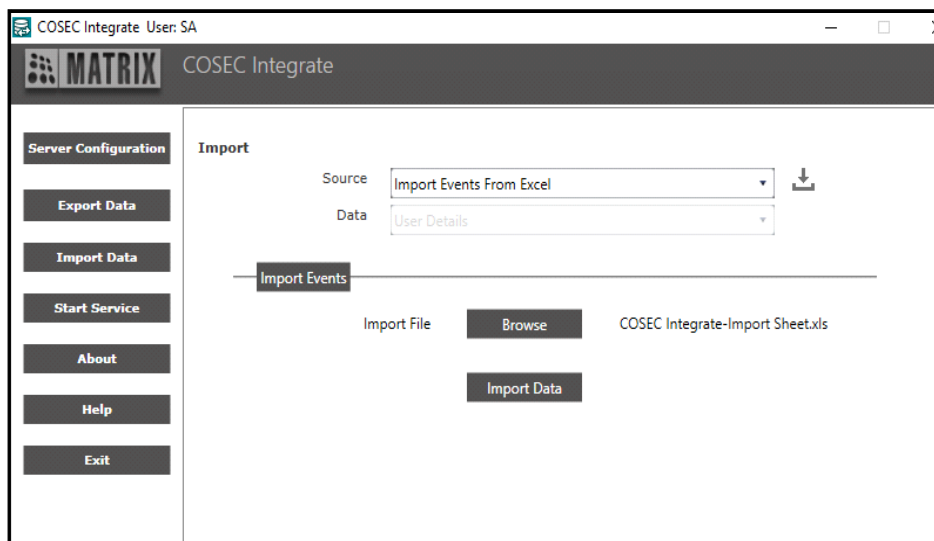
For importing excel file, you must have drivers to import.



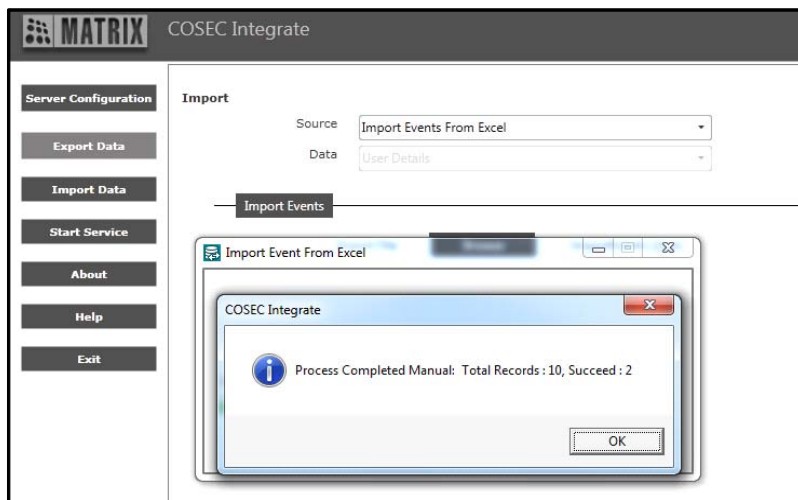
You must install Access Database Engine compatible to your computer as shown below.



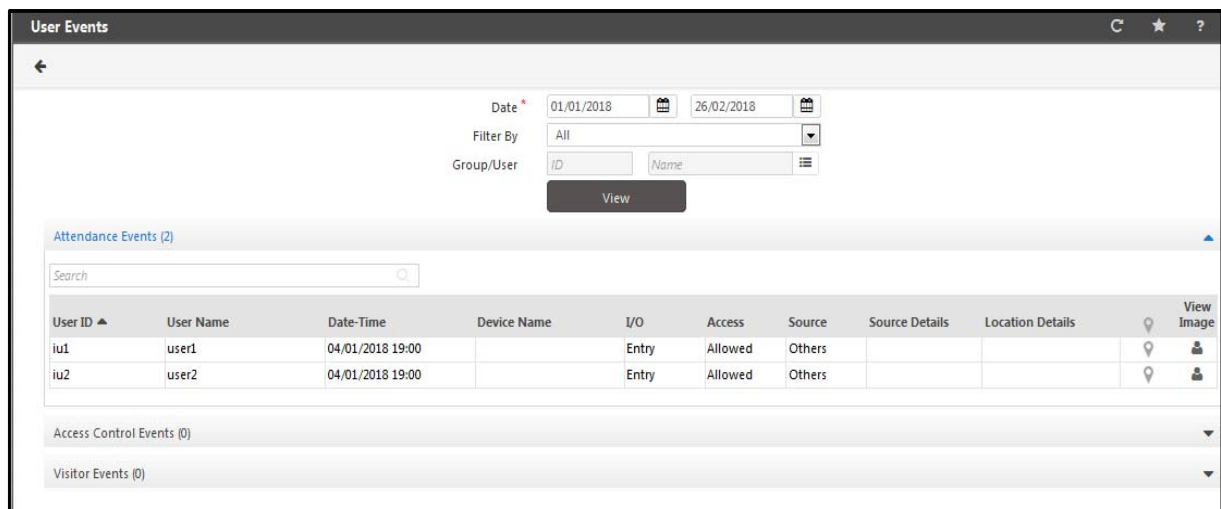
Now the Excel file is selected as shown below.



Then click on **Import Data** button. The import process is shown below.



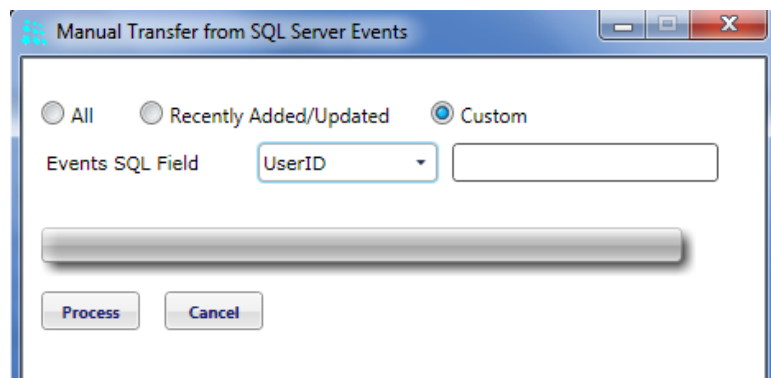
You can view the imported records in User events as shown below.



Manual Transfer

The manual transfer option provides the Admin user the flexibility to import events from the source database as and when required. In order to access this functionality click on the **Stop service** button to stop the COSEC INTEGRATE service.

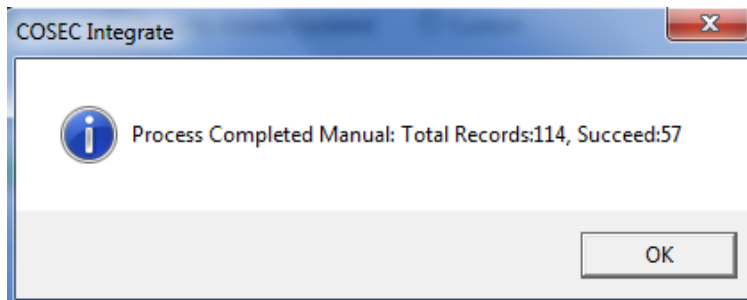
Click on the **Import Data** button followed by the **Manual Transfer** button. The following window appears.



Select from one of the following options.

- **All** - Imports all events from the source database.
- **Recently Added/Updated** - Imports only those events whose records have been updated after the last import.
- **Custom** - Imports events as per the defined filter.

Click on the **Process** button. The application will import data of the users as per the specified filter and displays the status of the import process as shown.



Click on **OK** to close the window.

Import from My SQL

Select the **Import from My SQL Server** option in the **Integration Mode** field. Click on the **Edit** button.

The screenshot shows a configuration window with two main sections: 'COSEC Web Server' and 'MySQL'. At the top, the 'Integration Mode' is set to 'Import From MySQL'. The 'COSEC Web Server' section contains fields for 'Web URL' (http://localhost/COSEC/api.svc), 'User Name' (sa), and 'Password' (masked with dots), along with a 'Test Connection' button. The 'MySQL' section contains fields for 'Server' (127.0.0.1), 'Port' (3306), 'Database Name' (new_schema), 'User Name' (root), and 'Password' (masked with dots), also with a 'Test Connection' button.

In the **COSEC Web Server** section:

- Specify the web URL of the api service of the COSEC WEB application as shown.
- Enter the User Name and Password of the SA user as set in the COSEC WEB application.

In the **Source Database Server** section:

- The **Database Type** will be SQL SERVER.
- **Server:** Enter the database server name in the following format - **Database server name\Instance Name** e.g. dbserver\sqlexpress.
- **Database Name:** Specify the database name of the source SQL database as per the site settings.
- **User Name:** Specify the database administrator ID in this field.
- **Password:** Enter the password of the Database administrator as per the site settings.

The **Test Connection** button is provided to test the connections with the web server as well as MS SQL. Click on **Save** once done.

Import Data Configuration

This option enables the Admin user to map the fields from the external source database table to fields in the destination COSEC User table. Click on the **Import Data** button. The following page appears.

The screenshot shows the 'Import Data Configuration' page. At the top, there is an 'Import' section with a 'Source' dropdown menu set to 'MySQL Server'. Below this is the 'Fields Mapping' section. It contains three dropdown menus: 'Source Table' (set to 'usermaster'), 'Source Field' (set to 'id' with details 'VarChar | 10 | 0'), and 'Destination Field' (set to 'id' with details 'VARCHAR | 10 | 0'). An 'Add' button is located below these dropdowns. At the bottom of the 'Fields Mapping' section is a table with 9 columns: 'MySQL Field', 'Data Type', 'Length', 'Decimal', 'Destination Field', 'Data Type', 'Length', 'Decimal', and 'Clear'. The table contains 5 rows of mapped fields: 'pin' (VarChar 6, 0) mapped to 'pin' (VARCHAR 6, 0); 'policy' (String 4, 0) mapped to 'policy' (CHAR 4, 0); 'qualification' (VarChar 50, 0) mapped to 'qualification' (VARCHAR 50, 0); 'reasonforleaving' (VarChar 15, 0) mapped to 'reason-for-leavir' (VARCHAR 15, 0); and 'weight' (Int32 5, 0) mapped to 'weight' (NUMERIC 5, 1). Each row has a 'Clear' button to its right.

MySQL Field	Data Type	Length	Decimal	Destination Field	Data Type	Length	Decimal	Clear
pin	VarChar	6	0	pin	VARCHAR	6	0	<button>Clear</button>
policy	String	4	0	policy	CHAR	4	0	<button>Clear</button>
qualification	VarChar	50	0	qualification	VARCHAR	50	0	<button>Clear</button>
reasonforleaving	VarChar	15	0	reason-for-leavir	VARCHAR	15	0	<button>Clear</button>
weight	Int32	5	0	weight	NUMERIC	5	1	<button>Clear</button>

Select the source table from the pull down list. The system will get the details of the fields from the source table and display the same in the **Source Field** parameter.

Now the Admin user can start the mapping of the fields from the source database to that of the destination database as shown. Select the appropriate source and the destination fields and click on the **Add** button.

This screenshot is identical to the one above, showing the 'Fields Mapping' section. It highlights the 'Add' button and the table of mapped fields. The table structure and content are the same as in the previous screenshot.

MySQL Field	Data Type	Length	Decimal	Destination Field	Data Type	Length	Decimal	Clear
pin	VarChar	6	0	pin	VARCHAR	6	0	<button>Clear</button>
policy	String	4	0	policy	CHAR	4	0	<button>Clear</button>
qualification	VarChar	50	0	qualification	VARCHAR	50	0	<button>Clear</button>
reasonforleaving	VarChar	15	0	reason-for-leavir	VARCHAR	15	0	<button>Clear</button>
weight	Int32	5	0	weight	NUMERIC	5	1	<button>Clear</button>

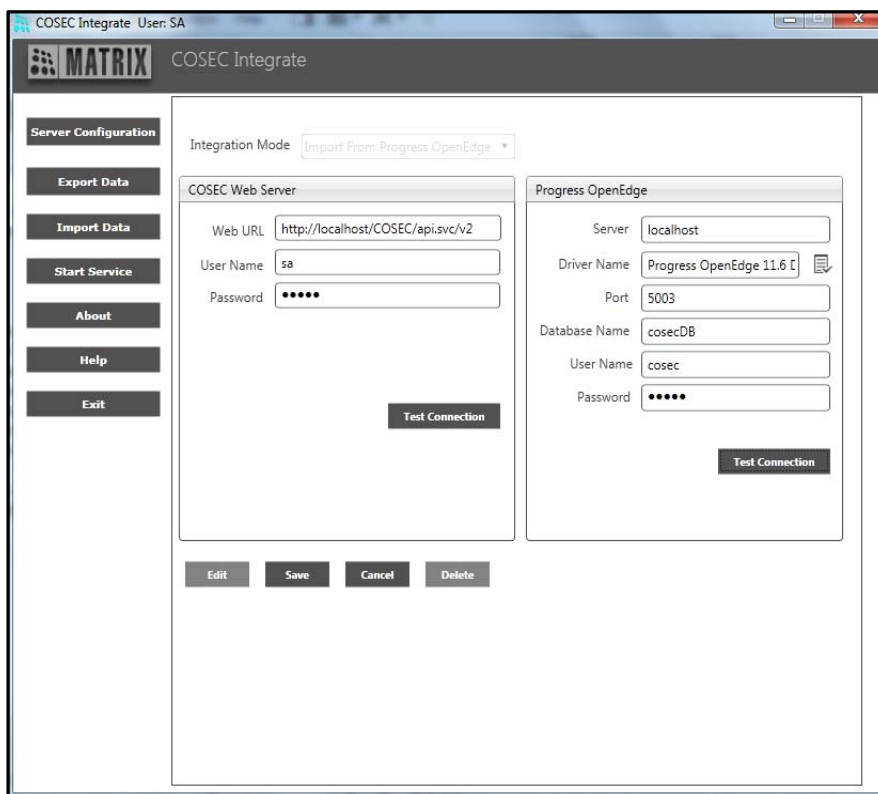
The mapped fields will be visible in the bottom grid as shown. The following destination fields need to be compulsorily mapped with appropriate fields of the source table as shown.

- id
- name
- BLNUPDATEFIELD

This is common to all the import options except the Active directory option.

Import from Progress OpenEdge

Select the **Import from Progress OpenEdge** option in the **Integration Mode** field. Click on the **Edit** button.



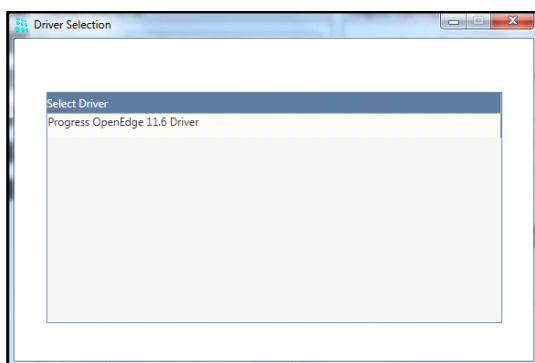
The screenshot shows the COSEC Integrate application window. The title bar reads 'COSEC Integrate User: SA'. The main window has a sidebar on the left with buttons: 'Server Configuration', 'Export Data', 'Import Data', 'Start Service', 'About', 'Help', and 'Exit'. The 'Server Configuration' section is active, showing the 'Integration Mode' dropdown set to 'Import From Progress OpenEdge'. Below this, there are two main configuration panels. The 'COSEC Web Server' panel contains fields for 'Web URL' (http://localhost/COSEC/api.svc/v2), 'User Name' (sa), and 'Password' (masked with dots), with a 'Test Connection' button. The 'Progress OpenEdge' panel contains fields for 'Server' (localhost), 'Driver Name' (Progress OpenEdge 11.6), 'Port' (5003), 'Database Name' (cosecDB), 'User Name' (cosec), and 'Password' (masked with dots), also with a 'Test Connection' button. At the bottom of the configuration area are buttons for 'Edit', 'Save', 'Cancel', and 'Delete'.

In the **COSEC Web Server** section:

- Specify the web URL of the api service of the COSEC WEB application as shown.
- Enter the User Name and Password of the SA user as set in the COSEC WEB application.

In the **Progress OpenEdge** section:

- **Server:** Enter the server name with which the Progress OpenEdge database is started.
- **Driver Name:** Select the Progress OpenEdge driver from the picklist. It is the software driver which will appear in picklist, once the database is installed.



The screenshot shows a 'Driver Selection' dialog box. It has a title bar 'Driver Selection'. Inside, there is a section titled 'Select Driver' with a list box containing 'Progress OpenEdge 11.6 Driver'. The list box is currently empty, suggesting the driver has been selected and is being confirmed.

- **Port:** Enter the port number at which the Progress OpenEdge database is running. It is the port number (eg: 5003) entered in command prompt while starting the database as shown below.

- **Database Name:** Enter the database name with which Progress OpenEdge database is started. It is case sensitive. Thus if Database is started with name cosecDB as shown below then enter the name as “cosecDB”.

```

proenv>proserve -db C:\OpenEdge\WRK\cosecDB -H patricpillai -S 5003
OpenEdge Release 11.6 as of Fri Oct 16 19:01:51 EDT 2015
11:31:09 BROKER This broker will terminate when session ends. <5405>
11:31:09 BROKER The startup of this database requires 17Mb of shared memory.
Maximum segment size is 128Mb.
11:31:09 BROKER 0: Multi-user session begin. <333>
11:31:09 BROKER 0: Before Image Log Initialization at block 0 offset 6031. <15321>
11:31:09 BROKER 0: Login by admin on CON:. <452>
11:31:09 BROKER 0: This server is licensed for local logins only. <4393>
11:31:09 BROKER 0: Started for 5003 using TCP IPV4 address 127.0.0.1, pid 10172. <5644>

```

- **User Name:** Specify the user name as entered while creating the database.
- **Password:** Specify the password as entered while creating the database. Eg: User name is cosec and Password is cosec.

The **Test Connection** button is provided to test the connections with the web server as well as the Progress OpenEdge database.

Click on **Save** button to save the server configuration.

Import Data Configuration

This option enables the Admin user to map the fields from the external source database table to fields in the destination COSEC User table. Click on the **Import Data** button. The following page appears.

The screenshot shows the 'COSEC Integrate' application window. On the left is a sidebar with buttons: 'Server Configuration', 'Export Data', 'Import Data' (highlighted), 'Start Service', 'About', 'Help', and 'Exit'. The main area is titled 'Import' and contains a 'Source' dropdown menu set to 'Progress OpenEdge'. Below this is the 'Fields Mapping' section with 'Source Table' set to 'Benefits', 'Source Field' set to 'DependentCare' (type integer, length 4, precision 0), and 'Destination Field' set to 'ABSENTEE-POLICY' (type NUMERIC, length 2, precision 0). An 'Add' button is below the mapping fields. At the bottom of the main area is a 'Schedule' section with an 'Active' checkbox and an 'Update Interval' field set to 'Seconds'. At the very bottom are buttons for 'Edit', 'Save', 'Manual Transfer', and 'Cancel'.

Select the Source and click on the **Edit** button at the bottom of the page.

Select the **Source Table** from the drop down list. The system will get the details of the fields from the source table and display the same in the **Source Field** parameter.

The screenshot shows a 'Fields Mapping' dialog box. It has three main sections: 'Source Table' (set to 'Employee'), 'Source Field' (set to 'Address' with type varchar, length 70, precision 0), and 'Destination Field'. The 'Destination Field' section contains a list of fields from the 'Employee' table: Address, Address2, Birthdate, City, DeptCode, EmpNum, FirstName, HomePhone, LastName, Position, PostalCode, and SickDaysLeft. Each field is listed with its data type, length, and precision. A 'Progress OpenEdge Data Type' button is on the left, and a 'Decimal Clear' button is on the right. An 'Add' button is at the bottom right of the list.

Select the appropriate **destination field** and click on the **Add** button. The mapped fields will be visible in the bottom grid as shown.

Progress OpenEdc	Data Type	Length	Decimal	Destination Field	Data Type	Length	Decimal	Clear
FirstName	varchar	30	0	ESI-NO	VARCHAR	30	0	<input type="button" value="Clear"/>
Position	varchar	40	0	NAME	VARCHAR	45	0	<input type="button" value="Clear"/>



The following destination fields need to be compulsorily mapped with appropriate fields of the source table as shown.

- *id*
- *name*
- *BLNUPDATEFIELD*

This is common to all the import options except the Active directory option.

Schedule

- Check the **Active** box to enable the schedule.
- Specify the **Update Interval** in seconds, minutes or hours to define the frequency at which the application will update the destination database.
- **Enable Alert For:** When scheduled process gets completed then it will send an Alert to the configured COSEC Server. The Alert can be sent for both Successful as well as Failed transfers.

Select the checkboxes as per your requirement:

Select **Success** checkbox to send an alert mentioning the details of successfully transferred records to the configured COSEC Server.

Select **Failure** checkbox to send an alert mentioning the details of failure in transferring records to the configured COSEC Server.

If you require Alerts for both the above events, select both the check boxes.

In case of partial data transfer i.e. if both the above checkboxes are selected then the connection status will be considered as Failure and Reason for Failure will be displayed in the Alert.

Example: There are in total 100 records which are to be transferred.

Now, out of 100 records, only 60 records are transferred Successfully and the remaining 40 records have Failed. Such data transfers are known as partial data transfers.

So here the connection status will be Failure and an alert will be sent to the configured COSEC Server along with the reason for failed data transfer.



It is to be supported for all integrate modes defined in COSEC Integrate where enable alerts provision is present i.e. for all the integration modes except for Custom Export-FP Template & Export FP Template to File.

Import from Excel

The COSEC INTEGRATE application provides the functionality to import leave transaction data from Excel.

Now user can click on the **Server Configuration** button to start the configuring process. The following page appears. Select the **Import From Excel** option in the **Integration Mode** field.

The screenshot shows the 'COSEC Integrate User: SA' application window. The title bar includes the 'MATRIX' logo and the text 'COSEC Integrate'. A green banner at the top of the main content area says 'Saved Successfully'. On the left is a sidebar with buttons: 'Server Configuration' (highlighted), 'Export Data', 'Import Data', 'Start Service', 'About', 'Help', and 'Exit'. The main area has a form with the following sections:

- Integration Mode:** A dropdown menu with 'Import From Excel' selected.
- COSEC Web Server:** A section with three input fields: 'Web URL' (containing 'http://localhost/COSEC/api.svc/v2'), 'User Name' (containing 'sa'), and 'Password' (containing '*****'). Below these fields is a 'Test Connection' button.
- Source Details:** A section with one input field: 'Import From' (containing 'Excel').

At the bottom of the form are four buttons: 'Edit', 'Save', 'Cancel', and 'Delete'.

In the **COSEC Web Server** section:

- Specify the web URL of the api service of the COSEC WEB application as shown.
- Enter the User Name and Password of the SA user as set in the COSEC WEB application.

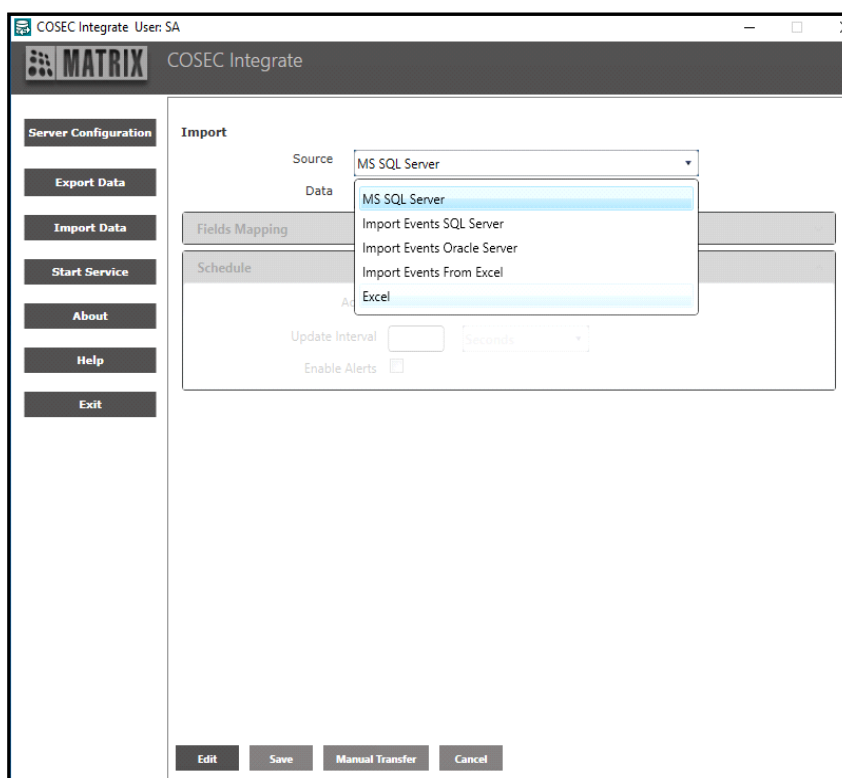
In the **Source Details** section:

- Select the **Import From** option as Excel.

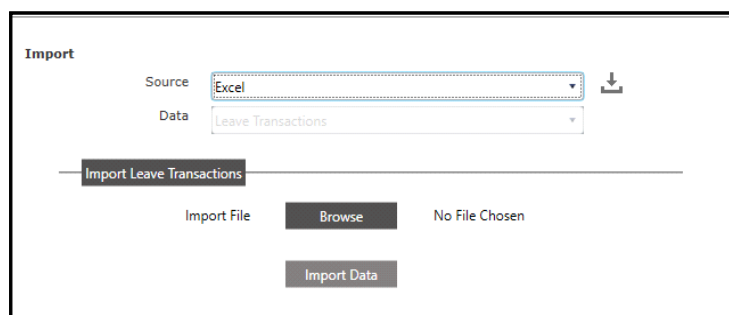
The **Test Connection** button is provided to test the connections with the web server.


Click on **Save** once done.

Now click on **Import Data** button. The following page appears. This option enables the admin user to select the external source database from where the data is to be imported in the destination COSEC table.

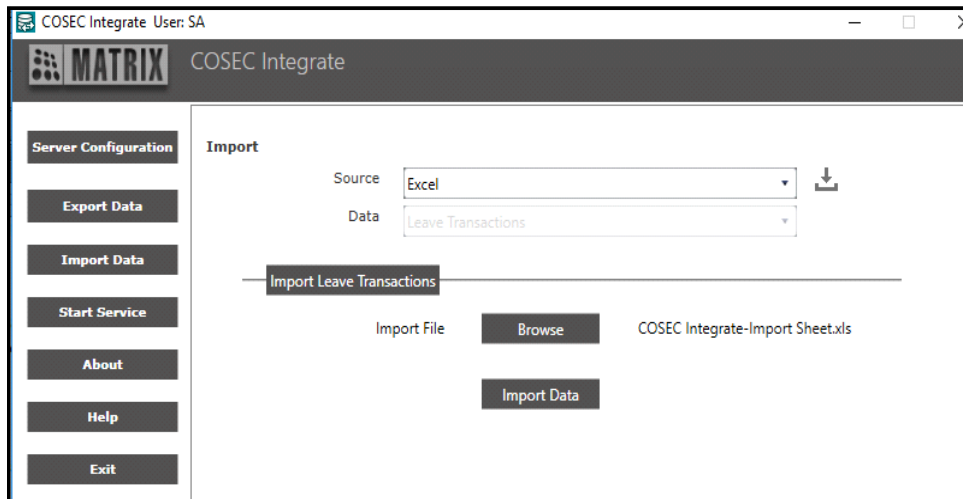


Select the source as **Excel**. The Data field shows the Leave Transaction.



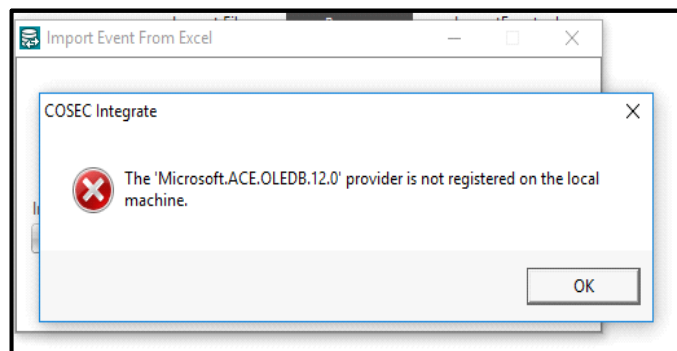
You can click on  to import the sample file for leave transaction. Then save the sample file at desired location. The leave records can be entered in the sample file.

Then click on **Browse** button to browse the file from where leave transactions are to be imported. Only .xls and .xlsx file of maximum size 15 MB is allowed for import.

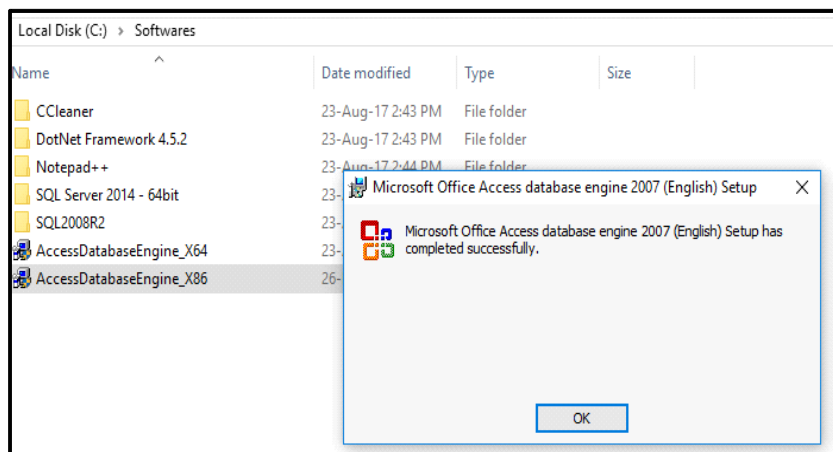


Then click on **Import Data**. The leave transaction data will be imported from the selected Excel file to the configured web server's database.

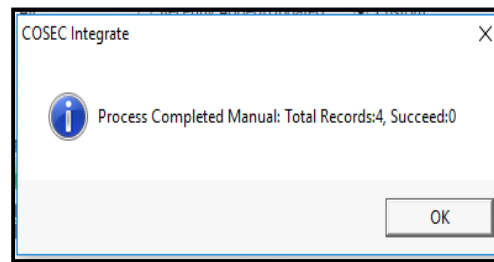
For importing excel file, you must have drivers to import.



You must install Access Database Engine compatible to your computer as shown below.



Then click on **Import Data** button. The import process is shown below.



Integrate Alert

When the Integrate scheduled process gets completed, an API will be triggered to the configured COSEC server.

An Alert would be generated for the same and sent to those users as SMS or Email, for whom alert message is configured in Alert Message Configuration as shown below.



The Contact number and Email ID on which the alert is to be sent; must be specified in User Configuration.

An alert log with error/status message would be generated and displayed in Admin> Views/Logs > Alert View.

E-mail ID	Message	Date Time	Error/Status
sheetal.raval@matrixrd.org	Chirag has applied Tour...	01/03/2018 18:22:00	
sheetal.raval@matrixrd.org	Chirag has applied Tour...	01/03/2018 18:18:51	
utsav.jain@matrixrd.org	Template_ATDEvents - Export To MS SQL Server scheduled ...	01/03/2018 15:52:01	
sheetal.raval@matrixrd.org	Template_ATDEvents - Export To MS SQL Server scheduled ...	01/03/2018 15:52:01	
aditi.gupta@matrixrd.org	Template_ATDEvents - Export To MS SQL Server scheduled ...	01/03/2018 15:52:01	

Consider a scenario, with configurations: **Include Previously Failed** is enabled and **Retry for failed records** =3, then count will be shown in Alert Message Configuration as displayed in below table.

Export

Database
MS SQL Server

Source Data Template
Template_ATDEvents

Table-Field Mapping

Schedule

Active

Enable Filter

Include Previously Failed

Retry For Failed Records
3

Interval Based

Once a Day

Update Interval
6
Hours

Run Time (HH:MM)

Start Date

01/02/2018

Retry Count
1

Retry Interval
1

Enable Alerts

Process number	Currently Scheduled Records	Successfully Transferred	Previously Failed Records	Successfully Transferred (from previously Failed Records)	To be displayed in Alert Message
1st Scheduled process	100	70	0	0	Scheduled Success =100 70
2nd Scheduled process	50	20	30 (1st scheduler)	10 (1st scheduler)	Scheduled Success =50 20
3rd Scheduled Process	100	90	20(1st scheduler) 30(2nd scheduler) Total=50	5(1st scheduler) 15 (2nd scheduler) Total=20	Scheduled Success =100 90 Previously Failed Success = 50 20
4th scheduled Process	50	50	15(2nd scheduler) 10(3rd scheduler) Total=25	10(2nd scheduler) 5 (3rd scheduler) Total=15	Scheduled Success =50 50 Previously Failed Success = 25 15



If the Integrate version and COSEC Server version are different then no alert would be sent to Server and assigned users even though Alert is configured.



MATRIX COMSEC

Head Office:

394-GIDC, Makarpura, Vadodara - 390010, India.

Ph:(+91) 18002587747

E-mail: Tech.Support@MatrixComSec.com

www.matrixaccesscontrol.com