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eCMS Connect REST Services

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1	Akshay Choudhary	Initial Draft	1.0
2	Akshay Choudhary	Added filter and order	1.1
3	Akshay Choudhary	Read service parameters	1.2
4	Akshay Choudhary	Added Save and Upload services	1.3
5	Akshay Choudhary	Updated Available template tables	1.4
6	Akshay Choudhary	LBCC Security requirement for PR and HR services	1.5
7	Akshay Choudhary	Updated Available read tables	1.5

Table of Contents

1	Introduction	4
2	Overview	4
3	Authentication Services	4
4	Metainfo Services	5
5	Read Services	6
5.1	Select Columns	7
5.2	Filter	7
5.3	Sort	8
5.4	Page Start	8
5.5	Max Results	8
5.6	Sample Request	9
5.7	Available tables	9
6	Save Services	9
6.1	Available template tables	11
7	Upload Services	12

1 Introduction

This document illustrates the specifications and format for accessing eCMS Connect RESTful services.

2 Overview

eCMS Connect RESTful services conform to the Representational State Transfer (REST) architectural style using Java API for RESTful Web Services (JAX-RS).

Supported Media types are JSON, XML and Text.

When accessing service outside network it is highly recommended to use Secure Protocol (HTTPS) as data communications protocol.

3 Authentication Services

eCMS web service uses token based security. Client program has to obtain token at the beginning which will be used later calling services. Token validity is managed and maintained by eCMS application.

Request Header:

Title: Authentication
URL: /ecms/connect/rest/authentication
Method: POST
content-type: application/json
{ "username": "eCMSUser", "password": "XXXXX" }

Request Body:

-

Response Header:

content-type: text/plain

Response Body:

cd3a2946-2c7b-4021-8c28-94e1a9ec3a3

4 Metainfo Services

Provides information about available columns and types.

{name} – Name of table or service (refer section 4 for available services)

Request Header:

Title: Metainfo

URL: /ecms/connect/rest/metainfo/{name}

Method: GET

Accept: {application/xml or application/json or text/plain}

Authorization: {API Key from authentication service}

Request Body:

-

Response Header:

content-type: {application/xml or application/json or text/plain}

Response Body:

JSON FORMAT:

```
[{"decimal": "0", "size": "2", "heading": "COMPANY  
NUMBER", "datatype": "Integer", "dbcolumnname": "COMPANYNUMBER"}, {"decimal": "0", "size": "3", "heading": "DIVISION  
NUMBER", "datatype": "Integer", "dbcolumnname": "DIVISIONNUMBER"}, {"decimal": null, "size": "25", "heading": "NAME", "datatype": "String", "dbcolumnname": "NAME25"}, {"decimal": "0", "size": "5", "heading": "VENDOR  
NUMBER", "datatype": "Integer", "dbcolumnname": "VENDORNUMBER"}]
```

XML FORMAT:

```
<columns><column><decimal>0</decimal><size>2</size><heading>COMPANY  
NUMBER</heading><datatype>Integer</datatype><dbcolumnname>COMPANYNUMBER</  
dbcolumnname></column><column><decimal>0</decimal><size>3</size><heading>DIVISI  
ON  
NUMBER</heading><datatype>Integer</datatype><dbcolumnname>DIVISIONNUMBER</d  
bcolumnname></column><column><decimal/><size>25</size><heading>NAME</heading>  
<datatype>String</datatype><dbcolumnname>NAME25</dbcolumnname></column><colu
```

```
mn><decimal>0</decimal><size>5</size><heading>VENDOR  
NUMBER</heading><datatype>Integer</datatype><dbcolumnname>VENDORNUMBER</db  
columnname></column></columns>
```

5 Read Services

Read service provides a method to get information for specified service, name or view.

{name} – Name of table or service (refer section [available services](#))

Request Header:

Title: Read

URL: /ecms/connect/rest/read/{name}

Method: GET

Accept: {application/xml or application/json or text/plain}

Authorization: {API Key from authentication service}

Request Body:

-

Response Header:

content-type: {application/xml or application/json or text/plain}

Response Body:

JSON FORMAT:

```
[{"VENDORNUMBER":0,"COMPANYNUMBER":1,"DIVISIONNUMBER":0,"NAME25":  
"}, {"VENDORNUMBER":1,"COMPANYNUMBER":1,"DIVISIONNUMBER":0,"NAME25":  
ous Langusw  
"}, {"VENDORNUMBER":2,"COMPANYNUMBER":1,"DIVISIONNUMBER":0,"NAME25":  
& Equip & Supply Co"}]
```

XML FORMAT:

```
<items><item><VENDORNUMBER>0</VENDORNUMBER><COMPANYNUMBER>1</COMPANYNUMBER><DIVISIONNUMBER>0</DIVISIONNUMBER><NAME25></NAME25></item><item><VENDORNUMBER>1</VENDORNUMBER><COMPANYNUMBER>1</COMPANYNUMBER><DIVISIONNUMBER>0</DIVISIONNUMBER><NAME25>Gregarious Langusw</NAME25></item><item><VENDORNUMBER>2</VENDORNUMBER><COMPANYNUMBER>1</COMPANYNUMBER><DIVISIONNUMBER>0</DIVISIONNUMBER><NAME25>B & W & Equip & Supply Co</NAME25></item></items>
```

Read service support select columns, filter, sort, page size and max result parameters. These can be passed as query string parameters.

5.1 **Select Columns**

Specify “columns” parameters to fetch selected columns separated by comma (,). To fetch all columns omit this parameter or pass blank.

Example – columns=FIRSTNAME25,MIDDLENAME1,MIDDLENAME2,LASTNAME25

5.2 **Filter**

Query string parameter name for filter is “**filter**” and filter string formatted as **fieldname+operator+value**. Example – filter=COMPANYNO+eq+1

For more than one filter repeat filter parameter no of times. Example – filter=COMPANYNO+eq+1&filter=DIVISIONNO+gte+0

The supported operators are:

"eq" (equal to)

"neq" (not equal to)

"isnull" (is equal to null)

"isnotnull" (is not equal to null)

"lt" (less than)

"lte" (less than or equal to)

"gt" (greater than)

"gte" (greater than or equal to)

"contains"

"doesnotcontain"

*The last two are supported only for string fields.

5.3 **Sort**

Query string parameter name for sort is "**sort**" and sort string formatted as **fieldname+order**.

Example – sort=VENDORNUMBER+asc

For more than one sort order repeat sort parameter no of times. Example –
sort=VENDORNUMBER &sort=NAME+desc

The supported order are asc and desc. If no order is passed then asc will be used as default.

5.4 **Page Start**

Set start index of result. Default start index is 0.

5.5 **Max Results**

Set maximum no of records fetched per request. Default max result size is 1000.

5.6 **Optional parameters**

company – Login Company no. This will be used to get LBCC profile information. Only required for Payroll and HR tables. Refer [section 5.8](#) for more information.

division – Login Division no. This will be used to get LBCC profile information. Only required for Payroll and HR tables. Refer [section 5.8](#) for more information.

5.7 **Sample Request**

Request with all possible parameters –

GET

/ecms/connect/rest/read/HRTEMP?**columns**=FIRSTNAME25,MIDDLENAME1,MIDDLENAME2,LASTNAME25&**maxresults**=100&**pagestart**=0&**filter**=COMPANYNO+eq+1&**sort**=HRTEMPID+desc

5.8 **LBCC Requirement**

Reading Payroll and HR tables would require LBCC setup in eCMS for integration user. These services will require “company” and “division” request parameter to fetch LBCC profile information.

LBCC selection rule –

- a. Default LBCC setup for passed company/division
- b. If no default setup then first LBCC profile (sorted ascending by LBCC profile name)

5.9 **Available tables**

Below tables are available for read operation. More tables/views/services will be added in future.

- APTVEN
- CSTTMST
- EQTMST
- HRTEMP
- ITTBAL
- ITTMST
- JCTDSC
- JCTMST
- PRTMST
- PRTTCH
- [All template import tables](#)

6 **Save Services**

Save service provides a method to insert/update information for specified template table.

{name} – Name of template table (refer section [available template services](#))

Available column information can be fetched using [metainfo service](#).

Request Header:

Title: Save
 URL: /ecms/connect/rest/save/{name}
 Method: POST
 content-type: application/json
 Accept: application/json
 Authorization: {API Key from authentication service}

Sample Request Body:

```
[{"INBTNO": "99999", "INCKTY": "R", "INCONO": "11", "INCSTY": "L", "INDTWE": "20180518", "INDVNO": "0", "INDYWK": "2", "INEECO": "1", "INEEDV": "0", "INEENO": "1111", "INJBNO": "AAA", "INOTHR": "8", "INOTTY": "", "INRGHR": "8", "INSJNO": "", "INSTAT": "", "INWKNO": "0", "INPYTY": "", "INAA01": "0", "INGP05": "", "INSQ05": ""}, {"INBTNO": "99999", "INCKTY": "R", "INCONO": "2", "INCSTY": "L", "INDTWE": "2017-05-18", "INDVNO": "0", "INDYWK": "2", "INEECO": "1", "INEEDV": "0", "INEENO": "55", "INJBNO": "AA100", "INOTHR": "8", "INOTTY": "", "INRGHR": "8", "INSJNO": "", "INSTAT": "", "INWKNO": "0", "INPYTY": "", "INAA01": "0", "INGP05": "", "INSQ05": ""}]
```

Response Header:

content-type: text/plain

Sample Success Response Body:

2 records were imported!

Sample Error Response Body:

Failed to import records. Msg: Empl No, Reg Hrs, W/Ending Date, Week No, Batch No required fields are missing from the template.

Option request parameters:

hasheader – Indicates whether excel sheet has header row or not. Default is No. Valid values are No and Yes.

Autoupdate – Indicates whether auto process data in eCMS after import or leave them for batch processing. Autoupdate not available for all services. Default is No. Valid values are Yes and No.

6.1 Available template tables

Below tables are available for read operation. More tables/views/services will be added in future.

Table Name	Description
APTCNII	Subcontract Import
APTCTII	A/P Paid Checks
APTVEN	A/P Vendor Master
APTXXKII	A/P Invoices
APTXXKPO	A/P PO Import
ARTOPCI	A/R Open Receivables - Control
ARTOPDI	A/R Open Receivables - Detail
CSTTMST	A/R Customer Master
EQTDNM	Equipment Depreciation
EQTMSTI	Equipment Master
EQTRTEI	Equipment Rates
EQTTRSI	Equipment Transfer
EQTWRKII	Equipment Usage
GLTPCJI	G/L Standard Journal Transactions
HRTBDI	H/R Benefit/Deduction Enrollment
HRTDEFI	HR Vacation
HRTDPNI	HR Dependent
JCPHVBSRC	HCSS Interface
JCTCGII	J/C Change Order
JCTJCLI	J/C Close Jobs

JCTMSI	Job Cost Master
JCTMSII	Job Cost Master w Segment
JCTQYI	J/C Cost Qty
ORTIORII	Order Processing Import
POTAPI	P/O Receipts
POTIPOII	P/O Import
PRTIND	P/R Time Import
PRTINDI	P/R Time Import Interface
PRTMSTI	P/R Employee Import Interface
SYTUJCMST	Job Cost Master - UDC

7 Upload Services

eCMS excel template data can be imported via upload REST service.

Request Header:

Title: Upload

URL: /ecms/connect/rest/upload/template/{TEMPLATE_NAME}?hasheader={No/Yes}

Method: GET

Type - multipart/form-data

Authorization: {API Key from authentication service}

{TEMPLATE_NAME} – Name of template setup in eCMS under menu **Admin – Application Installation – Template Setup**

Option request parameters:

hasheader – Indicates whether excel sheet has header row or not. Default is No. Valid values are No and Yes.

Autoupdate – Indicates whether auto process data in eCMS after import or leave them for batch processing. Autoupdate not available for all services. Default is No. Valid values are Yes and No.