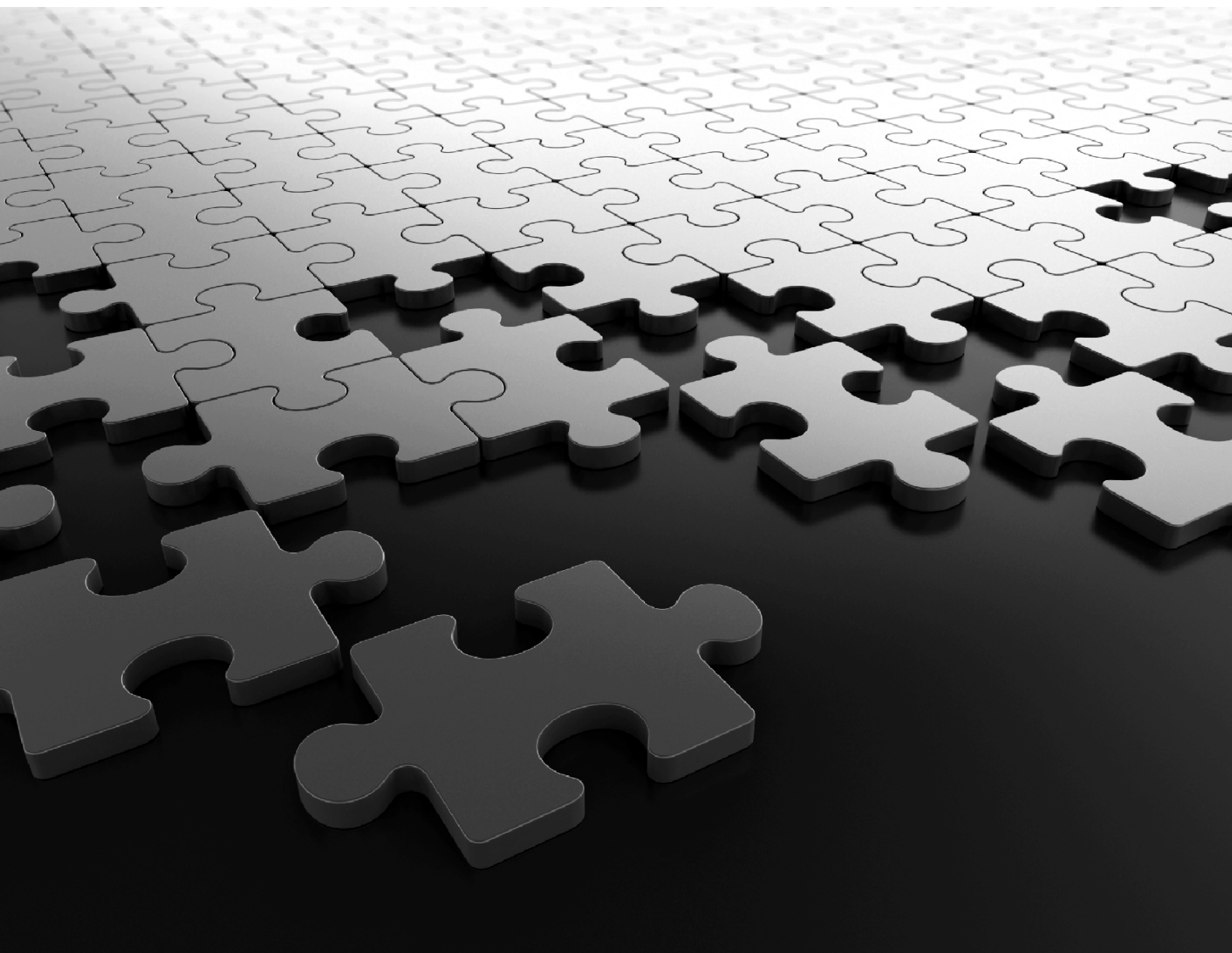


COSEC Web API

User Guide





COSEC Web API 1.0

User Guide

Documentation Disclaimer

Matrix Comsec reserves the right to make changes in the design or components of the product as engineering and manufacturing may warrant. Specifications are subject to change without notice.

This is a general documentation for all variants of the product. The product may not support all the features and facilities described in the documentation.

Information in this documentation may change from time to time. Matrix Comsec reserves the right to revise information in this publication for any reason without prior notice. Matrix Comsec makes no warranties with respect to this documentation and disclaims any implied warranties. While every precaution has been taken in the preparation of this system manual, Matrix Comsec assumes no responsibility for errors or omissions. Neither is any liability assumed for damages resulting from the use of the information contained herein.

Neither Matrix Comsec nor its affiliates shall be liable to the buyer of this product or third parties for damages, losses, costs or expenses incurred by the buyer or third parties as a result of: accident, misuse or abuse of this product or unauthorized modifications, repairs or alterations to this product or failure to strictly comply with Matrix Comsec operating and maintenance instructions.

Copyright

All rights reserved. No part of this system manual may be copied or reproduced in any form or by any means without the prior written consent of Matrix Comsec.

Version 1.0

Release date: June 2, 2014

Contents

List of Tables	iii
About the Document	1
<i>Document Conventions</i>	<i>1</i>
<i>Document Organization</i>	<i>2</i>
<i>Who Can Use this Document</i>	<i>2</i>
API Overview.....	3
<i>How It Works</i>	<i>3</i>
<i>General Features</i>	<i>3</i>
<i>What the User Should Know</i>	<i>4</i>
<i>Prerequisite</i>	<i>4</i>
<i>Enabling API Access</i>	<i>4</i>
<i>HTTP Request-Response</i>	<i>5</i>
Communication Flow	5
Request Format	6
Response Format	7
URL Syntax	8
Specifying the Format	9
Getting a List of Supported Fields	10
Additional Information	11
<i>Supported APIs</i>	<i>12</i>
Devices	14
<i>Getting a Device List</i>	<i>15</i>
<i>Assigning Users to Device</i>	<i>17</i>
<i>Revoking Users from Device</i>	<i>19</i>
<i>Adding a New Device</i>	<i>21</i>
<i>Deleting a Device</i>	<i>24</i>
<i>Obtaining Device Status</i>	<i>25</i>
<i>Updating Device Configuration</i>	<i>26</i>
Sites	27
<i>Obtaining Data on Existing Sites</i>	<i>28</i>
Users	29
<i>Accessing User Data</i>	<i>30</i>
<i>Adding/Editing a User</i>	<i>34</i>
<i>Adding User Photograph</i>	<i>42</i>
<i>Deleting a User</i>	<i>44</i>
<i>Enrolling a User</i>	<i>45</i>
<i>Setting Credentials on Device</i>	<i>47</i>
<i>Deleting Credentials from Device</i>	<i>48</i>
Enterprise Structure	49
<i>Obtaining Enterprise Group Details</i>	<i>51</i>
<i>Obtaining List of Renamed Groups</i>	<i>52</i>
Time and Attendance	53
<i>Getting Daily Attendance Data</i>	<i>54</i>
<i>Getting Monthly Attendance Data</i>	<i>62</i>

Access Control	67
<i>Obtaining List of Access Routes</i>	<i>68</i>
<i>Obtaining Access Route Details</i>	<i>70</i>
Data Import and Export	72
<i>Getting Export Template List</i>	<i>73</i>
<i>Getting Export Template Details</i>	<i>75</i>
<i>Getting Import Template List</i>	<i>76</i>
<i>Getting Import Template Details</i>	<i>77</i>
<i>Getting Template Data</i>	<i>78</i>
Data Transfer	81
<i>Retrieving User Data</i>	<i>82</i>
<i>Sending User Data</i>	<i>83</i>
Events	84
<i>Adding an Event</i>	<i>85</i>
<i>Obtaining Time and Attendance Events</i>	<i>87</i>
<i>Obtaining Time and Attendance Events by Date</i>	<i>90</i>
<i>Obtaining Access Control Events</i>	<i>93</i>
<i>Obtaining Access Control Events by Date</i>	<i>96</i>
<i>Obtaining Door/Alarm/System Events</i>	<i>99</i>
Sending Commands to Device	103
User Count on Device	106
Error Responses	108

List of Tables

Table: URL Structure	8
Table: Getting a Device List - Parameters	15
Table: Getting a Device List - Response fields	15
Table: Assigning Users to Device - Parameters	17
Table: Adding a New Device - Parameters	21
Table: Deleting a Device - Parameters	24
Table: Obtaining Device Status - Parameters	25
Table: Obtaining Data on Existing Sites - Response Fields	28
Table: Accessing User Data - Parameters	30
Table: Accessing User Data - Response Fields	30
Table: Adding/Editing a User - Parameters	34
Table: Adding User Photograph - Parameters	42
Table: Deleting a User - Parameters	44
Table: Enrolling a User - Parameters	45
Table: Setting Credentials on Device - Parameters	47
Table: Deleting Credentials from Device - Parameters	48
Table: Obtaining Enterprise Group Details - Parameters	51
Table: Obtaining Enterprise Group Details - Response Fields	51
Table: Obtaining List of Renamed Groups - Response Fields	52
Table: Getting Daily Attendance Data - Parameters	54
Table: Getting Daily Attendance Data - Response Fields	54
Table: Getting Monthly Attendance Data - Parameters	62
Table: Getting Monthly Attendance Data - Response Fields	63
Table: Obtaining List of Access Routes - Parameters	68
Table: Obtaining List of Access Routes (Smart card) - Response Fields	68
Table: Obtaining List of Access Routes (Panel) - Response Fields	68
Table: Obtaining Access Route Details - Parameters	70
Table: Obtaining Access Route Details (Smart card) - Response Fields	70
Table: Obtaining Access Route Details (Panel) - Response Fields	70
Table: Getting Export Template List - Parameters	73
Table: Getting Export Template List - Response Fields	73
Table: Getting Export Template Details - Parameters	75
Table: Getting Export Template Details - Response Table	75
Table: Getting Import Template List - Response Fields	76
Table: Getting Import Template Details - Parameters	77
Table: Getting Import Template Details - Response Fields	77
Table: Getting Template Data - Parameters	78
Table: Getting Template Data - Response Fields	79
Table: Retrieving User Data - Parameters	82
Table: Sending User Data - Parameters	83
Table: Adding an Event - Parameters	85
Table: Obtaining Time and Attendance Events - Parameters	87
Table: Obtaining Time and Attendance Events - Response Fields	87
Table: Obtaining Time and Attendance Events by Date - Parameters	90
Table: Obtaining Time and Attendance Events by Date - Response Fields	90
Table: Obtaining Access Control Events - Parameters	93
Table: Obtaining Access Control Events - Response Fields	93
Table: Obtaining Access Control Events by Date - Parameters	96
Table: Obtaining Access Control Events by Date - Response Fields	96
Table: Obtaining Door/Alarm/System Events - Parameters	99
Table: Obtaining Door/Alarm/System Events - Response Fields	99
Table: List of Events	100
Table: Sending Commands to Device - Parameters	103
Table: User Count on Device - Parameters	106

Welcome to the *COSEC Web API User Guide*. This document will provide you a comprehensive overview and complete user-guidance for *COSEC Web APIs*. You can learn more about COSEC Web APIs, browse through detailed descriptions of individual APIs and test them using sample scenarios.

Document Conventions

This API User Guide will follow a set of document conventions to make it consistent and easier for you to read. These are as follows:

1. Cross-references and other links will appear as follows: [Document Conventions](#)

For e.g. To learn more about APIs, please refer to section [API Overview](#) (or, [See “API Overview” on page 3.](#)).

2. The term *device* used in this document, will refer to all COSEC Panels and COSEC Door Controllers.
3. Some abbreviations/acronyms/condensed forms commonly used in the document are expanded as follows:
 - ESS: Employee Self Service
 - HTTP: Hypertext Transfer Protocol
 - URL: Uniform Resource Locator
 - XML: Extensible Markup Language
 - JSON: JavaScript Object Notation
 - IMEI: International Mobile Equipment Identity
 - FTP: File Transfer Protocol
 - T&A: Time and Attendance
 - C-OFF: Compensatory Off
4. Text within angle brackets (e.g. “<request-type>”) denotes content in URL syntax and should be replaced with either a value or a string. The angle brackets should be omitted in all instances except those used to denote “tags” within XML responses (e.g. “<name></name>”).
5. Arguments in a request URL, along with their corresponding values, will be separated by a ‘semi-colon’ (‘;’) from other arguments. “?” *will be allowed as a separator between the request-type and an argument.* Special characters (&, ‘, “, <, > and ;) will not be allowed for any arguments and its value.
6. Additional information about any section appears in the form of notices. The following symbols have been used for notices to draw your attention to important items.



Important: to indicate something that requires your special attention or to remind you of something you might need to do when you are using the system.



Caution: to indicate an action or condition that is likely to result in malfunction or damage to the system or your property.



Warning: to indicate a hazard or an action that will cause damage to the system and or cause bodily harm to the user.



Tip: to indicate a helpful hint giving you an alternative way to operate the system or carry out a procedure, or use a feature more efficiently.

Document Organization

Chapters 1 and 2 will provide a general understanding of COSEC APIs and the basic interface communication. Chapters 3 to 13 provide a chapter-wise discussion of API groups with detailed explanation of individual APIs. The following information has been provided on each request type:

- Description of the functionality.
- Actions used.
- Generic query syntax.
- Mandatory and optional parameters (argument-value table).
- Fields returned in response ("Response Fields". Wherever applicable).
- Additional reference (if any).
- Examples (*Sample Request* and *Sample Response*).

Chapter 14 provides a description of API error responses.

For license requirement information, refer ["Supported APIs" on page 12](#).

Who Can Use this Document

The COSEC Web API User Guide is meant for *third-party software developers* who wish to integrate the COSEC Web application with another remote application. This guide will provide information to users on how to request and receive services from the COSEC Web server via HTTP API.

COSEC enables third party developers to access some of its important functionality via APIs. Integrate your application with COSEC and remotely execute functions such as retrieval of device, user and attendance data, sending and updating configurations on the COSEC database, applying and approving applications, leave management, cafeteria management and so on.

How It Works

A COSEC Web API is an interface that interacts with client applications, enabling them to *invoke or push data* from and to the COSEC database, using the COSEC Web server. This can be processed by sending a simple *HTTP request* to the COSEC server. The server then returns an appropriate response which the remote application can subsequently process on its own, without the need to launch the COSEC Web application.

Consider an example where an organization (say, *ABC*) is using COSEC for time and attendance monitoring and management. However, *ABC* has its independent Payroll application which requires the input of monthly attendance data of all employees to process their salaries every month. In such a scenario, the application can be integrated with COSEC via HTTP to raise a request for the relevant employee records in a specific format.

Thus, COSEC APIs are communicative interfaces that provide effective backend support, making integration possible from any corner of the world. This also cuts down on an organization's needs to invest both time and resources in manual data-handling and data errors, promoting speed, precision and efficiency in resource management.

General Features

All COSEC APIs -

- Are Web-based *HTTP* APIs.
- Use basic *HTTP Request-Response* for interface communication.
- Generate response in either *text* or *XML* format, as specified.
- Use a generic syntax for all queries.
- Support some predefined parameters and their corresponding values for each action. Each parameter will either be mandatory or bear a system-defined default value (when no value is specified).

- Use a mandatory parameter **action** universally, which takes simple HTTP actions (such as **GET**, **SET**, **DELETE** etc.) as values, and specifies the action to be requested.

What the User Should Know

It is assumed that developers using this document have prior knowledge of:

- Basic functioning of the COSEC system
- Basic HTTP request-response communication
- XML

Prerequisite

In order to use a COSEC API, the user will require:

- The COSEC software application (pre-installed).
- The location for COSEC Web server (pre-installed).
- A network enabled for accessing the COSEC Web server.
- API access enabled on the COSEC Web server.



To learn about system requirements, please refer to the COSEC Manual in your software installation kit.

Enabling API Access

COSEC APIs are applicable to any COSEC System Account user enabled for API access. The COSEC server will require Basic Authentication using the System Account user's login credentials (Username and Password).



To know how to enable API access for a user, please refer to the COSEC Manual in your software installation kit.

HTTP Request-Response

Basic HTTP communication is based on a request-response paradigm. The message structure for both request and response has a generic format.

HTTP-message = Request Response ; HTTP/1.1 messages	
Generic-message = start-line	<i>The start line</i>
*(message-header CRLF)	<i>Zero or more header fields or 'headers'</i>
CRLF	<i>An empty line</i>
[Message-body]	<i>A message-body (chunk or payload)</i>
Start-line = Request-Line Status-Line	

Communication Flow

The communication takes place in the following manner:

1. The client checks availability of the Web Application server.
2. If available, the client issues a request for the server.

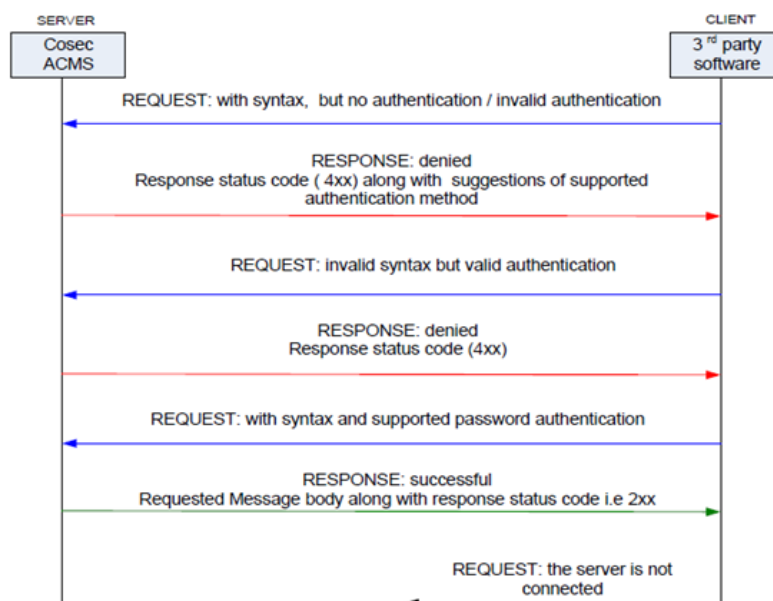


Fig: communication flow

3. The server parses the request for the action to be taken. For e.g. for the **action=get** method, the server fetches specified data from the COSEC database.
4. In case of an error (*invalid syntax, invalid authentication* etc.), the request is denied and an error response is returned. Else, the requested data is returned as a response.

Request Format

All HTTP Requests follow a generic message format. It consists of the following components:

1.	Request Line	<p>This line is constituted by the following three elements which must be separated by a space:</p> <ul style="list-style-type: none">• The method type (GET, HEAD, POST, PUT etc.)• The requested URL• The HTTP version to use <p>For e.g.:</p> <p>GET http://matrixserver/api.svc/device?action=get HTTP/1.0</p>
2.	Header Fields	<p>Add information about the request using these header fields:</p> <ul style="list-style-type: none">• A General Header (<Header-name>:<value>).• A Request Header (<Header-name>:<value>).• An Entity Header (<Header-name>:<value>).
3	Empty Line	This is an empty line separating headers from the message body.
4	Message Body	This is the chunk or payload.

Example:

```
GET http://matrix.com/ HTTP/1.0
Accept: text/html
If-Modified-Since: Saturday, 15-January-2000 14:37:11 GMT
User-Agent: Mozilla/4.0 (compatible; MSIE 5.0; Windows 95)
```

Response Format

An HTTP response is a collection of lines sent by the server to the client. A generic HTTP response format will resemble the following:

```
VERSION-HTTP CODE EXPLANATION<crLf>
HEADER: Value<crLf>
.
.
.
HEADER: Value<crLf>
Empty line<crLf>
BODY OF THE RESPONSE
```

It consists of the following components:

1.	A status line	This line is constituted by the following three elements which must be separated by a space: <ul style="list-style-type: none">• The version of the protocol used (e.g. <i>HTTP/1.0</i>).• The status code (indicates the status of the request being processed).• The explanation of the code.
2.	The response header fields	These optional lines allow additional information to be added to the response header. This information appears in the form of a name indicating the header type followed by a value for the header type. The name and value are separated by a colon (:).
3.	The body of the response	Contains the requested data.

Example

When the server gets a request, it will respond with a standard HTTP status code as illustrated in the following sample response:

```
HTTP/1.0 200 OK
Date: Sat, 15 Jan 2000 14:37:12 GMT
Server: Microsoft-IIS/2.0
Content-Type: text/HTML
Content-Length: 1245
Last-Modified: Fri, 14 Jan 2000 08:25:13 GMT
```



HTTP Status Codes: Status codes are 3-digit numeric codes returned in HTTP responses that enable recipients to understand the successful or failed status of the request issued. In general, codes in the 1xx range indicate an informational message only, 2xx codes indicate a successful request, 3xx codes indicate an incomplete request that requires further action, 4xx codes point at client-side errors while 5xx codes point at server-side errors.

URL Syntax

All COSEC APIs follow a common HTTP query syntax for the third party to generate a request. The generic URL is stated below.

Syntax

```
http://<servername>/api.svc/<request-type>?action=<value>;<argument>=<value>...
```

Take a close look at the URL and its basic elements:

Table: URL Structure

URL element	Description
http://	This is the protocol used to communicate with the client. Note: All HTTP commands are in plain text, and almost all HTTP requests are sent using TCP port 80, though any port can be used.
<servername>	This describes the server location where the COSEC Web is installed. It could be an IP address or a domain name. For eg. let's say the IP address for COSEC Web is 192.168.1.1 /cosec. Then a generic HTTP query would look like: http://192.168.1.1/cosec/api.svc/... Note: This document commonly uses the domain name " matrixserver " for all its examples.
api.svc	This is a mandatory entity required to invoke the API service.
<request-type>	This specifies the type of API request. For the mandatory request types, please refer to the individual API descriptions.
<argument>	This defines a specific action or command depending on the function to be performed. A request can support multiple arguments. A mandatory argument for all COSEC API functions is action . This argument always takes an HTTP action as its value (For eg. action=get).
<value>	These are argument values that determine the response. Requests may allow single or multiple ('comma' separated) values for an argument, depending on the API called.

Example

Let us assume that the COSEC Web has been installed on a location named "**matrixserver**". The user wants to retrieve a list of all panel devices defined on the COSEC database. In this case, a sample request would resemble the following:

Sample Request:

```
http://matrixserver/api.svc/device?action=get;type=panel
```

Sample Response:

```
id|name|siteid  
p_1|Panel-1|  
<EOT>
```

In this case, the query uses an ***action=get*** argument which is commonly used to retrieve information from a server. This action takes an argument ***type*** which in this case, defines the device type (“panel”) and takes the value ***panel***.

Specifying the Format

The response for COSEC API can be returned in one of the following formats:

- Text
- XML

The expected response format can be specified using a common argument: ***format***. When no format is specified, the response is returned in ***text*** format, by default.

Example

Following are some sample cases for the ***format*** argument.

Sample Request:

To get response in text,

```
http://matrixserver/api.svc/device?action=get;type=door
```

Sample Response:

```
id|name|siteid  
d_1|direct door|1  
d_3|NGT Door|1  
d_6|5453|1  
d_2|NGTDoor1|1  
<EOT>
```

Sample Request:

To get response in XML,

```
http://matrixserver/api.svc/device?action=get;type=door
```


Sample Response:

```
- <DocumentElement>
- <device>
  <id>p_4</id>
  <name>Factory Panel</name>
  <siteid />
</device>
- <device>
  <id>p_3</id>
  <name>HO Panel Lite</name>
  <siteid />
</device>
- <device>
  <id>p_6</id>
  <name>vega panel lite</name>
  <siteid />
</device>
- <device>
  <id>p_7</id>
  <name>vega panel lite</name>
  <siteid />
</device>
</DocumentElement>
```



For the text format, response data would be displayed as follows:

- Each field in the event or data output shall be separated by a “pipe”(|).
- Each event or data line should be completed with a “carriage return - line feed”(CRLF).
- The message body should end with <EOT> indicating ‘end of transmission’.

Getting a List of Supported Fields

The COSEC system supports “**schema**” to get a list of all fields supported by an API for a specific action in a specified format.

Syntax

```
http://<servername>/api.svc/schema/<request-type>?<argument>=<value>;<argument>=<value>...
```

The valid arguments for this request are **action** and **format**.

Example

Sample Request:

```
http://matrixserver/api.svc/schema/user?action=get;format=xml
```

Sample Response:

```
- <DocumentElement>
- <schema-details>
  <id>user</id>
  <field>id</field>
  <type />
  <length />
  <decimal />
</schema-details>
- <schema-details>
  <id>user</id>
  <field>format</field>
  <type />
  <length />
  <decimal />
</schema-details>
</DocumentElement>
```

Additional Information

1. If an argument-value pair is mentioned multiple times in a request, the last value will be considered.

Example:

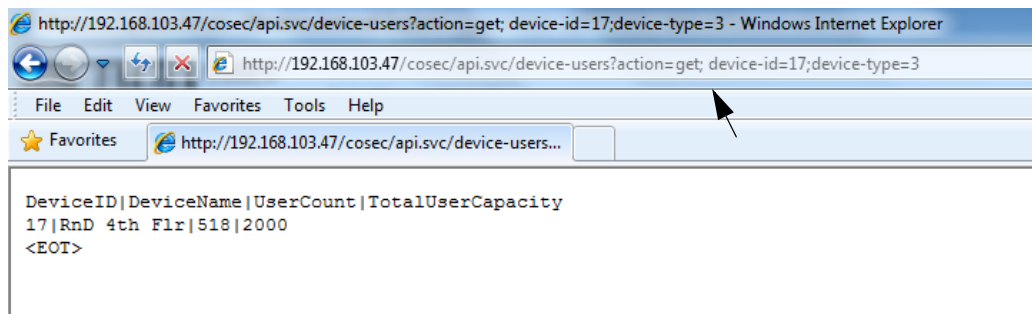
```
http://matrixserver/user?action=get;id=1234;id=5678;format=xml
```

In this case, **id = 5678** will be considered.

2. For all the API's the response for date parameters will be in the following format: mm/dd/yyyy HH:MM
3. Special characters (&, ' , " , < , > and ;) for any arguments and its value are not allowed.



COSEC APIs use basic authentication and can be tested on any standard Web browser. Enter the request URL in the address field of your browser and press the 'Enter' key to send query to the server. Enter the authentication credentials when prompted. The response will be displayed on your browser in the specified format.



Supported APIs

The remaining chapters in this User Guide shall list and describe all APIs supported by COSEC. These interfaces have been organized into chapters based on license requirements as well as functionality, for the convenience of understanding. The following table provides a quick reference list for all supported functions and their license requirement:

Table 1: Supported APIs

Function	<request-type>?	Request URL	License Requirement
Getting a Device List	device?	http://<servername>/api.svc/ device?action=get;<argument>=<value>...	Basic
Assigning Users to Devices	device?	http://<servername>/api.svc/ device?action=assign;<argument>=<value>...	Basic
Revoking Users from Device	device?	http://<servername>/api.svc/ device?action=revoke;<argument>=<value>...	Basic
Adding a New Device	device?	http://<servername>/api.svc/ device?action=set;<argument>=<value>...	Basic
Deleting a Device	device?	http://<servername>/api.svc/ device?action=delete;<argument>=<value>...	Basic
Obtaining Device Status	device?	http://<servername>/api.svc/ device?action=list;<argument>=<value>.....	Basic
Updating Device Configuration	device?	http://<servername>/api.svc/ device?action=update;<argument>=<value>... ..	Basic
Obtaining Data on Existing Sites	site?	http://<servername>/api.svc/ site?action=get;<argument>=<value>...	Basic
Accessing User Data	user?	http://<servername>/api.svc/ user?action=get;<argument>=<value>...	Basic
Adding/Editing a User	user?	http://<servername>/api.svc/ user?action=set;<argument>=<value>...	Basic
Adding User Photograph	user?	http://<servername>/api.svc/ user?action=setphoto;<argument>=<value>...	Basic
Deleting a User	user?	http://<servername>/api.svc/ user?action=delete;<argument>=<value>...	Basic
Enrolling a User	user?	http://<servername>/api.svc/ user?action=enroll;<argument>=<value>...	Basic
Setting Credentials on Device	user?	http://<servername>/api.svc/user?action=set- credential;<argument>=<value>...	Basic
Deleting Credentials from Device	user?	http://<servername>/api.svc/user?action=del- credential;<argument>=<value>...	Basic
Obtaining Enterprise Group Details	organization?, branch?, department?, designation?, category?, grade?, section?	http://<servername>/api.svc/<enterprise- group>?action=get;<argument>=<value>...	T&A or Roster
Obtaining List of Renamed Groups	group-rename-list?	http://<servername>/api.svc/group-rename- list?action=get	T&A or Roster
Getting Daily Attendance Details	attendance-daily?	http://<servername>/api.svc/attendance- daily?action=get;<argument>=<value>...	T&A

Table 1: Supported APIs

Function	<request-type>?	Request URL	License Requirement
Getting Monthly Attendance Details	attendance-monthly?	http://<servername>/api.svc/attendance-monthly?action=get;<argument>=<value>...	T&A
Obtaining List of Access Routes	accessroutemaster?	http://<servername>/api.svc/accessroutemaster?action=get;<argument>=<value>...	Access Control
Obtaining Access Route Details	accessroutedetails?	http://<servername>/api.svc/accessroutedetails?action=get;<argument>=<value>...	Access Control
Getting Export Template List	template-list?	http://<servername>/api.svc/template-list?action=get;<argument>=<value>...	Basic
Getting Export Template Details	template-details?	http://<servername>/api.svc/template-details?action=get;<argument>=<value>...	Basic
Getting Import Template List	import-template-list?	http://<servername>/api.svc/import-template-list?action=get;<argument>=<value>...	Basic
Getting Import template Details	import-template-details?	http://<servername>/api.svc/import-template-details?action=get;<argument>=<value>...	Basic
Getting Template Data	template-data?	http://<servername>/api.svc/template-data?action=get;<argument>=<value>...	Basic
Retrieving User Data	datatransfer?	http://<servername>/api.svc/datatransfer?action=get;<argument>=<value>.	Basic
Sending User Data	datatransfer?	http://<servername>/api.svc/datatransfer?action=set;<argument>=<value>.	Basic
Adding an Event	events?	http://<servername>/api.svc/events?action=set;<argument>=<value>...	Basic
Obtaining Time and Attendance Event Details	event-ta?	http://<servername>/api.svc/event-ta?action=get;<argument>=<value>...	T&A
Obtaining Time and Attendance Event Details (By Date)	event-ta-date?	http://<servername>/api.svc/event-ta-date?action=get;<argument>=<value>...	T&A
Obtaining Access Control Event Details	event-acs?	http://<servername>/api.svc/event-acs?action=get;<argument>=<value>...	Basic
Obtaining Access Control Event Details (By Date)	event-acs-date?	http://<servername>/api.svc/event-acs-date?action=get;<argument>=<value>...	Basic
Obtaining Door/Alarm/System Event Details	event-others?	http://<servername>/api.svc/event-others?action=get;<argument>=<value>...	Basic
Sending Commands to Device	device-commands?	http://<servername>/api.svc/device-commands?action=command;<argument>=<value>.....	Basic
Getting User Count on Devices	device-users?	http://<servername>/api.svc/device-users?action=get;<argument>=<value>.....	Basic

The *Devices* interface lets you access and modify device data on the COSEC server. The HTTP query syntax to access device data from the COSEC server is as follows:

Syntax

`http://<servername>/api.svc/device?action=<value>;<argument>=<value>...`

The *Devices API* allows you to perform the following functions:

- [Getting a Device List](#)
- [Assigning Users to Device](#)
- [Revoking Users from Device](#)
- [Adding a New Device](#)
- [Deleting a Device](#)
- [Obtaining Device Status](#)
- [Updating Device Configuration](#)

Getting a Device List

This COSEC API allows the user to obtain a list of available devices on the COSEC database. For instance, an organization may have 100 panels and 200 direct door devices enlisted via COSEC. The user can obtain a list of all the 300 devices or a list for an individual device type using this command.

Action

action=get

Syntax

```
http://<servername>/api.svc/device?action=get;<argument>=<value>...
```

Parameters

Table: Getting a Device List - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
type	all, door, panel, group, paneldoor	No	all	To specify type of device/devices whose list is to be fetched (only one value at a time).

Response Fields

Table: Getting a Device List - Response fields

Field Name	Tag Name	Valid Values	Remarks
Id	id	all, p_1 to p_999, d_1 to d_9999, g_1 to g_99999	Here, p means panel, d means direct doors and g means group, while, p_1 will stand for a panel device with ID = 1
Name	name	Max. 30 alphanumeric characters	This is the name of the device.
Site Id	site-id	1 to 999	This is the site identification number. Only for type= door and type=paneldoor

Example

This example presents a sample request and response case when accessing “**matrixserver**”, for obtaining a list of all available devices:

Sample Request:

```
http://matrixserver/api.svc/device?action=get
```

Sample Response:

```
id|name|siteid  
g_1|Device-1|  
g_2|dnext|  
g_3|d3|  
g_4|Research|  
p_1|Panel-1|  
d_1|direct door|1  
d_3|NGT Door|1  
d_6|5453|1  
d_2|NGTDoor1|1  
<EOT>
```



The sample response simply illustrates a particular instance of the expected output. The actual data for each field will differ from case to case.

Sample Request:

For type=door,

```
http://matrixserver/api.svc/device?action=get;type=door
```

Sample Response:

```
id|name|siteid  
d_1|direct door|1  
d_3|NGT Door|1  
d_6|5453|1  
d_2|NGTDoor1|1  
<EOT>
```

Assigning Users to Device

This function helps assign a user to all or specific *Panels*, *Direct Doors* or *Device Groups* pre-defined on the COSEC system.

Action

action=assign

Syntax

```
http://<servername>/api.svc/device?action=assign;<argument>=<value>...
```

Parameters

Table: Assigning Users to Device - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
device	all, p_1 to p_999, d_1 to d_9999, g_1 to g_99999	Yes	-	To specify the device with the device type and device ID. Here, p means panel, d means direct doors and g means group, while, p_1 will stand for a panel device with ID = 1
id	Max 10 Alphanumeric Characters	Yes	-	To specify the User ID.

Multiple devices (either panels or doors) of the same type can be specified, each value separated by a 'comma' (For eg. **device=p_1,p_2,p_3,p_4,d_1,d_2,d_3,d_4,...**). User can also define a range of devices (eg. **device=p_1-p_50**). However, only a single group can be assigned to a user. The same should also be applicable for **id** values.

Example

Following are some sample cases for this function.

Sample Request:

Assigning multiple group values to the **device** argument. Invalid request.

```
http://matrixserver/api.svc/device?action=assign;device=g_1,g_2
```

Sample Response:

```
failed: Invalid command : device=g_1,g_2 only single group against a user
```


Sample Request:

To assign user to all devices.

```
http://matrixserver/api.svc/device?action=assign
```

Sample Response:

```
success: successful
```

Sample Request:

For "device=p_1", "id=1",

```
http://matrixserver/api.svc/device?action=assign;device=p_1;id=1
```

Sample Response:

```
success: successful
```

Sample Request:

For user to be assigned to "p_1", "d_1" and "g_1",

```
http://matrixserver/api.svc/device?action=assign;device=p_1,d_1,g_1
```

Sample Response:

```
success: successful
```

Revoking Users from Device

The purpose of this function is to revoke a user from all or specific devices defined on the COSEC system. This can be performed for a *single device* type, *multiple device* types or for a *specific device group*.



Only a single group will be allowed to be revoked from a user at a time.

Action

action=revoke

Syntax

```
http://<servername>/api.svc/device?action=revoke;<argument>=<value>...
```

Parameters

Same as [Table: Assigning Users to Device - Parameters](#).

Example

This example presents a sample request and response when accessing “*matrixserver*”.

Sample Request:

For revoking all devices.

```
http://matrixserver/api.svc/device?action=revoke
```

Sample Response:

```
success: successful
```

Sample Request:

For “device=p_1”, “id=1”.

```
http://matrixserver/api.svc/device?action=revoke;device=p_1;id=1
```

Sample Response :

```
success: successful
```

Sample Request:

For “device=p_1,d_1,g_1”.

```
http://matrixserver/api.svc/device?action=revoke;device=p_1,d_1,g_1
```

Sample Response :

```
success: successful
```

Adding a New Device

This function enables you to define a new biometric device on the COSEC database and set certain configurations depending on the device type. The device can be assigned to a specified device group and site and configured based on site requirements.

Action

action=set

Syntax

```
http://<servername>/api.svc/device?action=set;<argument>=<value>...
```

Parameters

Table: Adding a New Device - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
device-type	0,1,2,3,4,5,6,7,8,9	Yes	-	This is the type of device, which user wants to add. Here, 0 = Panel, 1 = Direct Door V1, 2 = Panel Lite 3 = Direct Door V2, 4 = NGT Direct Door, 5 = Wireless Direct Door 6 = Path Controller 7 = PVR Direct Door 8 = Vega Panel-Lite 9 = Vega Controller
device-id	1 to 65000	Yes	-	This is the device identification number of the device type (MID).
name	Maximum 30 characters	Yes	-	This is the name of the device.
mac	Maximum 17 characters (each byte separated by ":")	Yes	-	This is the MAC Address of the device. E.g. - "01:23:4567:89:ab"
device-group	Maximum 30 characters	No	-	This is the name of the device group to which the device is to be added.
active	0 = active 1 = inactive	No	1 (active)	The enabled/disabled status of the device.
site	1 to 999	No	If not specified then the default site will be internally configured against the device being added.	This will define the site ID of the direct doors and panel door.

Table: Adding a New Device - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
application	0 = Basic Access Control 1 = Advanced Access Control	No	0 (Basic Access Control)	This field is only applicable to direct doors. This field will define the application/use of the device. (this feature enables the advanced access control features on device).
access-mode	0= card 1= finger 2= card & PIN 3= finger & PIN 4= card & finger 5= card & finger & PIN 6= Any 7= palm 8= palm & PIN 9= card & palm 10= card & PIN & palm 11= palm & group 12= finger then card 13= palm then card	No	6 (Any)	This field is applicable to direct doors only Note: Options 0,1,2,3,4,5,6 and 12 are applicable only to device with finger print reader. Options 0,2,6,7,8,9,10 and 11 are applicable for devices with Palm Vein Reader. For Path Controllers, modes 2, 3, and 5 are not applicable.
consider-for-attendance	0 - disabled 1 - enabled	No	1 (enabled)	This parameter will toggle the feature of considering the event originating from the respective device for attendance calculation/ process.
ir-mode	0=entry 1=exit	No	0 (entry)	This will set the Internal Reader IO type (entry or exit).
card-reader-type	0= none 1= emprox reader 2= hidprox reader 3= mifare reader 4= hid iclass u-reader 5= hid iclass w-reader	No	1 (emprox reader)	This is the internal card reader type.
finger-reader-type	0=none 1= finger reader 2=palm reader	No	1 (If device type is PVR, the default value will be 2)	This will identify the finger/palm reader type as an internal reader. Note: Palm Reader is applicable for PVR Doors only.
er-mode	0= entry 1= exit	No	1 (exit)	This is the external reader mode.
er-type	0= none 1= em prox reader 2= hid prox reader 3= mifare reader 4=hid iclass u reader 5= finger reader 6= hid icalss w-reader 8= uhf reader 9= combo exit reader 10= mifare w reader	No	0 (none)	This will determine the external reader IO type. For device type=1 (direct door V1), er-types (8,9,10) are not applicable. er-type=5 is not applicable to PVR door type.
exit-switch	0= enable 1= disable	No	1 (disable)	This parameter will be used to enable/disable the exit switch for the door.



To update device configurations for the above parameters, See [“Updating Device Configuration” on page 26.](#)

Example

The following is an example of a successful request sent to “*matrixserver*” with the following values:

- ***device-type=0***
- ***device-id=1***
- ***name=panel***
- ***mac=00:01:23:45:67:89***
- ***device-group=Research***

Sample Request:

```
http://matrixserver/api.svc/device?action=set;device-type=0;device-id=1;name=panel;mac=00:01:23:45:67:89;device-group=Research
```

Sample Response:

```
success: successful
```

Deleting a Device

This *Devices* function allows you to delete a biometric device from the COSEC database. Specify the device type and device ID to send a 'delete' command.

Action

action=delete

Syntax

```
http://<servername>/api.svc/device?action=delete;<argument>=<value>...
```



This process is irreversible. Please proceed with caution.

Parameters

Table: Deleting a Device - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
device-type	0,1,2,3,4,5,6,7,8,9	Yes	-	This is the type of device, which user wants to delete. Here, 0 = Panel, 1 = Direct Door V1, 2 = Panel Lite 3 = Direct Door V2, 4 = NGT Direct Door, 5 = Wireless Direct Door 6 = Path Controller 7 = PVR Direct Door 8 = Vega Panel-Lite 9 = Vega Controller
device-id	1-9999	Yes	-	To specify the device identification number.

Example

The following example illustrates how to delete a direct door device with a device identification number **1**:

Sample Request:

```
http://matrixserver/api.svc/device?action=delete;device-type=1;device-id=1
```

Sample Response:

```
success: successful
```

Obtaining Device Status

This function enables the user to obtain the connection status of devices. The user can obtain a list of devices from the COSEC server based on the device status. The device status can be either 'connected' or 'disconnected'.

Action

action=list

Syntax

```
http://<servername>/api.svc/device?action=list;<argument>=<value>.....
```

Parameters

Table: Obtaining Device Status - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
status	all, connected, disconnected	No	all	To specify the devices to be listed on the basis of their status.

Example

The following are some sample cases of requests sent to “*matrixserver*”:

Sample Request:

To obtain a list of all connected devices (“status=connected”).

```
http://matrixserver/api.svc/device?action=list;status=connected
```

Sample Response:

```
success: No records found
```

Sample Request:

When “status=all”,

```
http://matrixserver/api.svc/device?action=list;status=all
```

Sample Response:

```
device-type|device-id|name|active|ip|mac|status|connect-time|disconnect-time
0|1|Panel-1|1||00:4f:4e:67:89:08|disconnected||10/3/2013 9:00:19 AM
1|1|door|1|192.168.103.50|00:01:23:45:67:89|disconnected|10/3/2011 10:19:55 AM|10/3/2013 9:00:19 AM
4|2|NGTDoor1|1||00:3f:4e:67:89:08|disconnected||10/3/2013 9:00:19 AM
3|3|NGT Door|1||00:1b:09:90:76:00|disconnected||10/3/2013 9:00:19 AM
3|6|5453|1||00:1b:09:90:76:06|disconnected||10/3/2013 9:00:19 AM
<EOT>
```


Updating Device Configuration

Specify a device ID and device type and edit the configuration for this device as saved on the COSEC database. Parameters that can be updated are specified in the argument-value table below.

Action

action=update



This method is not applicable for Panel Doors.

Syntax

```
http://<servername>/api.svc/device?action=update;<argument>=<value>.....
```

Parameters

Same as [Table: Adding a New Device - Parameters](#).



The Login User must have rights on the device which is to be updated.

Example

The following are some sample cases of requests sent to “matrixserver”:

Sample Request:

To update a *Direct Door V2* named “RndBasementV2”.

```
http://matrixserver/api.svc/device?action=update;device-id=11;device-type=3;name=RndBasementV2
```

Sample Response:

```
success: successful
```

Sample Request:

When the specified MAC address is already associated with another device. Failed Request.

```
http://matrixserver/api.svc/device?action=update;device-id=33;device-type=9;mac=23:56:66:33:33:23;device-group=Rnd
```

Sample Response:

```
failed: Mac is already associated with another device.
```

A *Site* is a work area or unit defined on the COSEC system to which one or more COSEC devices are assigned. A site can be defined by an administrator based on requirements. For e.g.: The organization *ABC* could have multiple sites defined, such as *ABCheadoffice*, *ABCfactory*, *ABCwarehouse* and so on. This COSEC API allows users to access data of specific sites using COSEC. The http query to access site data from the COSEC server should resemble the following syntax:

Syntax

`http://<servername>/api.svc/site?action=<value>;<argument>=<value>...`

The *Sites* APIs allow you to perform the following functions:

- [Obtaining Data on Existing Sites](#)

Obtaining Data on Existing Sites

This function allows the user to access data about existing sites. This includes the Site ID, Site Name and a Default site.

Action

action=get

Syntax

```
http://<servername>/api.svc/site?action=get;<argument>=<value>...
```

Response Fields

Table: Obtaining Data on Existing Sites - Response Fields

Field Name	Tag Name	Valid Values	Remarks
Site ID	Id	1 - 999	The Site ID
Site Name	Name	Max 30 alphanumeric character	The Site Name
Default	Default	1 : default site 0 : not a default site	This indicate whether the specified site is a default site or not.

Example

Sample Request:

With default values,

```
http://matrixserver/api.svc/site?action=get
```

Sample Response:

```
Id|Name|Default  
1|Site-1|1  
2|h|0  
<EOT>
```

Sample Request:

Syntax with valid action but no record available,

```
http://matrixserver/api.svc/site?action=get
```

Sample Response:

```
success: No records found
```

This API allows the access and modification of user data from the COSEC database. The *Users APIs* allows you to perform the following functions:

- [Accessing User Data](#)
- [Adding/Editing a User](#)
- [Adding User Photograph](#)
- [Deleting a User](#)
- [Enrolling a User](#)
- [Setting Credentials on Device](#)
- [Deleting Credentials from Device](#)

Accessing User Data

This function allows you to retrieve specific data for a single user or multiple users. For instance, this method can be used to retrieve an employee's name, date-of-birth, joining date, blood-group, Passport Number etc.

Action

action=get

Syntax

```
http://<servername>/api.svc/user?action=get;<argument>=<value>...
```

Parameters

Table: Accessing User Data - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
id	Max 10 alphanumeric characters	No	all	This is the user id. Note: Multiple IDs can be selected, each separated by a 'comma'. e.g.:"1, 3, 7, 9..." Note: If id is not mentioned, data for all the users will be returned.

Response Fields

Table: Accessing User Data - Response Fields

Field Name	Tag Name	Valid Values	Remarks
Id	id	max 10 characters	Allowed Characters A-Z a-z 0-9 /_\.\@:
Reference Code	reference-code	1 to 99999999 (max 8 digits)	-
User Name	name	max 45 alphanumeric characters	Allowed Characters A-Z a-z 0-9 - _ () []
Short Name	short-name	max 15 alphanumeric characters	-
Active	active	1 : Active 0 : Inactive	-
Module	module	U- T&A User R- Roster User	-
Date of Birth	date-of-birth	ddmmyyyy	-
Joining Date	joining-date	ddmmyyyy	-
Confirmation Date	confirmation-date	ddmmyyyy	-
Leaving Date	leaving-date	ddmmyyyy	-

Table: Accessing User Data - Response Fields

Field Name	Tag Name	Valid Values	Remarks
Reason For Leaving	reason-for-leaving	max 15 alphanumeric characters	-
PF No.	pf-no	max 30 alphanumeric characters	-
Driving License	driving-license	max 30 alphanumeric characters	-
PAN No.	pan	max 30 alphanumeric characters	-
ESI No.	esi-no	max 30 alphanumeric characters	-
Passport No.	passport-no	max 30 alphanumeric characters	-
Visa No.	visa-no	max 12 alphanumeric characters	-
Visa Expiry Date	visa-expiry	ddmmyyyy	-
Integration Reference	integration-reference	max 20 alphanumeric characters	-
Height	height	0 - 999	-
Weight	weight	0 - 999	-
Gender	gender	na male female	-
Blood Group	blood-group	na,a+,a-,b+,b-,ab+,ab-,o+,o- ,A1-,A1+,A1B-,A1B+,A2- ,A2+,A2B-,A2B+,B1+	-
Marital Status	marital-status	married unmarried na	-
Nationality	nationality	max 20 alphanumeric characters	-
Father/Spouse Name	father-spouse-name	max 30 alphanumeric characters	-
Qualification	qualification	max 50 alphanumeric characters	-
Experience	experience	max 50 alphanumeric characters	-
Medical History	medical-history	max 50 alphanumeric characters	-
Local Address1	local-address1	max 30 alphanumeric characters	-
Local Address2	local-address2	max 30 alphanumeric characters	-
Local Street	local-street	max 30 alphanumeric characters	-
Local City	local-city	max 30 alphanumeric characters	-
Local Pin code	local-pincode	max 10 alphanumeric characters	-
Local State	local-state	max 40 alphanumeric characters	-
Local Country	local-country	max 20 alphanumeric characters	-
Permanent Address1	permanent-address1	max 30 alphanumeric characters	-
Permanent Address2	permanent-address2	max 30 alphanumeric characters	-
Permanent Street	permanent-street	max 20 alphanumeric characters	-
Permanent City	permanent-city	max 30 alphanumeric characters	-
Permanent Pin Code	permanent-pincode	max 20 alphanumeric characters	-
Permanent State	permanent-state	max 40 alphanumeric characters	-
Permanent Country	permanent-country	max 20 alphanumeric characters	-

Table: Accessing User Data - Response Fields

Field Name	Tag Name	Valid Values	Remarks
Personal Phone	personal-phone	max 30 numeric characters or -	-
Personal Cell	personal-cell	max 20 numeric characters or -	-
Personal E-mail	personal-email	max 100 alphanumeric characters	-
Official Phone	official-phone	max 30 numeric characters or -	-
Official Extension	official-extension	max 4 numeric characters	-
Official Cell	official-cell	max 20 numeric characters or -	-
Official E-mail	official-email	max 100 alphanumeric characters	-
Organization ID	organization	1 - 999999	-
Branch ID	branch	1 - 999999	-
Department ID	department	1 - 999999	-
Section ID	section	1 - 999999	-
Category ID	category	1 - 999999	-
Grade ID	grade	1 - 999999	-
Designation ID	designation	1 - 999999	-
Reporting In-Charge	reporting-incharge	1 - 999	-
ESS Login	ess-login	1 : enabled 0 : disabled	-
ESS Detail Edit	ess-detail-edit	1 : editing allowed 0 : editing not allowed	-
Attendance via ESS	attendance-via-ess	1 : enabled 0 : disabled	-
Active Directory Login	active-directory-login	1 : enabled 0 : disabled	-
Active Directory Username	active-directory-username	max 128 alphanumeric characters	-
Active Directory Domain	active-directory-domain	max 128 alphanumeric characters	-
Attendance Calculation	attendance-calc	1 : enabled 0 : disabled	-
Max Personal hours	max-personal-hrs	0 - 99	-
Bus Route	bus-route	0 - 999	-
Bypass Fingerprint/Palm	bypass-finpalm	1 – enable bypass 0 – disable bypass	-
Employment Profile	employment-contract	max 4 alphanumeric characters	-
Employment Type	employment-type	max 4 alphanumeric characters	-
Award and Penalty	award-penalty	max 4 alphanumeric characters	-
Work Profile	work-profile	max 4 alphanumeric characters	-
Roster Policy	roster-policy	max 4 alphanumeric characters	-
Attendance Policy (Roster)	roster-attendance-policy	max 4 alphanumeric characters	-
Hour Exception	hour-exception	max 4 alphanumeric characters	-
Attendance Policy (T&A)	attendance-policy	1-99	-

Table: Accessing User Data - Response Fields

Field Name	Tag Name	Valid Values	Remarks
Late-In Policy	lateIn-policy	1-99	-
Early Out policy	earlyOut-policy	1-99	-
Overtime Policy	overtime-policy	1-99	-
Absentee Policy	absentee-policy	1-99	-
C-Off Policy	coff-policy	1-99	-
PIN	pin	1-999999	-
Card-1	card-1	max 20 numeric characters	-
Card-2	card-2	max 20 numeric characters	-
Access Validity Date	access-validity-date	ddmmyyyy format	-
Access Level	access-level	1 - 15	-
Bypass Finger	bypass-finger	1 – enable bypass 0 – disable bypass	-
Bypass Palm	bypass-palm	1 – enable bypass 0 – disable bypass	-
Shift based access	shiftbased-access	1 – access allowed 0 – access denied	-
Shift Schedule	shift-schedule	1- 99	-
Start Shift	start-shift	max 2 numeric characters	-
Holiday Schedule	holiday-schedule	1 - 99	-
Device Group	device-group	max 30 numeric characters	-
Smart access route	smart-access-route	1 - 99	-
Max route level	max-route-level	1 - 75	-
Allow e-Canteen	allow-ecanteen	1 - allowed 0 – not allowed	-
Discount Level	discount-level	0 to 4	-
Account Type	account-type	1 - postpaid 0 - prepaid	-
Max Allowed Limit	max-allowed-limit	0.0 to 9999999.9	-
Max Usage Limit	max-usage-limit	0.0 to 9999999.9	-
Organization Code	organization_code	max 6 alphanumeric characters	-
Branch Code	branch_code	max 6 alphanumeric characters	-
Department Code	department_code	max 6 alphanumeric characters	-
Category Code	category_code	max 6 alphanumeric characters	-
Grade Code	grade_code	max 6 alphanumeric characters	-
Designation Code	designation_code	max 6 alphanumeric characters	-
Section Code	section_code	max 6 alphanumeric characters	-
Leave Group ID	leave_group	1-99	-

Adding/Editing a User

This API will allow you to define a new user, as well as add/edit specific data for an existing user on the COSEC database (only single user at a time). For instance, this process can be used to add information such as an employee's name, date-of-birth, joining date, blood-group, Passport Number etc.

Action

action=set



If the **action=set** request is sent for an existing user, the new values sent will overwrite the existing values, if any.

Syntax

```
http://<servername>/api.svc/user?action=set;<argument>=<value>...
```

Parameters

Table: Adding/Editing a User - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
id	Max 10 Alphanumeric Characters	Yes	-	This is the User Id. For ESS User, the User ID should be same as Login User's ID
reference-code	1 to 99999999	No	Max stored ref code+1	This is the unique Reference code for every User.
name	Max 45 Alphanumeric Characters	Yes	-	This is the User Name. Allowed Characters A-Z a-z 0-9 _ . ()
short-name	Max 15 Alphanumeric Characters	No	First 15 characters of name	This is the short name of User. Allowed Characters A-Z a-z 0-9 _ . ()
active	0 or 1	No	1	This is a field that shows whether user is active or not. It has two values 0 and 1 for inactive and active respectively.
module	U or R	Yes	Depending upon License	This value specifies the user type. U- T&A User R- Roster User

Table: Adding/Editing a User - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
date-of-birth	ddmmyyyy format	No	-	This is the date of birth of the user. Note: - date-of-birth shall be lower than joining-date.
joining-date	ddmmyyyy format	Y (if confirmation-date or leaving-date to be configured)	-	This is the joining date of the user. Note: - joining-date should be higher than date-of-birth.
confirmation-date	ddmmyyyy format	No	-	This is the confirmation date of the user. Note: - confirmation-date shall not be lower than joining-date.
leaving-date	ddmmyyyy format	Yes (if reason for leaving to be configured)	-	This is the date of leaving of the user. Note: - leaving-date shall not be lower than joining-date.
reason-for-leaving	Max 15 Alphanumeric Characters	No	-	This is the reason of leaving an organization.
pf-no	Max 30 Alphanumeric Characters	No	-	This is the PF Number of the user.
driving-license	Max 30 Alphanumeric Characters	No	-	This is the driving license of the user.
pan	Max 30 Alphanumeric Characters	No	-	This is the PAN of the user.
esi-no	Max 30 Alphanumeric Characters	No	-	This is the ESI Number of the
passport-no	Max 30 Alphanumeric Characters	No	-	This is the Passport Number of the user.
visa-no	Max 12 Alphanumeric Characters	Yes (If visa-expiry date to be configured)	-	This is the IQAMA number of the user.
visa-expiry	ddmmyyyy format	No	-	This is the date of expiry of the IQAMA or visa.
integration-reference	Max 20 Alphanumeric Characters	No	-	This is the integration reference for the user.
height	0 to 999	No	-	This is the height of the user in the centimeter.
weight	0 to 999	No	-	This is the weight of the user in Kg.
gender	na, male,female	No	NA	This is the gender of the user.
blood-group	NA,A+,A-,B+,B-,AB+,AB-,o+,o-,A1-,A1+, A1B-,A1B+,A2-,A2+,A2B-,A2B+,B1+	No	NA	This is the blood group of the user.
marital-status	married,unmarried	No	Married	This is the marital status of the user.
nationality	Max 20 alphanumeric characters	No	-	This is the nationality of the user.

Table: Adding/Editing a User - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
father-spouse-name	Max 30 Alphanumeric Characters	No	-	This is the father or spouse name of the user.
qualification	Max 50 Alphanumeric Characters	No	-	This is the qualification of the user.
experience	max 50 alphanumeric characters	No	-	This is the work experience of the user.
medical-history	max 50 alphanumeric characters	No	-	This is the medical history of the user.
local-address1	max 30 alphanumeric characters	No	-	This is the local address 1 of the user.
local-address2	max 30 alphanumeric characters	No	-	This is the local address 2 of the user.
local-street	max 30 alphanumeric characters	No	-	This is the street for local address 1.
local-city	max 40 alphanumeric characters	No	-	This is the city for local address 1.
local-pincode	max 10 numeric characters	No	-	This is the local pin code for local address 1.
local-state	max 40 alphanumeric characters	No	-	This is the state for local address 1.
local-country	max 20 alphanumeric characters	No	-	This is the country for local address 1.
permanent-address1	max 30 alphanumeric characters	No	-	This is the permanent address 1 of the user.
permanent-address2	max 30 alphanumeric characters	No	-	This is the permanent address 2 of the user.
permanent-street	max 20 alphanumeric characters	No	-	This is the street for permanent address 1.
permanent-city	max 30 alphanumeric characters	No	-	This is the city for permanent address 1.
permanent-pincode	max 10 numeric characters	No	-	This is the local pin code for permanent address 1.
permanent-state	max 40 alphanumeric characters	No	-	This is the state for permanent address 1.
permanent-country	max 20 alphanumeric characters	No	-	This is the country for permanent address 1.
personal-phone	max 32 numeric characters or -	No	-	This is the personal phone number of the user.
personal-cell	max 30 numeric characters or -	No	-	This is the personal mobile number of the user.
personal-email	max 100 alphanumeric characters	No	-	This is the personal email address of the user.
official-phone	max 30 numeric characters or -	No	-	This is the official phone number of the user.
official-extension	max 10 numeric characters	No	-	This is the extension of the user.

Table: Adding/Editing a User - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
official-cell	max 30 numeric characters or -	No	-	This is the official mobile number of the user.
official-email	max 100 alphanumeric characters	No	-	This is the official email address of the user.
organization	1 to 999999	No	Default organization defined in Enterprise structure	This is the 'Organization' of the user.
branch	1 to 999999	No	Default branch defined in Enterprise structure	This is the 'Branch' of the user.
department	1 to 999999	No	Default department defined in Enterprise structure	This is the 'Department' of the user.
section	1 to 999999	No	Default section defined in Enterprise structure	This is the 'Section' of the user.
category	1 to 999999	No	Default category defined in Enterprise structure	This is the 'Category' of the user.
grade	1 to 999999	No	Default grade defined in Enterprise structure	This is the 'Grade' of the user.
designation	1 to 999	No	Default designation defined in Enterprise structure	This is the 'Designation' of the user.
reporting-incharge	1 to 999	No	-	This is the "Reporting-in-charge" of the user
ess-login	1 or 0	No	0	This field enables/disables the users ESS login.
ess-detail-edit	1 or 0	No	0	This field toggles the option for user to change/edit the user's basic details in ESS.
attendance-via-ess	1 or 0	No	0	This enables or disables the users attendance to be marked via ESS.
active-directory-login	1 or 0	No	0	This enables/disables the users ESS login via Active directory credentials.

Table: Adding/Editing a User - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
active-directory-username	max 128 alphanumeric characters	Yes (if active-directory-login to be configured)	-	This is the user's Active directory username. Note: The active directory username provided should not be repeated for any other user. Also the active directory username can be same as that user ID of the same user for which the active directory username is assigned and none other.
active-directory-domain	max 128 alphanumeric characters	Yes (if active-directory-login to be configured)	-	This is the domain name for the active directory login purpose
attendance-calc	1 or 0	No	1	This enables/disables the attendance calculation for the user.
max-personal-hrs	0 to 99	No	-	This configures the max number of hours the user can use as short leave.
bus-route	0 to 999	No	-	This is the bus route for the user. This is an optional field.
bypass-finpalm	1 or 0	No	0	This parameter enables/disables the option to bypass biometric credentials for attendance marking.
employment-profile	max 4 alphanumeric characters	No	Default Employment contract defined in Roster	This is the roster user's Employment contract.
employment-type	max 4 alphanumeric characters	No	Default Employment type defined in Roster	This is the roster user's Employment type.
award-penalty	max 4 alphanumeric characters	No	Default Award and Penalty defined in Roster	This is the award and penalty assigned to the roster user.
work-profile	max 4 alphanumeric characters	No	Default Work Profile defined in Roster	This is the work profile assigned to the roster user.
general-rules	max 4 alphanumeric characters	No	Default General Rules defined in Roster	This is the general rules assigned to the roster user.
policy	max 4 alphanumeric characters	No	Default Policy defined in Roster	This is the policy assigned to the roster user.
hour-exception	max 4 alphanumeric characters	No	-	This is the hour exception assigned to the roster user.
attendance-policy	1 to 99	No	Default Attendance Policy defined in Time & Attendance/ Policies	This is the 'Attendance policy' of the user.

Table: Adding/Editing a User - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
lateIn-policy	1 to 99	No	Default Late In Policy defined in Time & Attendance/ Policies	This is the 'Late-In policy' of the user.
earlyOut-policy	1 to 99	No	Default Early Out Policy defined in Time & Attendance/ Policies	This is the 'Early-out policy' of the user.
overtime-policy	1 to 99	No	Default Overtime Policy defined in Time & Attendance/ Policies	This is the 'Overtime policy' of the user.
absentee-policy	1 to 99	No	Default Absentee Policy defined in Time & Attendance/ Policies	This is the 'Absentee policy' of the user.
coff-policy	1 to 99	No	Default COFF Policy defined in Time & Attendance/ Policies	This is the 'COFF policy' of the user.
pin	1 to 999999	No	-	This is the access control system pin number of the user. Note: - Same pin will not be allowed against any two user IDs.
card-1	max 20 numeric characters	No	-	This is the card number 1 of the user, required for access control system. Note: - Same value of card-1 will not be allowed for any two user IDs.
card-2	max 20 numeric characters	No	-	This is the card number 2 of the user, required for access control system. Note: - Same value of card-2 will not be allowed for any two user IDs.
access-validity-date	ddmmyyyy format	No	-	This is the Access Validity date of the user. Setting this will automatically enable the 'Access Validity' feature for the user.
access-level	1 to 15	No	-	This is the access level assigned to user, used for access control features.
bypass-finger	1 or 0	No	0	This determines whether the user can bypass the finger credential for any access control feature/rule.
bypass-palm	1 or 0	No	0	This determines whether the user can bypass the palm credential for any access control feature/rule.

Table: Adding/Editing a User - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
shiftbased-access	1 or 0	No	0	This parameter determines the application of access restriction based on the shift assigned to the user from the shift schedule.
shift-schedule	1 to 99	No	First Shift Schedule	This field assigns the shift schedule to the user.
start-shift	max 2 alphanumeric characters	No	The selected schedule's first shift	The user should define the start shift for the selected shift schedule.
holiday-schedule	1 to 99	No	first holiday schedule	This field defines the users allowed holidays.
device-group	max 30 numeric characters	No	-	This is the name of the device group.
smart-access-route	1 to 99	No	-	This field assigns the access route to the user. (For Smartcard Users only)
max-route-level	1 to 75	No	75	This field assigns maximum level to which user can access the Smart Access Route.
allow-ecanteen	1 or 0	No	0	This determines whether the ecanteen features are allowed for the selected user or not. Note: Whether the Allowed for e-canteen option is true or false, user can change Account Type (his account should be settled) and Discount Level.
discount-level	0 to 4	No	0	This value defines the user applicable discount level for any canteen transactions.
account-type	1 or 0	No	0	This parameter determines the user's canteen account type. 0 – prepaid 1 - postpaid
max-allowed-limit	0.0 to 9999999.9	No	As specified in eCanteen/Account configuration	This defines the max allowed limit for the canteen user for a month.
max-usage-limit	0.0 to 9999999.9	No	As specified in eCanteen/Account configuration	This defines the max usage limit for the canteen user beyond which the user's canteen account will be blocked.
organization_code	max 6 alphanumeric characters	No	-	Organization ID and Organization Code cannot be specified together.
branch_code	max 6 alphanumeric characters	No	-	Branch ID and Branch Code cannot be specified together.
department_code	max 6 alphanumeric characters	No	-	Department ID and Department Code cannot be specified together.
category_code	max 6 alphanumeric characters	No	-	Category ID and Category Code cannot be specified together.
grade_code	max 6 alphanumeric characters	No	-	Grade ID and Grade Code cannot be specified together.
designation_code	max 6 alphanumeric characters	No	-	Designation ID and Designation Code cannot be specified together.

Table: Adding/Editing a User - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
section_code	max 6 alphanumeric characters	No	-	Section ID and Section Code cannot be specified together.
leave_group	2 Digits			To specify a leave group ID, for a leave group to be assigned to the user.

Example

The following examples illustrate sample requests for adding or editing users.

Sample Request:

To add a user named "Sam", whose user ID is "202" (activated for the *Time and Attendance* module license) -

```
http://matrixserver/api.svc/user?action=set;id=202;name=sam;module=U
```

Sample Response:

```
success: successful
```

Sample Request:

To add details such as date of birth, gender, nationality and blood group for the user Sam.

```
http://matrixserver/api.svc/user?action=set;id=202;date-of-birth=22061978;gender=male;nationality=indian;blood-group=b+
```

Sample Response:

```
success: successful
```

Sample Request:

To change the username for Sam to "Samuel Jackson".

```
http://matrixserver/api.svc/user?action=set;id=202;name=Samuel Jackson
```

Sample Response:

```
success: successful
```


Adding User Photograph

Update the user photograph in a user's configured profile on COSEC using this request.

Action

action=setphoto

Syntax

```
http://<servername>/api.svc/user?action=setphoto;<argument>=<value>...
```

Parameters

Table: Adding User Photograph - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
userid	Max 10 alphanumeric characters	Yes	-	This is the unique User Id.
Path	The path should include the image file also with file extension. Supported file types are: .jpg,.jpeg,.bmp,.png Also the file size should be <= 50 kb	Yes		This will be the network path of the image file which is to be set as user photo. If FTP credential parameters are specified, then the path mentioned should be an FTP path.
ftpusername	-	Yes	-	If the image is on an FTP location then login credentials must be supplied. This is the FTP username. This parameter must be used with the 'ftppassword' parameter for a successful request.
ftppassword	-	Yes	-	If the image is on an FTP location then login credentials must be supplied. This is the FTP password. This parameter must be used with the 'ftpusername' parameter for a successful request.



The supported file formats are *.jpg, *.bmp and *.png.

Example

This sample request illustrates how to set a photograph for the user ID **202**, when the source image file **image.jpg** is located in the following FTP location: **ftp://abc/xyz/image.jpg**

Sample Request:

```
http://matrixserver/api.svc/user?action=setphoto;id=202;path=ftp://abc/xyz/image.jpg;ftpusername=sam;ftppassword=1234
```

Sample Response:

```
success: successful
```

Deleting a User

This function can be used to delete an existing user from the COSEC database permanently. Only a single user can be deleted at a time using this method.



This process is irreversible. Please proceed with caution.

Action

action=delete

Syntax

```
http://<servername>/api.svc/user?action=delete;<argument>=<value>...
```

Parameters

Table: Deleting a User - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
id	Max 10 alphanumeric characters	Yes	-	This is the unique User Id.

Example

This example illustrates how to delete the user **Samuel** (id=202) from the COSEC database:

Sample Request:

```
http://matrixserver/api.svc/user?action=delete;id=202
```

Sample Response:

```
success: successful
```

Enrolling a User

This API can be used to generate an enrollment request for a user on a specific device. Only a single user can be enrolled at a time using this action.

Action

action=enroll

Syntax

```
http://<servername>/api.svc/user?action=enroll;<argument>=<value>...
```

Parameters

Table: Enrolling a User - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
id	Max 10 alphanumeric characters	Yes	-	This is the unique User ID.
device-type	0-9	Yes	-	This is the type of device, in which enrollment of respective user to be done. 0 = Panel, 1 = Direct Door V1, 2 = Panel Lite 3 = Direct Door V2, 4 = NGT Direct Door, 5 = Wireless Direct Door 6 = Path Controller 7 = PVR Direct Door 8= Vega Panel-Lite 9= Vega Controller
device-id	1 to 65000	Yes	-	This is the device identification number of the device type, on which enrollment of respective user is to be done. This device must be assigned to the user-id for which enrollment is to be performed.
panel-door-id	1 to 99	Yes. Only if device type = Panel (0), Panel-Lite (2), or Vega Panel-Lite (8)	-	This is the Panel Door identification number, in case a panel is selected for device-type .
enroll-type	fp, card, palm	Yes	-	This is the type of enrollment. Note: - Only Read-Only cards supported.
enroll-count	1 to 10 (for enroll-type=fp) 1,2 (for enroll-type=card) 1 to 10 (for enroll-type=palm)	Yes	-	This is the count for the enroll type (finger print, card or palm) to be enrolled for the respective user id.

Example

This example demonstrates a typical request URL for enrolling 2 fingers for a user on a Direct Door V1:

Sample Request:

```
http://matrixserver/api.svc/user?action=enroll;id=1;device-type=1;device-id=1;enroll-type=fp;enroll-count=2
```

Sample Response:

```
success: successful
```

Setting Credentials on Device

Send a user's credentials to all the available panel or direct door devices on COSEC. There are two types of credentials that can be set for a user - fingerprint (**fp**) and card.

Action

action=set-credential

Syntax

```
http://<servername>/api.svc/user?action=set-credential;<argument>=<value>...
```

Parameters

Table: Setting Credentials on Device - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
id	Max 10 alphanumeric characters	Yes	-	This is the unique User Id.
credential-type	fp, card	Yes	-	This is the type of credential.
data	Max 768 Alphanumeric Characters (for fp) Max 20 numeric Characters (for card) Note: - For credential type = finger print, user should send finger print templates into hexadecimal.	Yes	-	This is the data of respective credential type, which is to be stored at given index number for the respective user ID.



This API supports setting credentials only for Read-Only cards.

Example

The following example illustrates how to add user credentials with the given set of values:

- **id=1**
- **credential-type=card**
- **data=12345678901234567890** (card number)

Sample request:

```
http://matrixserver/api.svc/user?action=set-credential;id=1;credential-type=card;data=12345678901234567890
```

Sample Response:

```
success: successful
```

Deleting Credentials from Device

Delete a user's credentials from all the available panel or direct door devices on COSEC.

Action

action=del-credential

Syntax

```
http://<servername>/api.svc/user?action=del-credential;<argument>=<value>...
```

Parameters

Table: Deleting Credentials from Device - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
Id	Max 10 alphanumeric characters	Yes	-	This is the unique User Id.
credential-type	fp, card, palm	Yes	-	This is the type of credential.



This process is irreversible. Please proceed with caution.



This API supports Read-Only cards only.

Example

This example demonstrates a sample request to delete fingerprint credentials for a user with user ID "1" from all devices on the COSEC database.

Sample Request:

```
http://matrixserver/api.svc/user?action=del-credential;id=1;credential-type=fp
```

Sample Response:

```
success: successful
```

The *Enterprise Structure APIs* allow the user to retrieve data related to various groups within an enterprise. COSEC identifies the following enterprise groups:

- Organization
- Branch
- Department
- Designation
- Section
- Category
- Grade

The generic syntax for all *Enterprise Structure API* requests is stated below.

Syntax

`http://<servername>/api.svc/<enterprise-group>?action=<value>;<argument>=<value>...`

Here, the request-type (<enterprise-group>) will depend on the enterprise group for which the API is being called.

For **Organization**: <enterprise-group>=organization

For **Branch**: <enterprise-group>=branch

For **Department**: <enterprise-group>=department

For **Designation**: <enterprise-group>=designation

For **Section**: <enterprise-group>=section

For **Category**: <enterprise-group>=category

For **Grade**: <enterprise-group>=grade

For e.g.:

For **Organization**, the API URL will resemble:

`http://<servername>/api.svc/organization?action=<value>;<argument>=<value>...`

Similarly, for **Branch**, send:

`http://<servername>/api.svc/branch?action=<value>;<argument>=<value>...`



If an enterprise group is renamed on the COSEC system, the new label should be used in the URL to invoke an API. For e.g. if the group 'Organization' is renamed as 'Company', then the URL syntax for Organization APIs should be:

`http://<servername>/api.svc/company?action=<value>;<argument>=<value>...`

For each of the Enterprise Groups, COSEC supports the following APIs:

- [Obtaining Enterprise Group Details](#)
- [Obtaining List of Renamed Groups](#)

Obtaining Enterprise Group Details

User can fetch the details of an enterprise group by specifying the group name in the <enterprise-group> part of the URL and specifying the group ID. For example, for an organization, the group ID will be the Organization ID.

Action

action=get

Syntax

```
http://<servername>/api.svc/<enterprise-group>?action=get;<argument>=<value>...
```

Parameters

Table: Obtaining Enterprise Group Details - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
id	1-999999 Note: This is the minimum to maximum range. In case of a system with a defined ID range 1-50, valid range shall be 1-50.	No	All	This is the ID of the specific enterprise group. Multiple IDs can be selected, each separated by “ , (comma)” e.g.:”1, 3, 7, 9...”

Response Fields

Table: Obtaining Enterprise Group Details - Response Fields

Field Name	Tag Name	Valid Values	Remarks
ID	id	1-999999	-
Name	name	upto 40 characters (for “Organization” and “Branch”) upto 30 characters (for others)	Allowed Characters A-Z a-z 0-9 - _ ()

Example

Fetching an organization by ID ‘7’.

Sample Request:

```
http://matrixserver/api.svc/organization?action=get;id=7
```

Sample Response:

```
id|name
7|Apex Industries Pvt. Ltd.
<EOT>
```

Obtaining List of Renamed Groups

On COSEC, it is possible for an administrator to rename enterprise groups (For eg. “*Organization*” can be renamed as “*Organization1*”). This particular API allows the user to retrieve the data of all enterprise groups which have been renamed and their relevant details such as the group code, the display name and the alias name.

Action

action=get

Syntax

```
http://<servername>/api.svc/group-rename-list?action=get
```

Response Fields

Table: Obtaining List of Renamed Groups - Response Fields

Field Name	Tag Name	Valid Values	Remarks
Code	code	upto 6 alphanumeric characters	Duplicate Code not allowed
Name	displayName	maximum 30 characters	Allowed characters: A-Z a-z 0-9 -_.()[]
Alias Name	aliasName	maximum 30 characters	Allowed characters: A-Z a-z 0-9 -_.()[]



This API will return only values that are in the English Language. In case the groups are renamed and stored in a different language, the original English group name will be used.

Example

Sample Request:

```
http://matrixserver/api.svc/group-rename-list?action=get
```

Sample Response:

```
code|displayName|aliasName
Org|Organization|Organization
Brc|Branch|Branch
Dpt|Department|Department
Sec|Section|Section
Ctg|Category|Category
Grd|Grade|Grade
Dsg|Designation|Designation
Usr|User|User
<EOT>
```

This section covers all APIs pertaining to *Time and Attendance* data of COSEC users. These are as follows:

- [Getting Daily Attendance Data](#)
- [Getting Monthly Attendance Data](#)

Getting Daily Attendance Data

This API allows the user to obtain daily attendance data for employees over a specified time duration and for specific user groups.

Action

action=get

Syntax

```
http://<servername>/api.svc/attendance-daily?action=get;<argument>=<value>...
```

Parameters

Table: Getting Daily Attendance Data - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
Field-name	The list of fields is mentioned in the Response Fields table.	No	-	If "field-name" is not mentioned, then configured "field-name" for the respective template in 'API Data Template' will be fetched. User can select multiple "field-name", each separated by ", (comma)" e.g.:"userid, username, orgid..."
date-range	ddmmyyyy-ddmmyyyy	No	Current Day	This is the date range for which data is to be fetched.
range	all organization branch department designation section category grade user	No	All	Range of users for whom data is to be fetched.
Id	1 to 999 (for all the ranges except all & user) 10 Char. (for user) Note: This is the min to max range. In case of a system with only 1-50 id defined then valid range shall be 1-50.	Yes, if mentioned range is other than 'All'.	-	Each range (except all) shall have specific id. System should allow user to select multiple id, each separated by ", (comma)" e.g.:"1, 3, 7, 9..." Or Select a range of id E.g."1-50".

Response Fields

Table: Getting Daily Attendance Data - Response Fields

Field Name	Tag Name	Valid Values	Remarks
User ID	USERID	upto 10 characters.	-
User Name	USERNAME	upto 45 characters	-
Short Name	short_name	max 15 alphanumeric characters	-

Table: Getting Daily Attendance Data - Response Fields

Field Name	Tag Name	Valid Values	Remarks
Integration Reference	integration_reference	max 20 alphanumeric characters	-
Organization ID	ORGID	1-999999	-
Branch ID	BRCID	1-999999	-
Department ID	DPTID	1-999999	-
Section ID	SECID	1-999999	-
Category ID	CTGID	1-999999	-
Grade ID	GRDID	1-999999	-
Designation ID	DSGID	1-999999	-
Reference No.	ADLUSERID	numeric (8 digits)	-
Gender	GENDER	M : Male F: Female NA : Not available	-
Marital Status	MRTLSTAT	M : Married U : Unmarried NA : Not available	-
Birth Date	BIRTHDT	dd/mm/yyyy	-
Joining Date	JOINDT	dd/mm/yyyy	-
Leaving Date	LEAVEDT	dd/mm/yyyy	-
Process Date	PROCESSDATE	dd/mm/yyyy	-
Process Date	PROCESSDATE_D	mm/dd/yy HH:MM:SS	-
1st Punch	PUNCH1	dd/mm/yyyy HH:MM	-
1st Punch	PUNCH1_DATE	dd/mm/yyyy	-
1st Punch	PUNCH1_TIME	HH:MM	-
2nd Punch	PUNCH2	dd/mm/yyyy HH:MM	-
2nd Punch	PUNCH2_DATE	dd/mm/yyyy	-
2nd Punch	PUNCH2_TIME	HH:MM	-
3rd Punch	PUNCH3	dd/mm/yyyy HH:MM	-
3rd Punch	PUNCH3_DATE	dd/mm/yyyy	-
3rd Punch	PUNCH3_TIME	HH:MM	-
4th Punch	PUNCH4	dd/mm/yyyy HH:MM	-
2nd Punch	PUNCH2_TIME	HH:MM	-
4th Punch	PUNCH4_DATE	dd/mm/yyyy	-
4th Punch	PUNCH4_TIME	HH:MM	-
5th Punch	PUNCH5	dd/mm/yyyy HH:MM	-
5th Punch	PUNCH5_DATE	dd/mm/yyyy	-
5th Punch	PUNCH5_TIME	HH:MM	-
6th Punch	PUNCH6	dd/mm/yyyy HH:MM	-
6th Punch	PUNCH6_DATE	dd/mm/yyyy	-

Table: Getting Daily Attendance Data - Response Fields

Field Name	Tag Name	Valid Values	Remarks
6th Punch	PUNCH6_TIME	HH:MM	-
7th Punch	PUNCH7	dd/mm/yyyy HH:MM	-
7th Punch	PUNCH7_DATE	dd/mm/yyyy	-
7th Punch	PUNCH7_TIME	HH:MM	-
8th Punch	PUNCH8	dd/mm/yyyy HH:MM	-
8th Punch	PUNCH8_DATE	dd/mm/yyyy	-
8th Punch	PUNCH8_TIME	HH:MM	-
9th Punch	PUNCH9	dd/mm/yyyy HH:MM	-
9th Punch	PUNCH9_DATE	dd/mm/yyyy	-
9th Punch	PUNCH9_TIME	HH:MM	-
10th Punch	PUNCH10	dd/mm/yyyy HH:MM	-
10th Punch	PUNCH10_DATE	dd/mm/yyyy	-
10th Punch	PUNCH10_TIME	HH:MM	-
11th Punch	PUNCH11	dd/mm/yyyy HH:MM	-
11th Punch	PUNCH11_DATE	dd/mm/yyyy	-
11th Punch	PUNCH11_TIME	HH:MM	-
12th Punch	PUNCH12	dd/mm/yyyy HH:MM	-
12th Punch	PUNCH12_DATE	dd/mm/yyyy	-
12th Punch	PUNCH12_TIME	HH:MM	-
Special Function 1	SPFID1	1-10	1=Official In, 2=Official Out, 3=ShortLeave In, 4=ShortLeave Out, 5=Regular In, 6=Regular Out, 7=Lunch In, 8=Lunch Out, 9=Overtime In, 10=Overtime Out
Special Function 2	SPFID2	1-10	Same as above
Special Function 3	SPFID3	1-10	Same as above
Special Function 4	SPFID4	1-10	Same as above
Special Function 5	SPFID5	1-10	Same as above
Special Function 6	SPFID6	1-10	Same as above
Special Function 7	SPFID7	1-10	Same as above
Special Function 8	SPFID8	1-10	Same as above
Special Function 9	SPFID9	1-10	Same as above
Special Function 10	SPFID10	1-10	Same as above
Special Function 11	SPFID11	1-10	Same as above
Special Function 12	SPFID12	1-10	Same as above

Table: Getting Daily Attendance Data - Response Fields

Field Name	Tag Name	Valid Values	Remarks
Scheduled Shift	SCHEDULESHIFT	Two Character Code	-
Work Shift	WORKINGSHIFT	Two Character Code	-
Early In	EARLYIN	minutes	-
Early In	EARLYIN_HHMM	HH:MM	-
Late In	LATEIN	minutes	-
Late In	LATEIN_HHMM	HH:MM	-
Early Out	EARLYOUT	minutes	-
Early Out	EARLYOUT_HHMM	HH:MM	-
Overstay	OVERSTAY	minutes	-
Overstay	OVERSTAY_HHMM	HH:MM	-
Overtime	OVERTIME	minutes	-
Overtime	OVERTIME_HHMM	HH:MM	-
Work time	WORKTIME	minutes	-
Work time	WORKTIME_HHMM	HH:MM	-
First Half	FIRSTHALF	PR : Present AB : Absent WO : Week Off PH : Public Holiday FB : Field Break RD : Rest Day IN : Official In <Leave Codes>	<Leave Codes> as configured in COSEC
Second Half	SECONDDHALF	PR : Present AB : Absent WO : Week Off PH : Public Holiday FB : Field Break RD : Rest Day IN : Official In <Leave Codes>	<Leave Codes> as configured in COSEC
Manual OT Credit	MANUALOVERTIME_CREDIT	minutes	-
Manual OT Credit	MANUALOVERTIME_CREDIT_HHMM	HH:MM	-
Manual OT Debit	MANUALOVERTIME_DEBIT	minutes	-
Manual OT Debit	MANUALOVERTIME_DEBIT_HHMM	HH:MM	-
Authorized OT	AUTHORIZEDOVERTIME	minutes	-
Authorized OT	AUTHORIZEDOVERTIME_HHMM	HH:MM	-
OT Authorization Date	OVERTIMEAUTHORIZATION DATE	dd/mm/yyyy	-
Manual C-Off Credit	MANUALCOFF_CREDIT	minutes	-
Manual C-Off Credit	MANUALCOFF_CREDIT_HHMM	HH:MM	-
Manual C-Off Debit	MANUALCOFF_DEBIT	minutes	-

Table: Getting Daily Attendance Data - Response Fields

Field Name	Tag Name	Valid Values	Remarks
Manual C-Off Debit	MANUALCOFF_DEBIT_HHMM	HH:MM	-
Authorized C-Off	AUTHORIZEDCOFF	minutes	-
Authorized C-Off	AUTHORIZEDCOFF_HHMM	HH:MM	-
Authorized C-Off Date	AUTHORIZEDCOFFDATE	dd/mm/yyyy	-
Availed C-Off	AVAILEDCOFF	minutes	-
Availed C-Off	AVAILEDCOFF_HHMM	HH:MM	-
Encashed C-Off	ENCASHEDCOFF	minutes	-
Encashed C-Off	ENCASHEDCOFF_HHMM	HH:MM	-
Lunch Duration	LUNCHDURATION	minutes	-
Lunch Duration	LUNCHDURATION_HHMM	HH:MM	-
Late In Lunch	LATEINLUNCH	minutes	-
Late In Lunch	LATEINLUNCH_HHMM	HH:MM	-
Early Out Lunch	EARLYOUTLUNCH	minutes	-
Early Out Lunch	EARLYOUTLUNCH_HHMM	HH:MM	-
WO and PH	WEEKOFFANDHOLIDAY	0 : status is not WO/PH 1 : status is WO/PH	-
Official Duration	OFFICIALDURATION	minutes	-
Personal Duration	PERSONALDURATION	minutes	-
Shift Start	SHIFTSTART	HH:MM	-
Shift End	SHIFTEND	HH:MM	-
Lunch Start	LUNCHSTART	HH:MM	-
Lunch End	LUNCHEND	HH:MM	-
Out Punch	OUTPUNCH	mm/dd/yyyy HH:MM	-
Out Punch	OUTPUNCH_DATE	mm/dd/yyyy	-
Out Punch	OUTPUNCH_TIME	HH:MM	-
Out Special Function	OUTSPFID	1-10	Format same as SPFID1-SPFID12
Site ID	SITEID	1-999	-
Minimum Work hours for Full day	MINWRKHRSFDAY	minutes	-
Minimum Work hours for Full day	MINWRKHRSFDAY_HHMM	HH:MM	-
Minimum Work hours for Half Day	MINWRKHRSFDAY	minutes	-
Minimum Work hours for Half day	MINWRKHRSFDAY_HHMM	HH:MM	-
Shift Type	SHIFTTYPE	0,1,2	0 : Normal 1 : Field Break 2 : Rest Day

Table: Getting Daily Attendance Data - Response Fields

Field Name	Tag Name	Valid Values	Remarks
Summary	SUMMARY	50 alpha-numeric characters(max)	The summary statement for the attendance date. Eg. : Absent due to late-in
Day Status	DAYSTATUS	0 : WO 1 : PH 2 : WO/PH 3 : Normal	-
Net Work Hours	NETWORKHRS	HH:MM	Calculated as per Net-work hours policy defined for the user.
Adjusted work hours	ADJUSTEDHRS	HH:MM	The overtime adjustment done in month process for less work hours correction.
In/Out Reason for Punch 1	punch_reason1	30 alphanumeric characters	Return If available.Else blank.
In/Out Reason for Punch 2	punch_reason2	30 alphanumeric characters	-
In/Out Reason for Punch 3	punch_reason3	30 alphanumeric characters	-
In/Out Reason for Punch 4	punch_reason4	30 alphanumeric characters	-
In/Out Reason for Punch 5	punch_reason5	30 alphanumeric characters	-
In/Out Reason for Punch 6	punch_reason6	30 alphanumeric characters	-
In/Out Reason for Punch 7	punch_reason7	30 alphanumeric characters	-
In/Out Reason for Punch 8	punch_reason8	30 alphanumeric characters	-
In/Out Reason for Punch 9	punch_reason9	30 alphanumeric characters	-
In/Out Reason for Punch 10	punch_reason10	30 alphanumeric characters	-
In/Out Reason for Punch 11	punch_reason11	30 alphanumeric characters	-
In/Out Reason for Punch 12	punch_reason12	30 alphanumeric characters	-

Example

Following are some sample cases for this API:

Sample Request:

To fetch attendance data for the current date (default):

```
http://matrixserver/api.svc/attendance-daily?action=get
```

Sample Response:

```
UserID|UserName|ProcessDate|Punch1|Punch2|WorkingShift|LateIn|EarlyOut|Overtime|WorkTime
1|SALIM ANSARI|01/01/2013|||23|0|0|0|0
10|RAJENDRA GOSWAMI|01/01/2013|||23|0|0|0|0
1001|ANKITKUMAR SOHLIYA|01/01/2013|01/01/2013 09:28:00|01/01/2013 20:00:00|GS|0|0|0|582
1002|MEGHA H SHUKLA|01/01/2013|01/01/2013 09:21:00|01/01/2013 19:53:00|GS|0|0|0|582
1003|UMESH M TALANPURI|01/01/2013|01/01/2013 09:14:00|01/01/2013 19:03:00|GS|0|0|0|539
1004|DARSHAK B PATEL|01/01/2013|01/01/2013 08:57:00|01/01/2013 18:48:00|GS|0|0|0|541
1007|DHAVAL I PATEL|01/01/2013|01/01/2013 09:20:00|01/01/2013 20:15:00|GS|0|0|0|605
1008|MAYANK K KORAT|01/01/2013|01/01/2013 09:23:00|01/01/2013 19:37:00|GS|0|0|0|564
1009|DIPTI K RATHWA|01/01/2013|01/01/2013 09:21:00|01/01/2013 19:15:00|GS|0|0|0|544
1010|RAHUL S SHAH|01/01/2013|01/01/2013 09:20:00|01/01/2013 19:46:00|GS|0|0|0|576
1011|PARIKA S PANDEY|01/01/2013|01/01/2013 09:13:00|01/01/2013 18:51:00|GS|0|0|0|528
1012|PARIKSHIT DAS|01/01/2013|01/01/2013 09:27:00|01/01/2013 20:19:00|GS|0|0|0|602
1015|SUMEDHA A GAWARIKAR|01/01/2013|01/01/2013 09:15:00|01/01/2013 18:58:00|GS|0|0|0|533
1016|BALAJI A|01/01/2013|||GN|0|0|0|0
102|AKSHAY SHETH|01/01/2013|01/01/2013 09:27:00|01/01/2013 19:08:00|GS|0|0|0|531
1020|VAISHALI M THAKER|01/01/2013|01/01/2013 10:23:00|01/01/2013 19:07:00|GS|0|0|0|474
1022|PANDURANG D CHAUHAN|01/01/2013|01/01/2013 08:54:00|01/01/2013 18:59:00|GS|0|0|0|555
1028|SUNIL K GURNANI|01/01/2013|||GN|0|0|0|0
1030|KEYUR BHALODIYA|01/01/2013|01/01/2013 09:27:00|01/01/2013 21:54:00|GS|0|0|0|697
1038|TANMAY SHAH|01/01/2013|01/01/2013 09:28:00|01/01/2013 19:10:00|GS|0|0|0|532
<EOT>
```

Sample Request:

To fetch daily-attendance records for a specified date-range.

```
http://matrixserver/api.svc/attendance-daily?action=get;date-range=01012013-02012013
```

Sample Response:

```
UserID|UserName|ProcessDate|Punch1|Punch2|WorkingShift|LateIn|EarlyOut|Overtime|WorkTime
1|SALIM ANSARI|01/01/2013|||23|0|0|0|0
10|RAJENDRA GOSWAMI|01/01/2013|||23|0|0|0|0
1001|ANKITKUMAR SOHLIYA|01/01/2013|01/01/2013 09:28:00|01/01/2013 20:00:00|GS|0|0|0|582
1002|MEGHA H SHUKLA|01/01/2013|01/01/2013 09:21:00|01/01/2013 19:53:00|GS|0|0|0|582
1003|UMESH M TALANPURI|01/01/2013|01/01/2013 09:14:00|01/01/2013 19:03:00|GS|0|0|0|539
1004|DARSHAK B PATEL|01/01/2013|01/01/2013 08:57:00|01/01/2013 18:48:00|GS|0|0|0|541
1007|DHAVAL I PATEL|01/01/2013|01/01/2013 09:20:00|01/01/2013 20:15:00|GS|0|0|0|605
1008|MAYANK K KORAT|01/01/2013|01/01/2013 09:23:00|01/01/2013 19:37:00|GS|0|0|0|564
1009|DIPTI K RATHWA|01/01/2013|01/01/2013 09:21:00|01/01/2013 19:15:00|GS|0|0|0|544
1010|RAHUL S SHAH|01/01/2013|01/01/2013 09:20:00|01/01/2013 19:46:00|GS|0|0|0|576
1011|PARIKA S PANDEY|01/01/2013|01/01/2013 09:13:00|01/01/2013 18:51:00|GS|0|0|0|528
1012|PARIKSHIT DAS|01/01/2013|01/01/2013 09:27:00|01/01/2013 20:19:00|GS|0|0|0|602
1015|SUMEDHA A GAWARIKAR|01/01/2013|01/01/2013 09:15:00|01/01/2013 18:58:00|GS|0|0|0|533
1016|BALAJI A|01/01/2013|||GN|0|0|0|0
102|AKSHAY SHETH|01/01/2013|01/01/2013 09:27:00|01/01/2013 19:08:00|GS|0|0|0|531
1020|VAISHALI M THAKER|01/01/2013|01/01/2013 10:23:00|01/01/2013 19:07:00|GS|0|0|0|474
1022|PANDURANG D CHAUHAN|01/01/2013|01/01/2013 08:54:00|01/01/2013 18:59:00|GS|0|0|0|555
1028|SUNIL K GURNANI|01/01/2013|||GN|0|0|0|0
1030|KEYUR BHALODIYA|01/01/2013|01/01/2013 09:27:00|01/01/2013 21:54:00|GS|0|0|0|697
<EOT>
```

Sample Request:

To fetch specific fields in response using the **field-name** optional argument.

```
http://matrixserver/api.svc/attendance-daily?action=get;field-name=userid,firsthalf,secondhalf;date-range=01012013-02012013
```

Sample Response:

```
UserID|firsthalf|secondhalf
1|WO|WO
10|WO|WO
1001|AB|AB
1002|AB|AB
1003|AB|PR
1004|AB|AB
1007|AB|AB
1008|AB|AB
1009|AB|AB
1010|AB|AB
1011|AB|AB
1012|AB|AB
1015|AB|AB
1016|PR|PR
102|AB|AB
1020|AB|AB
1022|AB|AB
1028|PR|PR
1030|AB|AB
<EOT>
```

Getting Monthly Attendance Data

This API allows the user to obtain attendance data for employees for a specific month and for specific user groups in a specific format.

Action

action=get

Syntax

```
http://<servername>/api.svc/attendance-monthly?action=get;<argument>=<value>...
```

Parameters

Table: Getting Monthly Attendance Data - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
field-name	The list of fields is mentioned in response table.	No	-	If "field-name" is not mentioned, then configured "field-name" for the respective template in 'API Data Template' will be fetched. User can select multiple "field-name", each separated by ", (comma)" e.g.: "userid, username, orgid..."
month-year	the format shall be mmyyyy	No	Current Month and Current Year	The Month and Year for which the data is to be fetched.
range	all organization branch department designation section category grade user	No	All	Range of users for whom data is to be fetched.
id	1 to 999 (for all the ranges except all & user) 10 Char. (for user) Note: This is the min to max range. In case of a system with only 1-50 id defined then valid range shall be 1-50.	Yes, if mentioned range is other than 'All'.	-	Each range (except all) shall have specific id. System should allow user to select multiple id, each separated by ", (coma)" e.g.: "1, 3, 7, 9..." Or Select a range of id E.g. "1-50". Note: - ID is mandatory, if mentioned range is other than all.

Response Fields

Table: Getting Monthly Attendance Data - Response Fields

Field Name	Tag Name	Valid Values	Remarks
User ID	USERID	10 characters.	-
User Name	USERNAME	45 characters	-
Short Name	short_name	max 15 alphanumeric characters	-
Integration Reference	integration_reference	max 20 alphanumeric characters	-
Organization ID	ORGID	1-999999	-
Branch ID	BRCID	1-999999	-
Department ID	DPTID	1-999999	-
Section ID	SECID	1-999999	-
Category ID	CTGID	1-999999	-
Grade ID	GRDID	1-999999	-
Designation ID	DSGID	1-999999	-
Reference No.	ADLUSERID	numeric (8 digits)	-
Gender	GENDER	M : Male F: Female NA : Not available	-
Marital Status	MRTLSTAT	M : Married U : Unmarried NA : Not available	-
Birth Date	BIRTHDT	dd/mm/yyyy	-
Joining Date	JOINDT	dd/mm/yyyy	-
Leaving Date	LEAVEDT	dd/mm/yyyy	-
Process Year	PYEAR	yyyy	-
Process Month	PMONTH	mm	
Present Days	PRDAYS	Numeric	Multiples of 0.5
Absent Days	ABDAYS	Numeric	Multiples of 0.5
Week-Off Days	WODAYS	Numeric	Multiples of 0.5
Public Holiday Days	PHDAYS	Numeric	Multiples of 0.5
Paid Leave Days	PLDAYS	Numeric	Multiples of 0.5
Tour Days	TRDAYS	Numeric	Multiples of 0.5
Unpaid Leave Days	ULDAYS	Numeric	Multiples of 0.5
Lay Off Days	LODAYS	Numeric	Multiples of 0.5
Early In	EARLYIN	minutes	-
Early In	EARLYIN_HHMM	HH:MM	-
Late In	LATEIN	minutes	-
Late In	LATEIN_HHMM	HH:MM	-
Early Out	EARLYOUT	minutes	-
Early Out	EARLYOUT_HHMM	HH:MM	-

Table: Getting Monthly Attendance Data - Response Fields

Field Name	Tag Name	Valid Values	Remarks
Overstay	OVERSTAY	minutes	-
Overstay	OVERSTAY_HHMM	HH:MM	-
Total Overtime	OVERTIME	minutes	-
Total Overtime hrs.	OVERTIME_HHMM	HH:MM	-
Worktime	WORKTIME	minutes	-
Worktime hrs.	WORKTIME_HHMM	HH:MM	-
Manual OT Credit	MANOTCR	minutes	-
Manual OT Credit	MANOTCR_HHMM	HH:MM	-
Manual OT Debit	MANOTDB	minutes	-
Manual OT Debit	MANOTDB_HHMM	HH:MM	-
Authorized OT	AUTHOT	minutes	-
Authorized OT	AUTHOT_HHMM	HH:MM	-
Manual COFF Credit	MANCOFFCR	minutes	-
Manual COFF Credit	MANCOFFCR_HHMM	HH:MM	-
Manual COFF Debit	MANCOFFDB	minutes	-
Manual COFF Debit	MANCOFFDB_HHMM	HH:MM	-
Authorized COFF	AUTHCOFF	minutes	-
Authorized COFF	AUTHCOFF_HHMM	HH:MM	-
Availed COFF	AVLCOFF	minutes	-
Availed COFF	AVLCOFF_HHMM	HH:MM	-
Encashed COFF	ENCCOFF	minutes	-
Encashed COFF	ENCCOFF_HHMM	HH:MM	-
Shift Allowance	SFTALW	-	-
Lunch Break.	LUNCHBREAK	minutes	-
Lunch Break hrs.	LUNCHBREAK_HHMM	HH:MM	-
Lunch Late	LUNCHLATE	minutes	-
Lunch Late	LUNCHLATE_HHMM	HH:MM	-
Lunch Early	LUNCHEARLY	minutes	-
Lunch Early	LUNCHEARLY_HHMM	HH:MM	-
Weekly Overtime component	OTW1	minutes	OT for first week of the month
Weekly Overtime component	OTW1_HHMM	HH:MM	OT for first week of the month
Weekly Overtime component	OTW2	minutes	OT for second week of the month
Weekly Overtime component	OTW2_HHMM	HH:MM	OT for second week of the month

Table: Getting Monthly Attendance Data - Response Fields

Field Name	Tag Name	Valid Values	Remarks
Weekly Overtime component	OTW3	minutes	OT for third week of the month
Weekly Overtime component	OTW3_HHMM	HH:MM	OT for third week of the month
Weekly Overtime component	OTW4	minutes	OT for fourth week of the month
Weekly Overtime component	OTW4_HHMM	HH:MM	OT for fourth week of the month
Weekly Overtime component	OTW5	minutes	OT for fifth week of the month
Weekly Overtime component	OTW5_HHMM	HH:MM	OT for fifth week of the month
Week 1 Work Time	WRKTIMEW1	minutes	-
Week 1 Work Time	WRKTIMEW1_HHMM	HH:MM	-
Week 2 Work Time	WRKTIMEW2	minutes	-
Week 2 Work Time	WRKTIMEW2_HHMM	HH:MM	-
Week 3 Work Time	WRKTIMEW3	minutes	-
Week 3 Work Time	WRKTIMEW3_HHMM	HH:MM	-
Week 4 Work Time	WRKTIMEW4	minutes	-
Week 4 Work Time	WRKTIMEW4_HHMM	HH:MM	-
Week 5 Work Time	WRKTIMEW5	minutes	-
Week 5 Work Time	WRKTIMEW5_HHMM	HH:MM	-
Previous Adjustment days	PREVDAYS	Numeric	Multiples of 0.5
Previous Overtime.	PREVOT	minutes	-
Previous Overtime hrs.	PREVOT_HHMM	HH:MM	-
Previous Work.	PREVWRKTIME	minutes	-
Previous Work hrs.	PREVWRKTIME_HHMM	HH:MM	-
Previous Shift Allowance	PREVSFTALW		-
Net Work Time	NETWORKTIME	minutes	-
Net Work Time	NETWORKTIME_HHMM	HH:MM	-
Total OT1 (Actual)	TOTAL_OT1	minutes	-
Total OT1 (Actual)	TOTAL_OT1_HHMM	HH:MM	-
Total OT2 (Actual)	TOTAL_OT2	minutes	-
Total OT2 (Actual)	TOTAL_OT2_HHMM	HH:MM	-
Total OT3 (Actual)	TOTAL_OT3	minutes	-
Total OT3 (Actual)	TOTAL_OT3_HHMM	HH:MM	-
Total OT4 (Actual)	TOTAL_OT4	minutes	-

Table: Getting Monthly Attendance Data - Response Fields

Field Name	Tag Name	Valid Values	Remarks
Total OT4 (Actual)	TOTAL_OT4_HHMM	HH:MM	-
Total OT5 (Actual)	TOTAL_OT5	minutes	-
Total OT5 (Actual)	TOTAL_OT5_HHMM	HH:MM	-
Total Authorized OT1	TOTAL_AUTH_OT1	minutes	-
Total Authorized OT1	TOTAL_AUTH_OT1_HHMM	HH:MM	-
Total Authorized OT2	TOTAL_AUTH_OT2	minutes	-
Total Authorized OT2	TOTAL_AUTH_OT2_HHMM	HH:MM	-
Total Authorized OT3	TOTAL_AUTH_OT3	minutes	-
Total Authorized OT3	TOTAL_AUTH_OT3_HHMM	HH:MM	-
Total Authorized OT4	TOTAL_AUTH_OT4	minutes	-
Total Authorized OT4	TOTAL_AUTH_OT4_HHMM	HH:MM	-
Total Authorized OT5	TOTAL_AUTH_OT5	minutes	-
Total Authorized OT5	TOTAL_AUTH_OT5_HHMM	HH:MM	-

Example

This example presents a case where monthly-attendance records are to be fetched for Organization ID '1'.

Sample Request:

```
http://matrixserver/api.svc/attendance-monthly?action=get;range=organization;id=1
```

Sample Response:

```
UserID|UserName|PYear|PMonth|PRDays|ABDays|WorkTime_HHMM|PLDays|TRDays
1053|JINU SAM|2013|1|21.0|0.5|15:20|2.5|0.0
1054|PARSHV SHAH|2013|1|24.0|0.0|21:13|0.0|0.0
1055|SANDIP PATEL|2013|1|15.0|6.5|56:56|2.5|0.0
1056|RITESH RAJPUT|2013|1|19.5|4.5|77:07|0.0|0.0
1057|JANPRIYA MALVIYA|2013|1|23.0|1.0|35:36|0.0|0.0
1059|PRATIK PATEL|2013|1|17.5|6.5|70:02|0.0|0.0
1060|PRIYESH SHAH|2013|1|23.5|0.0|17:13|0.5|0.0
1061|DARSHAN PATEL|2013|1|24.0|0.0|17:46|0.0|0.0
1062|MANTHAN PATEL|2013|1|23.0|0.0|13:27|1.0|0.0
895|Atul Kumar Gond|2013|1|5.0|19.0|02:41|0.0|0.0
900|Shaun Trivedi|2013|1|0.0|25.0|00:00|0.0|0.0
<EOT>
```

The Access Control APIs primarily support the retrieval of access route data, as configured on the COSEC server. An *Access Route* on COSEC is a configured sequence in which a user is allowed access on Doors assigned to a particular Panel device, or based on the access policy defined on a Smart Card. Access Routes can be of two types - *Panel-based access routes* and *Smart Card-based access routes*.

The Access Control APIs enable the user to perform the following functions:

- [Obtaining List of Access Routes](#)
- [Obtaining Access Route Details](#)

Obtaining List of Access Routes

This API allows the user to fetch a list of all existing access routes configured on COSEC and the respective number of group members assigned to each route.

Action

action=get

Syntax

```
http://<servername>/api.svc/accessroutemaster?action=get;<argument>=<value>...
```

Parameters

Table: Obtaining List of Access Routes - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
type	smartcard, panel	No	smartcard	This is the type of the access route.
route	1 to 99 (for smartcard) 1 to 99 (for panel)	No	all	This is the route number for an access route.
panelno	1 to 99	Yes (only for <i>type=panel</i>)	-	This is the panel number of the panel for which the access route is defined.

Response Fields

1. For type=smartcard

Table: Obtaining List of Access Routes (Smart card) - Response Fields

Field Name	Tag Name	Valid Values	Remarks
Access Route Number	AccessRouteNumber	1 - 99	-
Access Route Name	AccessRouteName	15 alphanumeric characters	-
Hard/Soft	HardSoft	Hard, Soft	-
Active	Active	1 : active 0 : inactive	-
Reset On Lowest Level	ResetOnLowestLevel	1 : reset enabled 0 : reset disabled	-
Group Members	GroupMembers	0 - 75	Count of configured members

2. For type=panel

Table: Obtaining List of Access Routes (Panel) - Response Fields

Field Name	Tag Name	Valid Values	Remarks
Access Route Number	AccessRouteNumber	1 - 99	-

Table: Obtaining List of Access Routes (Panel) - Response Fields

Field Name	Tag Name	Valid Values	Remarks
Access Route Name	AccessRouteName	15 alphanumeric characters	-
Active	Active	1 : active 0 : inactive	-
Sequence	Sequence	1 0	-
Panel Name	PanelName	30 alphanumeric characters	based on panel number
Reset On Lowest Level	ResetOnLowestLevel	1 : reset enabled 0 : reset disabled	-
Group Members	GroupMembers	0 - 32	Count of configured members

Example

Below is a sample case where a request is raised with default values:

Sample Request:

```
http://matrixserver/api.svc/accessroutemaster?action=get
```

Sample Response:

```
AccessRouteNumber|AccessRouteName|HardSoft|Active|ResetOnLowestLevel|GroupMembers  
1|factory|Soft|1|0|1  
2|Factory|Soft|1|0|2  
3|Randd|Soft|1|0|2  
<EOT>
```

Obtaining Access Route Details

This API allows the user to request details of all or specific access routes configured on COSEC.

Action

action=get

Syntax

```
http://<servername>/api.svc/accessroutedetails?action=get;<argument>=<value>...
```

Parameters

Table: Obtaining Access Route Details - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
type	smartcard, panel	No	smartcard	This is the type of the access route.
route	1 to 99 (for smartcard) 1 to 99 (for panel)	No	all	This is the route number for an access route.
panelno	1 to 99	Yes (only for <i>type=panel</i>)	-	This is the panel number of the panel for which the access route is defined.

Response Fields

1. For type=smartcard

Table: Obtaining Access Route Details (Smart card) - Response Fields

Field Name	Tag Name	Valid Values	Remarks
Access Route ID	ARID	1-99	-
MID	MID	1 - 99999	-
DID	DID	1 - 75	-
Door Type	Door Type	Panel Door, Direct Door, Direct Door v2, NGT Direct Door, Wireless Door, Compact Door, PVR Door	-
Door Name	Door Name	30 alphanumeric characters	-
Level	Level	1 - 75	-

2. For type=panel

Table: Obtaining Access Route Details (Panel) - Response Fields

Field Name	Tag Name	Valid Values	Remarks
Access Route ID	ARID	1-99	-
Member Number	Member Number	1 - 32	-
Door Number	Door Number	1 - 75	-
Door Name	Door Name	30 alphanumeric characters	-

Table: Obtaining Access Route Details (Panel) - Response Fields

Field Name	Tag Name	Valid Values	Remarks
Level	Level	1 - 32	-

Example

Sample Request:

```
http://matrixserver/api.svc/accessroutedetails?action=get
```

Sample Response:

```
ARID|MID|DID|DoorType|DoorName|Level  
1|17|1|Direct Door v2||0  
1|48|1|Direct Door v2||0  
<EOT>
```

The *Data Templates* API allows users to define a sequence in which certain specified data fields can be imported/exported from or to external modules, such as Payroll. This chapter lists COSEC APIs that allow users to retrieve specific import/export template-related data. These are as follows.

- [Getting Export Template List](#)
- [Getting Export Template Details](#)
- [Getting Import Template List](#)
- [Getting Import Template Details](#)
- [Getting Template Data](#)

Getting Export Template List

COSEC helps users to create data templates that can carry certain data specified by the user. Using this API, a user can obtain a list of all existing export templates configured on COSEC along with their IDs, names and types.

Action

action=get

Syntax

```
http://<servername>/api.svc/template-list?action=get;<argument>=<value>...
```

Parameters

Table: Getting Export Template List - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
template-type	0 : view name 1: actual template name	No	0 (view name)	If template-type=0 , the API will return the view name to which the template belongs If template-type=1, the API will return the actual name of that template as configured in COSEC Web.

Response Fields

Table: Getting Export Template List - Response Fields

Field Name	Tag Name	Valid Values	Remarks
Template ID	id	1-999	-
Name	name	40 alphanumeric characters	-
Template-Type	template-type	1: daily 2: monthly 3: event-ta 4: event-ac	-
View-ID	view-id	101 - 999	-

Example

The following examples illustrate how template list is fetched with different **template-type** values:

Sample Request:

```
http://matrixserver/api.svc/template-list?action=get;template-type=0
```


Sample Response:

```
id|name
1|Daily Attendance Detail
2|Monthly Attendance Summary
3|Attendance Events
4|Access Control Events
101|Monthly Attendance Summary
102|Daily Attendance Detail
<EOT>
```

Sample Request:

```
http://matrixserver/api.svc/template-list?action=get;template-type=1
```

Sample Response:

```
id|name|template-type|view-id
1|API_Template_Daily|1|9
2|API_Template_Monthly|2|8
3|API_Template_ATDEvents|3|7
4|API_Template_ACSEvents|4|6
101|MONTH ATTENDANCE|2|1
102|daily|1|2
<EOT>
```

Getting Export Template Details

This API allows the user to obtain the details such as fields, their type, length, name etc. for all or specified export templates on the COSEC database.

Action

action=get

Syntax

```
http://<servername>/api.svc/template-details?action=get;<argument>=<value>...
```

Parameters

Table: Getting Export Template Details - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
id	1 to 999	No	All	Export data template ID as per the configured templates in COSEC Web Application.
field-list	0 : view's fields 1 : all fields	No	0 (all fields as per the view structure)	Specifies the list of fields to be returned. If field-list=1 , return the combined list of all the fields (fields form view + custom fields + static fields)

Response Fields

The response will contain a list of fields defined for the specified templates. For each field the following will be provided:

Table: Getting Export Template Details - Response Table

Field Name	Tag Name	Valid Values	Remarks
Template Id	id	numeric	1-100 : API Templates 100 onwards : Export data Templates.
Field Name	field	alpha-numeric	as per COSEC Database.
Data Type	type		as per COSEC Database.
Maximum length	length	numeric	as per COSEC Database.
Decimal	decimal	numeric	as per COSEC Database.
Field type	field-type	0, 1, 2	0 : database field 1: static field 2: custom field
Mandatory	mandatory	0, 1	0: not mandatory 1: mandatory field

Getting Import Template List

This API can be used to fetch a list of all templates configured on the COSEC Web Application for user data import and event import (both Access Control and Attendance events table).

- 0- User master table
- 1- Event table

Action

action=get

Syntax

```
http://<servername>/api.svc/import-template-list?action=get;<argument>=<value>...
```

Response Fields

Table: Getting Import Template List - Response Fields

Field Name	Tag Name	Valid Values	Remarks
Template Id	Templateld	numeric	As configured in COSEC Web Application.
Code	code	alpha-numeric	As configured in COSEC Web Application.

Example

The following is a sample request-response.

Sample Request:

```
http://matrixserver/api.svc/import-template-list?action=get
```

Sample Response:

```
TemplateID|Code  
1|USER  
2|EVENT  
<EOT>
```

Getting Import Template Details

This API enables the user to fetch the internal table structure for the user master table and events table (both Access Control and Time and Attendance events table), indicating the fields, its data type and field length.

- 0- User master table
- 1- Event table

Action

action=get

Syntax

```
http://<servername>/api.svc/import-template-details?action=get;<argument>=<value>...
```

Parameters

Table: Getting Import Template Details - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
id	1 to 2 1=user template schema 2=event template schema	No	all	This is the template id.

Response Fields

Table: Getting Import Template Details - Response Fields

Field Name	Tag Name	Valid Values	Remarks
Field Id	id	numeric	auto-generated
Field Name	field	alpha-numeric	as per COSEC Database
Data Type	type	-	as per COSEC Database
Maximum length	length	numeric	as per COSEC Database
Decimal	decimal	numeric	as per COSEC Database

Getting Template Data

This is a common API that can be used to retrieve the data for a specified template.

Action

action=get

Syntax

```
http://<servername>/api.svc/template-data?action=get;<argument>=<value>...
```

Parameters

Table: Getting Template Data - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
id	1-999	Yes	-	Export data template ID as per the configured templates in COSEC Web Application. 1- 99 : API Templates 101-999 : Custom Templates Note: For User-Defined templates use the "Template-List" API to get the template-id.
date-range	If it is a daily template or event template, date range should be : ddmmyyyy – ddmmyyyy For a monthly template it should be : mmyyyy-mmyyyy	Yes	-	The date range for which the data export is required. Note: For User-Defined templates use the "Template-List" API to get the template-type.
userid	Max 10 alphanumeric characters (for user)	No	All (If neither user ID nor any enterprise group ID is mentioned, all active users will be considered.)	User id for which data is required. Multiple IDs can be selected, each separated by a 'comma'. e.g.:"1, 3, 7, 9..." Note : If userid is mentioned, then the enterprise group fields as listed below, should not be mentioned.
organization	1 to 999999	No		Data for the users belonging to the specified enterprise group and sub-groups (if mentioned) will be returned. Multiple IDs can be selected for the specified enterprise group, each separated by a 'comma'. e.g.:"1, 3, 7, 9..." Note: These parameters should not be mentioned if userid is mentioned.
branch				
department				
designation				
section				
category				
grade				

Table: Getting Template Data - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
field-name	text	No	If no name is specified, all the configured fields will be considered	Comma separated field-names, for which the values should be returned. Note: For User-Defined templates use the "Template List" and "Template Details" APIs to get the list of configured templates, and their corresponding arguments.

Response Fields**Table: Getting Template Data - Response Fields**

Field Name	Tag Name	Valid Values	Remarks
Template Id	template-id	1-999	Export data template ID as per the configured templates in COSEC Web Application. 1- 99 : API Templates 101-999 : Custom Templates
User ID	user-id	upto 10 characters	Allowed characters A-Z a-z 0-9 /_\.\@:
User Name	user-name	upto 45 characters	Allowed Characters A-Z a-z 0-9 - _ () []
Fields	fields	-	field-name : value pairs

Example**Sample Request:**

```
http://matrixserver/api.svc/template-data?action=get;id=1;date-range=11022013-12022013
```

Sample Response:

```
TEMPLATE-ID|USERID|USERNAME|UserID1|UserName1|ProcessDate|Punch1|Punch2|WorkingShift|LateIn|EarlyOut|Overtime|WorkTime
1|1|SALIM ANSARI|1|SALIM ANSARI|11/02/2013|11/02/2013 08:28:00|11/02/2013 12:06:00|23|0|0|0|534
1|10|RAJENDRA GOSWAMI|10|RAJENDRA GOSWAMI|11/02/2013|11/02/2013 08:25:00|11/02/2013 12:50:00|23|0|0|0|492
1|1001|ANKITKUMAR SOHLIYA|1001|ANKITKUMAR SOHLIYA|11/02/2013|11/02/2013 09:29:00|11/02/2013 19:08:00|GS|0|0|0|529
1|1002|MEGHA H SHUKLA|1002|MEGHA H SHUKLA|11/02/2013|11/02/2013 14:08:00|11/02/2013 19:35:00|GS|0|0|0|327
1|1003|UMESH M TALANPURI|1003|UMESH M TALANPURI|11/02/2013|11/02/2013 09:20:00|11/02/2013 18:54:00|GS|0|0|0|524
1|1004|DARSHAK B PATEL|1004|DARSHAK B PATEL|11/02/2013|11/02/2013 09:07:00|11/02/2013 19:06:00|GS|0|0|0|549
1|1007|DHAVAL I PATEL|1007|DHAVAL I PATEL|11/02/2013|11/02/2013 09:25:00|11/02/2013 20:27:00|GS|0|0|0|612
1|1008|MAYANK K KORAT|1008|MAYANK K KORAT|11/02/2013|11/02/2013 09:01:00|11/02/2013 20:26:00|GS|0|0|0|635
1|1009|DIPTI K RATHWA|1009|DIPTI K RATHWA|11/02/2013|||GS|0|0|0|0
1|1010|RAHUL S SHAH|1010|RAHUL S SHAH|11/02/2013|11/02/2013 09:17:00|11/02/2013 19:23:00|GS|0|0|0|556
1|1011|PARIKA S PANDEY|1011|PARIKA S PANDEY|11/02/2013|11/02/2013 09:18:00|11/02/2013 18:58:00|GS|0|0|0|530
1|1012|PARIKSHIT DAS|1012|PARIKSHIT DAS|11/02/2013|11/02/2013 09:25:00|11/02/2013 20:24:00|GS|0|0|0|609
1|1015|SUMEDHA A GAWARIKAR|1015|SUMEDHA A GAWARIKAR|11/02/2013|11/02/2013 09:21:00|11/02/2013 19:32:00|GS|0|0|0|561
1|1016|BALAJI A|1016|BALAJI A|11/02/2013|||GN|0|0|0|0
1|1|SALIM ANSARI|1|SALIM ANSARI|12/02/2013|12/02/2013 08:25:00|12/02/2013 09:48:00|23|0|0|0|476
1|10|RAJENDRA GOSWAMI|10|RAJENDRA GOSWAMI|12/02/2013|12/02/2013 08:23:00|12/02/2013 12:55:00|23|0|0|0|495
1|1001|ANKITKUMAR SOHLIYA|1001|ANKITKUMAR SOHLIYA|12/02/2013|12/02/2013 09:24:00|12/02/2013 19:22:00|GS|0|0|0|548
1|1002|MEGHA H SHUKLA|1002|MEGHA H SHUKLA|12/02/2013|12/02/2013 09:27:00|12/02/2013 19:40:00|GS|0|0|0|563
1|1003|UMESH M TALANPURI|1003|UMESH M TALANPURI|12/02/2013|12/02/2013 09:15:00|12/02/2013 18:55:00|GS|0|0|0|530
1|1004|DARSHAK B PATEL|1004|DARSHAK B PATEL|12/02/2013|12/02/2013 09:24:00|12/02/2013 19:27:00|GS|0|0|0|553
1|1007|DHAVAL I PATEL|1007|DHAVAL I PATEL|12/02/2013|12/02/2013 09:23:00|12/02/2013 20:14:00|GS|0|0|0|601
1|1008|MAYANK K KORAT|1008|MAYANK K KORAT|12/02/2013|||GS|0|0|0|0
1|1009|DIPTI K RATHWA|1009|DIPTI K RATHWA|12/02/2013|||GS|0|0|0|0
1|1010|RAHUL S SHAH|1010|RAHUL S SHAH|12/02/2013|12/02/2013 09:35:00|12/02/2013 19:46:00|GS|0|0|0|561
1|1011|PARIKA S PANDEY|1011|PARIKA S PANDEY|12/02/2013|12/02/2013 09:03:00|12/02/2013 18:51:00|GS|0|0|0|538
1|1012|PARIKSHIT DAS|1012|PARIKSHIT DAS|12/02/2013|12/02/2013 09:30:00|12/02/2013 19:11:00|GS|0|0|0|531
1|1015|SUMEDHA A GAWARIKAR|1015|SUMEDHA A GAWARIKAR|12/02/2013|12/02/2013 09:10:00|12/02/2013 19:04:00|GS|0|0|0|544
1|1016|BALAJI A|1016|BALAJI A|12/02/2013|||GN|0|0|0|0
<EOT>
```

The *Data Transfer* API enables the COSEC system to send a user's image/finger print template/palm template to a third party application. It also enables the system to receive the image/finger print template/palm template for a user and save/update it in the COSEC database.

Only a single user's data can be sent in one request. Also, only one image/template can be transferred at a time. The supported size limit for data transfer are as follows –

- Image – 250 kb
- FP template – 768 bytes
- Palm template – 3 kb

The generic URL for a *Data transfer API* is mentioned below.

Syntax

`http://<servername>/api.svc/datatransfer?action=<value>;<argument>=<value>...`

COSEC supports the following data transfer APIs:

- [Retrieving User Data](#)
- [Sending User Data](#)

Retrieving User Data

This functionality enables the third party to fetch user image/finger print template/palm templates from the COSEC database.

Action

action=get

Syntax

`http://<servername>/api.svc/datatransfer?action=get;<argument>=<value>...`

Parameters

Table: Retrieving User Data - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
userid	Varchar(10)	Yes	-	The user identification number of the user whose data is to be requested.
type	0: image 1: finger print template 2: palm template	Yes	-	The type of data being requested must be specified.
location	0-9 : if it is a palm template. 0-9 : if it is a finger print template.	No	By default the template stored at location=0 will be sent.	The position of the template that should be returned. Valid only for FP and Palm templates.



The image/template shall be sent in API data and not in API arguments.



This API cannot be tested on a browser.

Sending User Data

This API can be used by a third party application to send a user's data to the COSEC database. This user data is subsequently saved or updated in the database.

Action

action=set

Syntax

```
http://<servername>/api.svc/datatransfer?action=set;<argument>=<value>...
```

Parameters

Table: Sending User Data - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
userid	Varchar(10)	Yes	-	The user identification number of the user whose data is to be sent.
type	0: image 1: finger print template 2: palm template	Yes	-	The type of data being sent must be specified.
location	0-9 : if it is a palm template. 0-9 : if it is a finger print template.	No	By default, the template will be stored at the first available (empty) location for the user.	The position where the template should be stored. Valid only for FP and Palm templates.
overwrite	0 : no 1 : yes	No	0 (no)	Option to overwrite the template, if a template already exists at the mentioned position for the user.



An "Invalid Command" error message is returned in the following scenarios:

- If **type=1** and location is other than 0-9.
- If **type=2** and location is other than 0-9.
- If location specified is out of range.
- If a template already exists at the mentioned location.
- If no free locations are available.

The *Events APIs* enable users to perform the following functions:

- [Adding an Event](#)
- [Obtaining Time and Attendance Events](#)
- [Obtaining Time and Attendance Events by Date](#)
- [Obtaining Access Control Events](#)
- [Obtaining Access Control Events by Date](#)
- [Obtaining Door/Alarm/System Events](#)

Adding an Event

This API allows the user to add an event into COSEC for processing. This can include both time and attendance, as well as access control events.

Action

action=set

Syntax

```
http://<servername>/api.svc/events?action=set;<argument>=<value>...
```

Parameters

Table: Adding an Event - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
event-datetime	ddmmyyyyhhmmss format	Yes	-	This is the date and time when the event actually happened.
userid	Varchar(10)	Yes	-	This is the user id for the event. This will link the event with the user in COSEC.
in-out	Valid values 0,1 0=IN (default) 1=OUT	Yes	-	This specifies whether the event is "in" or "out" type.
spfid	2 digits Valid range = 0-10	No	0	This value specifies any special functions associated with the event.
event-src-details	Max. 20 characters	No	N/A	This field is for information purpose only. Here the event source details can be specified for later identification for the event. For e.g. it can mention a source IP address from where the event originated.
event-type	Valid values 0,1 0=attendance event 1=access control event	No	0	This field will determine where the event should be saved and how it is to be processed.
access	Valid values 0,1 0=denied (event 151) 1=allowed (event 101)	No	1 (allowed)	This value will determine the access value for the event.
mid	1 to 65000 (panel, panel-lite) 1 to 65000 (direct doors)	No	0	This specifies the device MID as set in cosec.
did	Numeric (2,0)	No	1	This specifies the device ID (DID) as set in COSEC. Note: For Direct Doors, DID will always be 1.

Table: Adding an Event - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
dtype	Numeric (1,0)	No	0	This specifies the device type, as set in COSEC. 0 = Panel 1 = Direct Door V1 2 = Panel Lite 3 = Direct Door V2 4 = NGT Direct Door 5 = Wireless Direct Door 6 = Path Controller 7 = PVR Direct Door 8= Vega Panel-Lite 9= Vega Controller
wphoto	Valid values 0,1 0=no photo 1=with photo	No	0	This field specifies that the event has image associated with it or not.
credentials	None = 0, PIN = 1, Card = 2, Card_PIN = 3, FingerPrint = 4, Finger_PIN = 5, Finger_Card = 6, Finger_Card_PIN = 7, Palm = 8, Palm_PIN = 9, Palm_Card = 10, Palm_Card_PIN = 11, Palm_Group = 24	No	0	This will specify the credentials used for the event.
event_src	0=Device 1=USB 2=ESS 3=SMS 4=PIM 5=Others 6=APP	No	5 (Others)	This will indicate the event source to the COSEC software. Note : Specify event_src=6 when Events are submitted using a Mobile Application.



When event_src= 0 (Device), 1(USB) and 3(SMS) it is mandatory to specify the correct dtype, did and mid.

Obtaining Time and Attendance Events

This can be used to fetch a specific number of Time and Attendance events in the required format.

Action

action=get

Syntax

```
http://<servername>/api.svc/event-ta?action=get;<argument>=<value>...
```

Parameters

Table: Obtaining Time and Attendance Events - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
field-name	The list of valid fields is mentioned in the "Response Fields" section.	No	If "field-name" is not mentioned, then system should consider configured "field-name" for the respective template in 'API Data Template'.	Multiple field-names can be selected, each separated by ", (comma)" e.g.: "indexno, userid, username, orgid..."
index	0000000000000000-9999999999999999	No	0	Index indicates the start point of an event. It shall be of 15 numeric digits. Response shall be provided with an error message, in case of invalid index. The default value of index shall be 0 (in case where the index not mentioned).
count	numeric	No	If count is not mentioned then system should send 999 (maximum value of count) events from given start point i.e. index.	It's the count up to which the data is required. It shall be of 3 numeric digits. e.g. index=50, and count=100, then system should provide total 100 events, starting from index =50 up to index =149
date-range	ddmmyyyy-ddmmyyyy	No	-	Provide this to get events within a particular date range.

Response Fields

Table: Obtaining Time and Attendance Events - Response Fields

Field Name	Tag Name	Valid Values	Remarks
Index number	INDEXNO	numeric 15 digits	-
User ID	USERID	10 characters.	-
User Name	USERNAME	45 characters	-
Short Name	short_name	max 15 characters	-
Organization ID	ORGID	1-999999	-
Branch ID	BRCID	1-999999	-

Table: Obtaining Time and Attendance Events - Response Fields

Field Name	Tag Name	Valid Values	Remarks
Department ID	DPTID	1-999999	-
Section ID	SECID	1-999999	-
Category ID	CTGID	1-999999	-
Grade ID	GRDID	1-999999	-
Designation ID	DSGID	1-999999	-
Reference No.	ADLUSERID	numeric	System generated
Gender	GENDER	M : Male F: Female NA : Not available	-
Marital Status	MRTLSTAT	M : Married U : Unmarried NA : Not available	-
Birth Date	BIRTHDT	dd/mm/yyyy	-
Joining Date	JOINDT	dd/mm/yyyy	-
Leaving Date	LEAVEDT	dd/mm/yyyy	-
Event Date and Time	EVENTDATETIME	dd/mm/yyyy HH:MM:SS	-
Event Date and Time	EVENTDATETIME_D	mm/dd/yyyy HH:MM:SS	-
Entry/Exit Type	ENTRYEXITTYPE	0 : Entry 1 : Exit	-
Master Controller ID	MASTERCONTROLLERID	1-65535	Device ID
Door Controller ID	DOORCONTROLLERID	1-75	-
Special Function ID	SPECIALFUNCTIONID	numeric	-
Event ID	EVENTID	numeric	-
Panel/Door Type	PANEL_DOOR_TYPE	0 = Panel, 1 = Direct Door, 2 = Panel Lite 3 = Direct Door V2, 4 = NGT Direct Door, 5 = Wireless Direct Door 6 = Compact Direct Door 7 = PVR Direct Door 8= Vega Panel-Lite 9= Vega Controller	-
Event Date	EDATE	dd/mm/yyyy	-
Event Time	ETIME	HH:MM	-
Insertion Date Time	IDATETIME	datetime	as per server configuration
Site ID	SITEID	1-999	-
Device Name	device_name	30 alphanumeric characters	-
Source	event_src	0=controller 1=USB 2=ESS 3=SMS 4=PIM 5=Others 6=APP	This will indicate the event source to the COSEC software.

Table: Obtaining Time and Attendance Events - Response Fields

Field Name	Tag Name	Valid Values	Remarks
Access Allowed or Denied	access_allowed	0 : denied 1: allowed	-
GPS Latitude	gps_latitude	9 characters	When location is calculated via GPS. This parameter will contain : latitude Example: -77.0081
GPS Longitude	gps_longitude	9 characters	When location is calculated via GPS. This parameter will contain : longitude Example: 38.8897
GSM Latitude	gsm_latitude	9 characters	When location is calculated via GSM. This parameter will contain : latitude
GSM Longitude	gsm_longitude	9 characters	When location is calculated via GSM. This parameter will contain : longitude
MAC Address	mac_address	17 characters	When location is calculated via Wi-Fi. This parameter will contain : MAC Address of source
Event Online/Offline Status	online_status	0 : Offline 1 : Online	Not mandatory. If not mentioned, default-value will be online=1 (Online) To be sent by Mobile Applications to differentiate in online and offline events.

Example

Calling T&A events with default values.

Sample Request:

```
http://matrixserver/api.svc/event-ta?action=get
```

Sample Response:

```
IndexNo|UserID|UserName|EventDateTime|EntryExitType|MasterControllerID|DoorControllerID|SpecialFunctionID|LeaveDT|IDateTime
33|1|sam|01/10/2011 17:31:18|0|1|1|0||10/01/2011 17:31:21
34|1|sam|03/10/2011 09:28:48|0|1|1|0||10/03/2011 09:28:55
35|2|hardik|03/10/2011 09:54:00|0|1|1|0||10/03/2011 09:54:07
36|3|shwetang|03/10/2011 09:54:10|0|1|1|0||10/03/2011 09:54:17
37|9|home|26/07/2012 16:08:17|0|0|0|0||07/26/2012 16:08:17
38|9|home|26/07/2012 16:08:44|0|0|0|0||07/26/2012 16:08:44
39|9|home|26/07/2012 16:08:49|0|0|0|0||07/26/2012 16:08:49
40|9|home|26/07/2012 16:09:09|0|0|0|0||07/26/2012 16:09:09
<EOT>
```


Obtaining Time and Attendance Events by Date

This API is similar to “*Obtaining Time and Attendance Events*”. However, in this case, the Time and Attendance events can be obtained for a specified date range.

Action

action=get

Syntax

```
http://<servername>/api.svc/event-ta-date?action=get;<argument>=<value>...
```

Parameters

Table: Obtaining Time and Attendance Events by Date - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
field-name	The list of valid fields is mentioned in the “Response Fields” section.	No	If “field-name” is not mentioned, then system should consider configured “field-name” for the respective template in ‘API Data Template’.	Multiple field-names can be selected, each separated by “,” (comma)” e.g.:”indexno, userid, username, orgid...”
date-range	ddmmyyyyhhmmss-ddmmyyyyhhmmss	Yes	-	This is date-range. T&A events stored in the specified date-range will be fetched.

Response Fields

Table: Obtaining Time and Attendance Events by Date - Response Fields

Field Name	Tag Name	Valid Values	Remarks
Index number	INDEXNO	numeric 15 digits	-
User ID	USERID	10 characters.	-
User Name	USERNAME	45 characters	-
Short Name	short_name	max 15 alphanumeric characters	-
Organization ID	ORGID	1-999999	-
Branch ID	BRCID	1-999999	-
Department ID	DPTID	1-999999	-
Section ID	SECID	1-999999	-
Category ID	CTGID	1-999999	-
Grade ID	GRDID	1-999999	-
Designation ID	DSGID	1-999999	-
Reference No.	ADLUSERID	numeric	System generated
Gender	GENDER	M : Male F: Female NA : Not available	-

Table: Obtaining Time and Attendance Events by Date - Response Fields

Field Name	Tag Name	Valid Values	Remarks
Marital Status	MRTLSTAT	M : Married U : Unmarried NA : Not available	-
Birth Date	BIRTHDT	dd/mm/yyyy	-
Joining Date	JOINDT	dd/mm/yyyy	-
Leaving Date	LEAVEDT	dd/mm/yyyy	-
Event Date and Time	EVENTDATETIME	dd/mm/yyyy HH:MM:SS	-
Event Date and Time	EVENTDATETIME_D	datetime	as per server configuration
Entry/Exit Type	ENTRYEXITTYPE	0 : Entry 1 : Exit	-
Master Controller ID	MASTERCONTROLLERID	1-65535	Device ID
Door Controller ID	DOORCONTROLLERID	1-75	-
Special Function ID	SPECIALFUNCTIONID	numeric	-
Event ID	EVENTID	numeric	-
Panel/Door Type	PANEL_DOOR_TYPE	0 = Panel, 1 = Direct Door, 2 = Panel Lite 3 = Direct Door V2, 4 = NGT Direct Door, 5 = Wireless Direct Door 6 = Compact Direct Door 7 = PVR Direct Door 8= Vega panel-lite 9= Vega Controller	-
Event Date	EDATE	dd/mm/yyyy	-
Event Time	ETIME	HH:MM	-
Insertion Date Time	IDATETIME	datetime	as per server configuration
Site ID	SITEID	1-999	-
Device Name	device_name	Max 30 alphanumeric character	-
Source	event_src	0=controller 1=USB 2=ESS 3=SMS 4=PIM 5=Others 6=APP	This will indicate the event source to the cosec software.
Access Allowed or Denied	access_allowed	0 : denied 1: allowed	-
GPS Latitude	gps_latitude	9 characters	When location is calculated via GPS. This parameter will contain : latitude Example: -77.0081
GPS Longitude	gps_longitude	9 characters	When location is calculated via GPS. This parameter will contain : longitude Example: 38.8897

Table: Obtaining Time and Attendance Events by Date - Response Fields

Field Name	Tag Name	Valid Values	Remarks
GSM Latitude	gsm_latitude	9 characters	When location is calculated via GSM. This parameter will contain : latitude
GSM Longitude	gsm_longitude	9 characters	When location is calculated via GSM. This parameter will contain : longitude
MAC Address	mac_address	17 characters	When location is calculated via Wi-Fi. This parameter will contain : MAC Address of source
Event Online/Offline Status	online_status	0 : Offline 1 : Online	Not mandatory. If not mentioned, default-value will be online=1 (Online) To be sent by ESS APPs to differentiate in online and offline events.

Example

This example presents a case where no time-attendance records are available for the specified date range.

Sample Request:

```
http://matrixserver/api.svc/event-ta-date?action=get;date-range=01012011000000-02012011235959
```

Sample Response:

```
success : No records found
```

Obtaining Access Control Events

This can be used to get a specific number of Access Control events (All events other than Time and Attendance events) in the required format.

Action

action=get

Syntax

```
http://<servername>/api.svc/event-acs?action=get;<argument>=<value>...
```

Parameters

Table: Obtaining Access Control Events - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
field-name	The list of valid fields is mentioned in the "Response Fields" section.	No	If "field-name" is not mentioned, then system should consider configured "field-name" for the respective template in 'API Data Template'.	Multiple field-names can be selected, each separated by ", (comma)" e.g.: "indexno, userid, username, orgid..."
index	0000000000000000-9999999999999999	No	0	Index indicates the start point of an event. It shall be of 15 numeric digits. The default value of index shall be 0 (in case where the index not mentioned)
count	numeric	No	If count is not mentioned then system will send 999 (maximum value of count) events from given start point i.e. index.	It's the count up to which the data is required. It shall be numeric digits. e.g. index=50, and count=100, then system should provide total 100 events, starts from index =50 up to index =149
date-range	ddmmyyyy-ddmmyyyy	No	-	Provide this to get events within a particular date range.

Response Fields

Table: Obtaining Access Control Events - Response Fields

Field Name	Tag Name	Valid Values	Remarks
Index number	INDEXNO	numeric 15 digits	-
User ID	USERID	10 characters.	Allowed characters A-Z a-z 0-9 /_\.\@:

Table: Obtaining Access Control Events - Response Fields

Field Name	Tag Name	Valid Values	Remarks
User Name	USERNAME	45 characters	Allowed Characters A-Z a-z 0-9 -_. ()[]
Short Name	short_name	max 15 alphanumeric characters	-
Event Date and Time	EVENTDATETIME	dd/mm/yyyy HH:MM:SS	-
Event Date and Time	EVENTDATETIME_D	datetime	as per server configuration
Entry/Exit Type	ENTRYEXITTYPE	0 : Entry 1 : Exit	-
Master Controller ID	MASTERCONTROLLERID	1-65535	Device ID
Door Controller ID	DOORCONTROLLERID	1-75	-
Special Function ID	SPECIALFUNCTIONID	numeric	-
Event ID	EVENTID	numeric	-
Panel/Door Type	PANEL_DOOR_TYPE	0 = Panel, 1 = Direct Door, 2 = Panel Lite 3 = Direct Door V2, 4 = NGT Direct Door, 5 = Wireless Direct Door 6 = Compact Direct Door 7 = PVR Direct Door 8= Vega panel-lite 9= Vega Controller	-
Event Date	EDATE	dd/mm/yyyy	-
Insertion Date Time	IDATETIME	datetime	as per server configuration
Site ID	SITEID	1-999	-
Organization ID	ORGID	1-999999	-
Branch ID	BRCID	1-999999	-
Department ID	DPTID	1-999999	-
Section ID	SECID	1-999999	-
Category ID	CTGID	1-999999	-
Grade ID	GRDID	1-999999	-
Designation ID	DSGID	1-999999	-
Device Name	device_name	Max 30 alphanumeric character	
Source	event_src	0=controller 1=USB 2=ESS 3=SMS 4=PIM 5=Others 6=APP	This will indicate the event source to the cosec software.
Event Time	ETIME	HH:MM	-
Access Allowed or Denied	access_allowed	0 : denied 1: allowed	-

Table: Obtaining Access Control Events - Response Fields

Field Name	Tag Name	Valid Values	Remarks
GPS Latitude	gps_latitude	9 characters	When location is calculated via GPS. This parameter will contain : latitude Example: -77.0081
GPS Longitude	gps_longitude	9 characters	When location is calculated via GPS. This parameter will contain : longitude Example: 38.8897
GSM Latitude	gsm_latitude	9 characters	When location is calculated via GSM. This parameter will contain : latitude
GSM Longitude	gsm_longitude	9 characters	When location is calculated via GSM. This parameter will contain : longitude
MAC Address	mac_address	17 characters	When location is calculated via Wi-Fi. This parameter will contain : MAC Address of source
Event Online/Offline Status	online_status	0 : Offline 1 : Online	Not mandatory. If not mentioned, default-value will be online=1 (Online) To be sent by Mobile Applications to differentiate in online and offline events.

Example

For default values,

Sample Request:

```
http://matrixserver/api.svc/event-acs?action=get
```

Sample Response:

```
IndexNo|UserID|UserName|EventDateTime|EntryExitType|MasterControllerID|DoorControllerID|IDateTime
30904|555013|KRISHNANAND SHIVRATAN PAL|23/02/2013 12:40:08|0|48|1| 30905|555013|KRISHNANAND SHIVRATAN PAL|23/02/
2013 12:40:15|0|48|1|
30906|8515|KARANSINGH DILBAHADUR DHAMI|23/02/2013 12:41:26|0|48|1|
30907|8699|RAJIV RANJAN PRAKASH SINGH|23/02/2013 12:41:35|0|48|1|
30908|8515|KARANSINGH DILBAHADUR DHAMI|23/02/2013 12:42:05|0|48|1|
30909|8515|KARANSINGH DILBAHADUR DHAMI|23/02/2013 12:43:13|0|48|1| 30910|555013|KRISHNANAND SHIVRATAN PAL|23/02/
2013 12:44:48|0|48|1|
30911|8515|KARANSINGH DILBAHADUR DHAMI|23/02/2013 12:44:55|0|48|1|
30912|8699|RAJIV RANJAN PRAKASH SINGH|23/02/2013 12:46:29|0|48|1|
30913|8699|RAJIV RANJAN PRAKASH SINGH|23/02/2013 16:11:46|0|48|1|
30914|555013|KRISHNANAND SHIVRATAN PAL|25/02/2013 10:52:46|0|48|1|
```

Obtaining Access Control Events by Date

This API is similar to “*Obtaining Access Control Events*”. However, in this case, the Access Control events can be obtained for a specified date range.

Action

action=get

Syntax

```
http://<servername>/api.svc/event-acs-date?action=get;<argument>=<value>...
```

Parameters

Table: Obtaining Access Control Events by Date - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
field-name	The list of valid fields is mentioned in the “Response Fields” section.	No	If “field-name” is not mentioned, then system should consider configured “field-name” for the respective template in ‘API Data Template’.	Multiple field-names can be selected, each separated by “,” (comma)” e.g.:”indexno, userid, username, orgid...”
date-range	ddmmyyyyhhmmss-ddmmyyyyhhmmss	Yes	-	This is date-range. Access Control events stored in the specified date-range will be fetched.

Response Fields

Table: Obtaining Access Control Events by Date - Response Fields

Field Name	Tag Name	Valid Values	Remarks
Index number	INDEXNO	numeric 15 digits	-
User ID	USERID	upto 10 characters.	Allowed characters A-Z a-z 0-9 /_\.\@:
User Name	USERNAME	upto 45 characters	Allowed Characters A-Z a-z 0-9 -_. ()[]
Short Name	short_name	max 15 alphanumeric characters	-
Event Date and Time	EVENTDATETIME	dd/mm/yyyy HH:MM:SS	-
Event Date and Time	EVENTDATETIME_D	datetime	as per server configuration
Entry/Exit Type	ENTRYEXITTYPE	0 : Entry 1 : Exit	-
Master Controller ID	MASTERCONTROLLERID	1-65535	Device ID
Door Controller ID	DOORCONTROLLERID	1-75	-

Table: Obtaining Access Control Events by Date - Response Fields

Field Name	Tag Name	Valid Values	Remarks
Special Function ID	SPECIALFUNCTIONID	numeric	-
Event ID	EVENTID	numeric	-
Panel/Door Type	PANEL_DOOR_TYPE	0 = Panel, 1 = Direct Door, 2 = Panel Lite 3 = Direct Door V2, 4 = NGT Direct Door, 5 = Wireless Direct Door 6 = Compact Direct Door 7 = PVR Direct Door 8= Vega panel-lite 9= Vega Controller	-
Event Date	EDATE	dd/mm/yyyy	-
Insertion Date Time	IDATETIME	datetime	as per server configuration
Site ID	SITEID	1-999	-
Organization ID	ORGID	1-999999	-
Branch ID	BRCID	1-999999	-
Department ID	DPTID	1-999999	-
Section ID	SECID	1-999999	-
Category ID	CTGID	1-999999	-
Grade ID	GRDID	1-999999	-
Designation ID	DSGID	1-999999	-
Device Name	device_name	Max 30 alphanumeric character	
Source	event_src	0=controller 1=USB 2=ESS 3=SMS 4=PIM 5=Others 6=APP	This will indicate the event source to the cosec software.
Event Time	ETIME	HH:MM	-
Access Allowed or Denied	access_allowed	0 : denied 1: allowed	-
GPS Latitude	gps_latitude	9 characters	When location is calculated via GPS. This parameter will contain : latitude Example: -77.0081
GPS Longitude	gps_longitude	9 characters	When location is calculated via GPS. This parameter will contain : longitude Example: 38.8897
GSM Latitude	gsm_latitude	9 characters	When location is calculated via GSM. This parameter will contain : latitude

Table: Obtaining Access Control Events by Date - Response Fields

Field Name	Tag Name	Valid Values	Remarks
GSM Longitude	gsm_longitude	9 characters	When location is calculated via GSM. This parameter will contain : longitude
MAC Address	mac_address	17 characters	When location is calculated via Wi-Fi. This parameter will contain : MAC Address of source
Event Online/Offline Status	online_status	0 : Offline 1 : Online	Not mandatory. If not mentioned, default-value will be online=1 (Online) To be sent by Mobile Applications to differentiate in online and offline events.

Example

The following example illustrates a case where no records of access control events are present in the given date range.

Sample Request:

```
http://matrixserver/api.svc/event-acs-date?action=get;date-range=01012012000000-02012012235959
```

Sample Response:

```
IndexNo|UserID|UserName|EventDateTime|EntryExitType|MasterControllerID|DoorControllerID|IDateTime
1890|112|PARESH CHAUHAN|01/01/2012 08:39:29|0|4|1|01/01/2012 08:40:00
1921|443|BHARGAV M PATEL|02/01/2012 09:41:29|0|4|1|01/02/2012 09:41:32
1923|112|PARESH CHAUHAN|02/01/2012 09:42:25|0|4|1|01/02/2012 09:42:27
1924|621|pate1 visha1 H|02/01/2012 09:42:28|0|4|1|01/02/2012 09:42:32
1925|521|PRAVINSINH GANPATSINH CHAUHAN|02/01/2012 09:42:34|0|4|1|01/02/2012 09:42:36
1926|489|KADIR I MANSURI|02/01/2012 09:42:37|0|4|1|01/02/2012 09:42:39
1927|424|VIMAL S TADVI|02/01/2012 09:42:40|0|4|1|01/02/2012 09:42:41
1928|684|JADAV MAYUR G|02/01/2012 09:42:46|0|4|1|01/02/2012 09:42:47
1929|449|CHINTAN A VARU|02/01/2012 09:42:50|0|4|1|01/02/2012 09:42:52
1930|644|Dhramesh Thakkar|02/01/2012 09:43:05|0|4|1|01/02/2012 09:43:07
1931|496|MILAN TRIVEDI|02/01/2012 09:43:11|0|4|1|01/02/2012 09:43:13
1932|515|KAMLESH KANUBHAI PARMAR|02/01/2012 09:43:26|0|4|1|01/02/2012 09:43:29
1933|498|RAVINDRA RAJPUT|02/01/2012 09:43:29|0|4|1|01/02/2012 09:43:33
1934|686|Saikh Sajid Usmanbhai|02/01/2012 09:43:33|0|4|1|01/02/2012 09:43:35
1935|514|BABU MANSUKHBHAI PALASH|02/01/2012 09:43:35|0|4|1|01/02/2012 09:43:38
1936|417|RAJESH P MACHHI|02/01/2012 09:44:07|0|4|1|01/02/2012 09:44:09
1937|434|KISHOR SOLANKI|02/01/2012 09:44:15|0|4|1|01/02/2012 09:44:18
1938|5|AMBALAL PADHIYAR|02/01/2012 09:44:24|0|4|1|01/02/2012 09:44:27
1940|4|DEVENDRA L MACHHI|02/01/2012 09:45:47|0|4|1|01/02/2012 09:45:49
```

Obtaining Door/Alarm/System Events

This will be used to fetch the COSEC door, alarm and system events for a specified date range. The date should be insertion date and all the events that are offline and yet to be inserted will be left out.

Action

action=get

Syntax

```
http://<servername>/api.svc/event-others?action=get;<argument>=<value>...
```

Parameters

Table: Obtaining Door/Alarm/System Events - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
type	0: all (default) 1: door 2: alarm 3: system	No	0 (all)	If type=1. The response should contain all door events. Event ID range : 201-299 if type=2. The response should contain all alarm events. Event ID range : 301-399 if type=3. The response should contain all system events. Event ID range : 401-499
date-range	ddmmyyyyhhmmss-ddmmyyyyhhmmss	Yes	-	This is the event date-range. Events stored in the specified date-range will be fetched. Note: - The events that have already occurred, but are yet to be inserted, will not be returned. The record should be requested again at a later stage.

Response Fields

Table: Obtaining Door/Alarm/System Events - Response Fields

Field Name	Tag Name	Valid Values	Remarks
Master Controller ID	mid	1-65535	Device MID
Door Controller ID	did	1-75	-
Event Type	type	-	0: all (default) 1: door 2: alarm 3: system
Site ID	siteid	1-999	-
Event Date and Time	eventdatetime	dd/mm/yyyy HH:MM:SS	-
Event ID	eventid	door events: 201-299 alarm events: 301-399 system events: 401-499	-

Table: Obtaining Door/Alarm/System Events - Response Fields

Field Name	Tag Name	Valid Values	Remarks
Event Field	field-1	As per configuration	Field-1 can be User ID for event 401 . But Transaction ID for event 403.
Event Field	field-2	As per configuration	-
Event Field	field-3	As per configuration	-

Events Reference**Table: List of Events**

Event ID	Event Description
101	User Allowed
102	User Allowed – with Duress
103	User Allowed – Anti-Pass Back-soft
104	User Allowed - Dead-man Zone
105	User Allowed – Door Not open
106	User Allowed – Smart Secure Access
107	User Allowed – Smart card based route access - soft
108	User Allowed – Panel route access - soft
109	User Allowed – two person rule - primary user
110	User Allowed – two person rule - secondary user
151	User Denied – User Invalid
152	User Denied – Occupancy Control
153	User Denied – 2-Person Rule
154	User Denied – Time Out
155	User Denied – Visitor Escort Rule
156	User Denied – Anti-Pass Back
157	User Denied – Disabled User
158	User Denied – Blocked User
159	User Denied – First IN User
160	User Denied – DND Enabled
161	User denied – Control zone
162	User Denied – Door Lock
163	User Denied – Invalid Access Group
164	User Denied – Validity date expired
165	User Denied – Invalid Route Access
166	User Denied – Invalid Shift Access
201	Door Status changed
202	Dead-man timer changed

Table: List of Events

Event ID	Event Description
203	DND status changed
204	Aux input status changed
205	Aux output status changed
206	Door sense input status
207	Door Controller Communication status
301	Dead-man timer expired Alarm– User IN
302	Duress detection
303	Panic Alarm
304	FP Memory Full – Alarm
305	Door Held open too long
306	Door Abnormal
307	Door force open
308	Door Controller Offline
309	Door Controller -Fault
310	Tamper Alarm
311	Master Controller Mains fail Alarm
312	Master Controller Battery fail
313	Master Alarm – MC Alarm input
314	RTC
315	Event Buffer Full
351	Alarm acknowledged
352	Alarm cleared
353	Alarm Re-issued
401	User Block/Restore
402	Login to ACS
403	Message transaction confirmation to ACMS
404	Guard Tour-status
405	Enrolment
406	Master Alarm sense input status
407	Master Aux Output status
408	Input Output Group Link status
409	Credentials Deleted
410	Time Triggered Function
411	Time Stamping Function
412	Guard tag
413	Camera Event for time stamp

Table: List of Events

Event ID	Event Description
451	Configuration Change
452	Roll over of events
453	Master Controller Power ON
454	Configuration Defaulted
455	Soft Override
456	Backup and Update
457	Default System
458	Sensor Calibration



- Response will not contain the following alarm events :
 - 351 : Alarm acknowledged
 - 352 : Alarm cleared
- The status changes are not registered as new events, as they are being updated against the current event itself.

The events returned will be ordered according to the date-time of the event (edatetime)

Sending Commands to Device

This API can be used to send a command to a COSEC device from a third-party application. Certain commands can be sent directly to devices to initiate specific actions. The following commands can be sent to a COSEC device via API:

- **Set Date-Time** - Sends the current system date and time to the device.
- **Normalize Door/Lock Door/Unlock Door** - Sends the appropriate commands to the DOOR to reset the door lock status.
- **Delete FP** - Sends command to delete the fingerprints (FP) from the fingerprint module of a device.
- **Sync Credentials** - Sends command to synchronize credentials from the PANEL to the DOORs. It is recommended to first send the delete fingerprints command to the DOORs before starting the synchronizing process for finger print templates.
- **Clear All Alarms** - Sends the command to clear all alarms configured on the COSEC system.
- **Factory Defaults** - Sends the command to default the device settings to the default factory settings.
- **Delete Palms** - Sends command to delete the palm templates from a palm vein reader device.

Action

action=command

Syntax

```
http://<servername>/api.svc/device-commands?action=command;<argument>=<value>.....
```

Parameters

Table: Sending Commands to Device - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
device-id	1 to 65000 (panel, panel-lite) 1 to 65000 (direct doors)	Yes	-	This is the device identification number.

Table: Sending Commands to Device - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
device-type	0,1,2,3,4,5,6,7,8,9	Yes	-	This is the type of device to which command is to be sent. Here, 0 = Panel, 1 = Direct Door V1, 2 = Panel Lite 3 = Direct Door V2, 4 = NGT Direct Door, 5 = Wireless Direct Door 6 = Path Controller 7 = PVR Direct Door 8 = Vega Panel-Lite 9 = Vega Controller
Panel-door-no	1 to 75	No	-	Valid only when command is to be sent to a Panel Door. Note: If this value is not specified with device type 0 or 2 then the interpretation is that the command is intended for the corresponding Panel or Panel-lite.
command-type	1 - set date-time 2 - normalize door 3 - lock door 4 - unlock door 5 - delete FP (clears all finger prints) 6 - sync credentials 7 - clear all alarms 8 - factory defaults 9 - delete palms	Yes	-	To specify a command.



Applicable device-commands based on device-type:

a) Panel: Applicable Commands: 1, 7, 8

b) Panel Door: Applicable Commands: 2 - 7 and 9 (if it is a PVR Door)

c) Direct Door: Applicable Commands: 1 - 5, 7, 8 and 9 (if it is a PVR Door)

Example

The following is an example of a command sent to a panel door for credentials synchronization:

Sample Request:

```
http://matrixserver/api.svc/device-commands?action=command;device-id=1;device-type=0;Panel-door-no=1;command-type=6;
```

Sample Response:

```
success: Command received successfully
```

Now, in the next example, a command is sent to the same device to clear all alarms.

Sample Request:

```
http://matrixserver/api.svc/device-commands?action=command;device-id=1;device-type=0;Panel-door-  
no=1;command-type=7;
```

Sample Response:

```
failed: No alarms to clear
```

In this case, the selected device has no alarms to be cleared.

Request the total count of users assigned on a device by specifying the device type and device ID.

Action

action=get

Syntax

```
http://<servername>/api.svc/device-users?action=get;<argument>=<value>.....
```

Parameters

Table: User Count on Device - Parameters

Argument	Valid Values	Mandatory	Default Value	Description
device-id	1 to 65000 (panel, panel-lite) 1 to 65000 (direct doors)	Yes	-	This is the device identification number.
device-type	0,1,2,3,4,5,6,7,8,9	Yes	-	This is the type of device to which command is to be sent. Here, 0 = Panel, 1 = Direct Door V1, 2 = Panel Lite 3 = Direct Door V2, 4 = NGT Direct Door, 5 = Wireless Direct Door 6 = Path Controller 7 = PVR Direct Door 8 = Vega Panel-Lite 9 = Vega Controller

Example

The following is an example of a request sent to “**matrixserver**” to obtain the user count for a *Direct Door V2* with device-id=1,

Sample Request:

```
http://matrixserver/api.svc/device-users?action=get;device-id=11;;device-type=3
```

Sample Response:

```
DeviceID|DeviceName|UserCount|TotalUserCapacity  
11|RnD Basement V2|464|2000  
<EOT>
```

The called HTTP request shall be parsed by the system before it returns an appropriate response depending on the nature of success or failure. Some common response messages are as follows:

- If a request is successful:

```
<success: successful>
```

- If an argument is mentioned but no value is provided:

```
<failed: Incomplete command : "[argument-name]=">
```

- If any unexpected arguments are encountered or for other syntax errors:

```
<failed: Invalid syntax : "#">
```

- For incorrect argument values:

```
<failed: Invalid command : "[argument-name]=*>
```

- If a mandatory argument is missing:

```
<failed: Incomplete command : "#">
```



- “*” Specifies the value mentioned in the request against its respective arguments.
- “#” specifies the entire request string.

Example

The following examples illustrate some common error response cases that the user may encounter when sending an HTTP query:

Error Request:

Argument action mentioned but no value given.

```
http://matrixserver/api.svc/device?action=
```

Error Response:

Request failed: Incomplete command : action=

Error Request:

- **Invalid type (invalid value).**

http://matrixserver/api.svc/device?action=get;type=paneldoor123

Error Response:

Request failed: Invalid command : type=paneldoor123

Error Request:

- **Invalid range.**

http://matrixserver/api.svc/device?action=assign;device=g_1-g_9;id=1

Error Response:

Request failed: Invalid command : device=g_1-g_9

Error Request:

- **Mandatory fields not mentioned.**

http://matrixserver/api.svc/user?action=setphoto

Error Response:

Request failed: Incomplete command : userid=



MATRIX COMSEC PVT. LTD.

Corporate Office:

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

Ph.: +91 265 2630555, Fax: +91 265 2636598

E-mail: Info@MatrixComSec.com

Manufacturing Unit:

15 & 19 GIDC, Waghodia - 391760, Dist. Vadodara, India.

Ph.: +91 2668 263172/73

Customer Care:

Ph.: +91 265 2630555

E-mail: Customer.Care@MatrixComSec.com, Support@MatrixComSec.com

www.MatrixComSec.com