LoadSync™ API

User Documentation v1.0 (December 2017)

Overview

LoadSync API is an optional software component of the LoadScan Load Volume Scanner (LVS) created with the goal of enabling customers to access their scan data (measurement records) directly, without needing to parse log files.

LoadSync API is a software interface that belongs to the Representational State Transfer (REST) category. It allows you to perform 'RESTful' operations such as reading scan data from your scanner over HTTP on port 80.

This service is only intended for use within a secure corporate network and HTTPS is not currently supported. If secure access over an internet exposed link with encryption is required, then please enquire about our MyScanner API product.

Operation

LoadSync API uses plain JSON over HTTP and the following HTTP verbs:

COMMAND	PURPOSE
GET	Fetch one or more objects

Note:
The API does not currently allow creation (POST), modification (PUT) or deletion (DELETE) of scan data.

Authentication

Once LoadSync API has been activated on your LVS system the following configuration settings will be enabled and can be edited at the LVS operator console by opening the Custom Settings dialog (below) available from the Settings screen. See the *LoadScan Load Volume Scanner Operator Manual* for general LVS configuration and usage instructions.

Setting	Value	
[custom]		∧
LoadSyncAPIEnable	TRUE	
LoadSyncAPIPassword	abc123	
		∨

Settings Type: **CUSTOM**

EDIT   OK   CANCEL

For example, if your API password is:

abc123

And your scanner serial number[1] is:

111111

And your scanner IP address is:

10.0.0.240

Then an example URL is:

http://**10.0.0.240**/api/api.php?sid=**111111**&token=**abc123**

Note:
[1]If you are unsure of your LVS serial number please refer to the LVS documentation

What the API Provides

Every single piece of information relating to the scanner you input in your API call can be retrieved. This means, every scan record ever recorded by your scanner can be retrieved.

Schema

Blank Fields:

Blank fields are included as null or "" instead of being omitted.

DateTime Fields:

All timestamps are returned in ISO 8601 format YYYY-MM-DD HH:MM:SS (Example : 2016-12-25 13:30:00)

Requests

All requests require a minimum of two GET parameters to be set.

1. The scanner serial number you wish to retrieve data for
2. Your LoadSync API password

Get ALL

GET	all records

Use Case: You wish to return all scan data from a scanner.

Parameters:

NAME	TYPE	FORMAT	EXAMPLE
sid	string(6)	XXXXXX	**111111**

Example Request URL:

http://10.0.0.240/api/api.php?**sid**=**111111**&**token**=**abc123**

Note:
It is possible that the last record returned relates to a scan that has not yet been finalised and may be cancelled after the fact by the scanner operator. Currently if you need to know the status of every record precisely via the API then you will need to recheck that last record again later to see if it was cancelled after it was originally retrieved, and other scans have been processed. See the "Cancelled" and "Simple" requests below for ways to deal with this.

Sample Response

```
[
 {
  "Record": "111111-000000",
  "Time": "2015-07-25 00:00:00",
  "Dir.": "OUT",
  "Operator": "BIG MINE CO",
  "Truck ID": "TRK0001",
  "Truck Load (m3)": "23.5",
  "Trailer ID": "",
  "Trailer Load (m3)": "",
  "Total (m3)": "23.5",
  "Status": "",
  "Truck Driver": "Adrian Ruthe",
  "Bogger ID": "B123",
  "Bogger Operator": "John Key",
  "Load Source": "X1FE2",
  "Loading Location": "X2FE1",
  "Load Destination": "Main ROM",
  "Site": "BIG KAHUNA MINE",
  "Cancelled": false
 },
...
]
```

Record GREATER THAN

GET	all records	>	lastrecord

Use Case: You wish to return all scan data from a scanner after the last record number you have stored: **111111-000017**

Parameters:

NAME	TYPE	FORMAT	EXAMPLE
sid	string(6)	XXXXXX	**111111**
lastrecord	string(13)	XXXXXX-XXXXXX	**111111-000017**

Example Request URL:

http://10.0.0.240/api/api.php?**sid**=**111111**&**lastrecord**=*111111-000017*&**token**=**abc123**

Note:
It is possible that the last record returned relates to a scan that has not yet been finalised and may be cancelled after the fact by the scanner operator. Currently if you need to know the status of every record precisely via the API then you will need to recheck that last record again later to see if it was cancelled after it was originally retrieved, and other scans have been processed. See the "Cancelled" and "Simple" requests below for ways to deal with this.

Sample Response

```
[
 {
  "Record": "111111-000018",
  "Time": "2015-07-25 00:50:00",
  "Dir.": "OUT",
  "Operator": "BIG MINE CO",
  "Truck ID": "TRK0001",
  "Truck Load (m3)": "23.5",
  "Trailer ID": "",
  "Trailer Load (m3)": "",
  "Total (m3)": "23.5",
  "Status": "",
  "Truck Driver": "Adrian Ruthe",
  "Bogger ID": "B123",
  "Bogger Operator": "John Key",
  "Load Source": "X1FE2",
  "Loading Location": "X2FE1",
  "Load Destination": "Main ROM",
  "Site": "BIG KAHUNA MINE",
  "Cancelled": false
 }, {
  "Record": "111111-000019",
  "Time": "2015-07-25 00:53:00",
  "Dir.": "OUT",
  "Operator": "BIG MINE CO",
  "Truck ID": "TRK0001",
  "Truck Load (m3)": "23.5",
  "Trailer ID": "",
  "Trailer Load (m3)": "",
  "Total (m3)": "23.5",
  "Status": "",
  "Truck Driver": "Adrian Ruthe",
  "Bogger ID": "B123",
  "Bogger Operator": "John Key",
  "Load Source": "X1FE2",
  "Loading Location": "X2FE1",
  "Load Destination": "Main ROM",
  "Site": "BIG KAHUNA MINE",
  "Cancelled": false
 }
]
```

DateTime AFTER

GET	all records
AFTER	**<DateTime>**

Use Case: You wish to get all scan data for all records after date *(25 Aug 2015)* and time *(12:48am)*

Parameters:

NAME	TYPE	FORMAT	EXAMPLE
sid	string(6)	XXXXXX	**111111**
after	string(19)	YYYY-MM-DD+HH:MM:SS	**2015-07-25+00:48:00**

Notes: **'+' separating DATE+TIME for URL encoding purposes only. API will read whitespace, '%20', or '+'**

Example Request URL:

http://10.0.0.240/api/api.php?**sid**=**111111**&**after**=**2015-07-25+00:48:00**&**token**=**abc123**

Note:
It is possible that the last record returned relates to a scan that has not yet been finalised and may be cancelled after the fact by the scanner operator. Currently if you need to know the status of every record precisely via the API then you will need to recheck that last record again later to see if it was cancelled after it was originally retrieved, and other scans have been processed. See the "Cancelled" and "Simple" requests below for ways to deal with this.

Sample Response

```
[
 {
  "Record": "111111-000018",
  "Time": "2015-07-25 00:50:00",
  "Dir.": "OUT",
  "Operator": "BIG MINE CO",
  "Truck ID": "TRK0001",
  "Truck Load (m3)": "23.5",
  "Trailer ID": "",
  "Trailer Load (m3)": "",
  "Total (m3)": "23.5",
  "Status": "",
  "Truck Driver": "Adrian Ruthe",
  "Bogger ID": "B123",
  "Bogger Operator": "John Key",
  "Load Source": "X1FE2",
  "Loading Location": "X2FE1",
  "Load Destination": "Main ROM",
  "Site": "BIG KAHUNA MINE",
  "Cancelled": false
 },
 {
  "Record": "111111-000019",
  "Time": "2015-07-25 00:53:00",
  "Dir.": "OUT",
  "Operator": "BIG MINE CO",
  "Truck ID": "TRK0001",
  "Truck Load (m3)": "23.5",
  "Trailer ID": "",
  "Trailer Load (m3)": "",
  "Total (m3)": "23.5",
  "Status": "",
  "Truck Driver": "Adrian Ruthe",
  "Bogger ID": "B123",
```

    "Bogger Operator": "John Key",
    "Load Source": "X1FE2",
    "Loading Location": "X2FE1",
    "Load Destination": "Main ROM",
    "Site": "BIG KAHUNA MINE",
    "Cancelled": false
  }
]

DateTime BEFORE

GET	all records
BEFORE	**<DateTime>**

Use Case: You wish to get all scan data for all records before date *(25 Aug 2015)* and time *(12:06am)*

Parameters:

NAME	TYPE	FORMAT	EXAMPLE
sid	string(6)	XXXXXX	**111111**
before	string(19)	YYYY-MM-DD+HH:MM:SS	**2015-07-25+00:06:00**

Notes: **'+' separating DATE+TIME for URL encoding purposes only. API will read whitespace, '%20', or '+'**

Example Request URL:

http://10.0.0.240/api/api.php?sid=**111111**&**before**=**2015-07-25+00:06:00**&**token**=**abc123**

Note:

It is possible that the last record returned relates to a scan that has not yet been finalised and may be cancelled after the fact by the scanner operator. Currently if you need to know the status of every record precisely via the API then you will need to recheck that last record again later to see if it was cancelled after it was originally retrieved, and other scans have been processed. See the "Cancelled" and "Simple" requests below for ways to deal with this.

Sample Response

```
[
 {
  "Record": "111111-000000",
  "Time": "2015-07-25 00:00:00",
  "Dir.": "OUT",
  "Operator": "BIG MINE CO",
  "Truck ID": "TRK0001",
  "Truck Load (m3)": "23.5",
  "Trailer ID": "",
  "Trailer Load (m3)": "",
  "Total (m3)": "23.5",
  "Status": "",
  "Truck Driver": "Adrian Ruthe",
  "Bogger ID": "B123",
  "Bogger Operator": "John Key",
  "Load Source": "X1FE2",
  "Loading Location": "X2FE1",
  "Load Destination": "Main ROM",
  "Site": "BIG KAHUNA MINE",
  "Cancelled": false
 },
 {
  "Record": "111111-000001",
  "Time": "2015-07-25 00:03:00",
  "Dir.": "OUT",
  "Operator": "BIG MINE CO",
  "Truck ID": "TRK0001",
  "Truck Load (m3)": "23.5",
  "Trailer ID": "",
  "Trailer Load (m3)": "",
  "Total (m3)": "23.5",
  "Status": "",
  "Truck Driver": "Adrian Ruthe",
  "Bogger ID": "B123",
```

    "Bogger Operator": "John Key",
    "Load Source": "X1FE2",
    "Loading Location": "X2FE1",
    "Load Destination": "Main ROM",
    "Site": "BIG KAHUNA MINE",
    "Cancelled": false
  }
]

Cancelled records

GET	Cancelled or Un-cancelled records

Use Case: You wish to get all the cancelled scan records given a specific set of criteria. It can be paired with other requests such as lastrecord, before and after.

Parameters:

NAME	TYPE	FORMAT	VALID VALUES
sid	string(6)	XXXXXX	**111111**
cancelled	string(1)	X	**1 or 0**

Example Request URL:

http://10.0.0.240/api/api.php?**sid**=**111111**&**cancelled**=**1**&**token**=**abc123**

Sample Response

```
[
 {
  "Record": "111111-000014",
  "Time": "2015-07-25 00:42:00",
  "Dir.": "OUT",
  "Operator": "BIG MINE CO",
  "Truck ID": "TRK0001",
  "Truck Load (m3)": "23.5",
  "Trailer ID": "",
  "Trailer Load (m3)": "",
  "Total (m3)": "23.5",
  "Status": "",
  "Truck Driver": "Adrian Ruthe",
  "Bogger ID": "B123",
  "Bogger Operator": "John Key",
  "Load Source": "X1FE2",
  "Loading Location": "X2FE1",
  "Load Destination": "Main ROM",
  "Site": "BIG KAHUNA MINE",
  "Cancelled": true
 }
]
```

Simple Mode

GET	All confirmed records

Use Case: Simple mode returns all records that will not change in the future. There is a period in which the scanner operator can cancel a record prior to the next scan, so in normal operation you must recheck the last record retrieved via API calls to see if it was cancelled after the record was originally retrieved. In simple mode this check is not required and you can assume all records returned by the API have been finalized. Since this feature only returns finalized records it will lead to delays in records being returned until it knows for sure if the record was cancelled or not.

Parameters:

NAME	TYPE	FORMAT	VALID VALUES
sid	string(6)	XXXXXX	111111
simple	string(1)	X	1 or 0

Example Request URL:

http://10.0.0.240/api/api.php?**sid**=**111111**&**simple**=**1**&lastrecord=111111-000017**token**=**abc123**

Sample Response

```
[
 {
  "Record": "111111-000018",
  "Time": "2015-07-25 00:50:00",
  "Dir.": "OUT",
  "Operator": "BIG MINE CO",
  "Truck ID": "TRK0001",
  "Truck Load (m3)": "23.5",
  "Trailer ID": "",
  "Trailer Load (m3)": "",
  "Total (m3)": "23.5",
  "Status": "",
  "Truck Driver": "Adrian Ruthe",
  "Bogger ID": "B123",
  "Bogger Operator": "John Key",
  "Load Source": "X1FE2",
  "Loading Location": "X2FE1",
  "Load Destination": "Main ROM",
  "Site": "BIG KAHUNA MINE",
  "Cancelled": false
 }
]
```

Errors

LoadSync API requests that result in errors will return an appropriate HTTP status code to help you identify the type of error. You can use the table below to understand what each code means.

HTTP STATUS CODE	TEXT	DESCRIPTION
400	Client or Validation Error	The request body/query string is not in the correct format. For example, you may not have included your scanner serial number or an incorrect scanner serial number into your API request call.
403	Access Denied	The password supplied does not match the one configured on the scanner.
404	Requested Resource Not Found	This status code is returned when the request contains an invalid URL.
405	Method not allowed	This API request used the wrong HTTP verb/method.
406	Unsupported Accept Header	Only **application/json** and ***/*** are supported.
415	Unsupported Content-type	Content type **application/xml** is not supported. Only **application/json** is supported.

HTTP STATUS CODE	TEXT	DESCRIPTION
500	Unexpected Server Error	LoadSync API is not configured or has encountered an internal problem. Please contact LoadScan for assistance.

Error Response

In addition to the HTTP status code, most errors will also return a response body that contains more information to help you debug the error. A sample error response is shown below. The format of the error response body is explained after the example.

Sample Error

```
1  {
2    "description": "Unexpected Server Error",
3    "errors": {
4      "message": " This API needs to be configured and enabled in the scanner software before
5  use. ",
6      "code": "500"
7    }
   }
```

Error Response Fields

FIELD	DESCRIPTION
field	The request field that triggered this error. Applicable to HTTP 400 errors only.
message	Detailed error message.
code	Error code.