



Lumeta Spectre SavedQuery API

Documentation

Version 1.0

Lumeta Corporation

Phone: +1-732-357-3513

Fax: +1-732-564-0731

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Overview

This feature adds the ability to save a report query through the Lumeta Spectre user interface and then reference that query by name via a hypermedia REST API.

XJSON

XJSON is a variant of javascript object notation that encodes the data TYPE along with the name-value pairs. Elements in XJSON are <name, value, type> tuples. The parameters object must be encoded as XJSON.

Refer to Appendix A for the XJSON type definitions.

Authentication

Each API request (eg. HTTP GET) must include a valid API key in the header, or use basic auth.

Example

```
MacBook-Pro-4:~$ curl -k -H "Authorization: Bearer  
eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJkYXRlIjoiNTAxODY1ND  
k5Nzc3LCJ1c2VyIjoieWRtaW4ifQ.FfXNebHCkskwbR3dGfB71c2xHtGaK3  
krar8AXI3vWIk" https://192.168.9.186/api/rest/
```

Authentication Error Response

An authentication error will return “403 FORBIDDEN” status code.

Acquiring an API Key

CLI

The key is issued per user using the Spectre command-line interface command: “user key new <username>”.

API

The key can be generated via API command:

GET /api/rest/management/user/{USERNAME}/apikey?create=true

Required URL Params

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fmt={json | xml }

Authorization set to basic authorization (with username and password)

Base Path (Root URL)

http://{base-domain}/api/rest/report/

API

GET /savedQuery

Required URL Params

fmt={json | csv}

queryName={query name}

Optional URL Params

params={these are query-dependent parameters encoded as an xJSON object}

Optional params format:

```
params=[{"name":"<PARAM_NAME>","value":"<PARAM_VALUE>","type":"<PARAM_TYPE>"}]
```

Sample Calls

Javascript Example

```
$.ajax({
  url:
"/savedQuery?fmt=json&queryName=Unknown%20Devices&params=[{
"name":"zonename","value":"z2","type":"STRING"}]",
  dataType: "json",
  type : "GET",
  success : function(r) {
    console.log(r);
  }
})
```

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```
});
```

CURL Example

```
curl -k -u admin:admin  
'https://192.168.9.186/api/rest/report/savedQuery?fmt=json&  
queryName=Unknown  
Devices&params=[{"name":"zonename","value":"z2","type":"STR  
ING"}]'
```

Response

If the data can be processed and prepared within the timeout period (60 minutes), it will be returned in the HTTP GET response directly. The response will be a "200 OK" with the data in the payload as in the following examples.

Sample Response (JSON)

```
HTTP/1.1 200 OK  
[{"id":4771,"name":"Edge Discovered","Notification  
Type":"LINK_DISCOVERED","Message":"Link discovered between  
65.246.246.255\32 and 10.9.0.1\32","Time":"08\17\2017  
02:50:13  
PM","Details":["device1:65.246.246.255\32","device2:10.9.0  
.1\32","zoneName:Zone1"],"Zone Name":"Zone1","Delivered  
Time":"08\17\2017 02:50:21  
PM","priority":"INFO","Acknowledged":false,"users":["1","2"  
,"3","4","5","6","7","8","9","10","11","12",null],"Zone  
Id":1,"zoneid":1},{ "id":4769,"name":"Edge  
Discovered","Notification  
Type":"LINK_DISCOVERED","Message":"Link discovered between  
10.9.0.1\32 and 65.246.246.255\32","Time":"08\17\2017  
02:50:13  
PM","Details":["device1:10.9.0.1\32","device2:65.246.246.2  
55\32","zoneName:Zone1"],"Zone Name":"Zone1","Delivered  
Time":"08\17\2017 02:50:21  
PM","priority":"INFO","Acknowledged":false,"users":["1","2"  
,"3","4","5","6","7","8","9","10","11","12",null],"Zone
```

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```
Id":1,"zoneid":1},{ "id":4744,"name":"Node
Discovered","Notification
Type":"FORWARDER_DISCOVERED","Message":"Device
65.246.246.79\32 forwards traffic","Time":"08\17\2017
02:48:22
PM","Details":["device_ip:65.246.246.79\32","zoneName:Zone
1"],"Zone Name":"Zone1","Delivered Time":"08\17\2017
02:48:31
PM","priority":"INFO","Acknowledged":false,"users":["1","2"
,"3","4","5","6","7","8","9","10","11","12",null],"Zone
Id":1,"zoneid":1},{ "id":4722,"name":"Discovery Agent
Notification","Notification
Type":"AGENT_NOTIFICATION","Message":"BGP Connection error:
connect timed out","Time":"08\17\2017 02:46:38 PM","Zone
Name":"Zone1","priority":"INFO","Acknowledged":false,"users
":["1","2","3","4","5","6","7","8","9","10","11","12",null]
,"Zone Id":1,"zoneid":1}
}
}
```

Response Timeout

If the response cannot be prepared within the proxy timeout period (60 minutes), an HTTP 502 error response will be returned.

NOTE - The proxy timeout period only applies to the query processing time. Once, the data has begun to be transferred, the timeout is no longer in effect. In other words, if the query completes within the timeout period and data begins to transfer, the data can transfer as long as necessary to complete the download with no timeout concern.

DELETE /savedQuery

The deletion of the results resource will happen automatically. Therefore, no explicit DELETE of that resource is required by the client. This method will return a "501 NOT IMPLEMENTED".

POST / PUT / PATCH /savedQuery

These are not required methods and will return a "501 NOT IMPLEMENTED".

Special Notes

- The response data set does not have the same data model as the IPSonar data model

APPENDIX A - xJSON Types

Complex Types

Data type	Description
any	e.g., any mod(any y, any x)
bag	
array	Collection with indexed access
record	
tuple	
union	Combining different data types
error	

Data Types

The following tables show the data types available in X15.

Boolean Types

Data type	Description
boolean	Logical (true/false)

Numeric Types

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Data Types

Data type	Description
int8	8 bit integer
int16	16 bit integer
int24	24 bit integer
int32	32 bit integer
integer	64 bit integer
decimal	User specified precision
double	64 bit floating point number

String Types

Data type	Description
string	Text, variable length characters

Binary Types

Data type	Description
binary	Binary data

Monetary Types

Data type	Description
money	Currency amount

Temporal Types

Data type	Description
date	Calendar date (year, month, day)
time	Time of day
timestamp	Date and time
duration	Time span
interval	Time span

Network Address Types

Data type	Description
cidr	IPv4 and IPv6 network address
inet	IPv4 and IPv6 host address
cidr4	IPv4 network address
cidr6	IPv6 network address
inet4	IPv4 host address
inet6	IPv6 host address
macaddr	MAC (Media Access Control) address

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Window Functions in X15

UUID Types

Data type	Description
uuid	Universally unique identifier (e.g., 550e8400-e29b-41d4-a716-446655440000)

Semi-structured Types

Data type	Description
xml	XML data