

Automation Scripts

APIs and Functions

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Automation Scripting

- Executing scripts via an API call
- Using scripts as a function

Execute a script via API call

Automation Scripting - from API call

- Execute a MBO method
- Perform a series of tasks in one call
- Can control access
- Examples
 - Create POs from a PR (my sample)
 - Bulk change/assign owner
 - Process workflow
 - Create WO, apply JP, set owner and Approve

API Routes – the backbone

Object Structures

Find navigation item

Available Queries

Common Actions

New Object Structure

Create KPI

Application Import

Application Export

More Actions

Add/Modify API Linked Resour...

Add/Modify REST System Action

Add/Modify API Route

Object Application Authorization

Add/Modify API Routes

If Track Requests is checked and mxe.int.trackrestrequests is set to 0, marked routes requests will be tracked. If mxe.int.trackrestrequests is set to 1, all requests will be tracked.

API Routes

(1 - 2 of 2)

Name	Description	Method	Route Implementation Class	Security App
script				
script	API handler for script processing	POST	com.ibm.tivoli.maximo.oslc.provider.Scr	
script	API handler for script processing	GET	com.ibm.tivoli.maximo.oslc.provider.Scr	

1 - 2 of 2

Used for many things:

- Numerous out of the box entries
- Tools API are here
- Script options define that scripting is available – optional first level of security
- You will start to see some AI related entries

Control security

Two variables to know/add:

- authsigoption
- authapp

Variables (1 - 2 of 2)

+

Variable		Variable Type		Binding Type		Binding Value
▼	authsigoption	IN		LITERAL		CREATEPO
▼	authapp	IN		LITERAL		PR

1 - 2 of 2

Automation Scripting - API call

Implicit variables

Variable name	Description
Request	OslcRequest representation of the request being made. This exposes important methods such as request.getQueryParam(“parameter”) and request.getHeader(“header”) to retrieve values provided as a query parameter or header respectively. You can also access the UserInfo by calling request.getUserInfo().
requestBody	A string representation of the data submitted on request (for POST/PATCH/PUT)
httpMethod	Whether this was a GET, POST, PUT, etc. Can also be retrieved by calling request.getHttpMethod().
responseBody	The script sets this as either a byte[] or String to return in the response. This is not required if you do not intend to return a response.
responseHeaders	The script can provide additional headers to this HashMap to return to the calling application.

- See [playbook](https://ibm-maximo-dev.github.io/maximo-autoscript-documentation/rest/scripthandler/) for additional reference
<https://ibm-maximo-dev.github.io/maximo-autoscript-documentation/rest/scripthandler/>

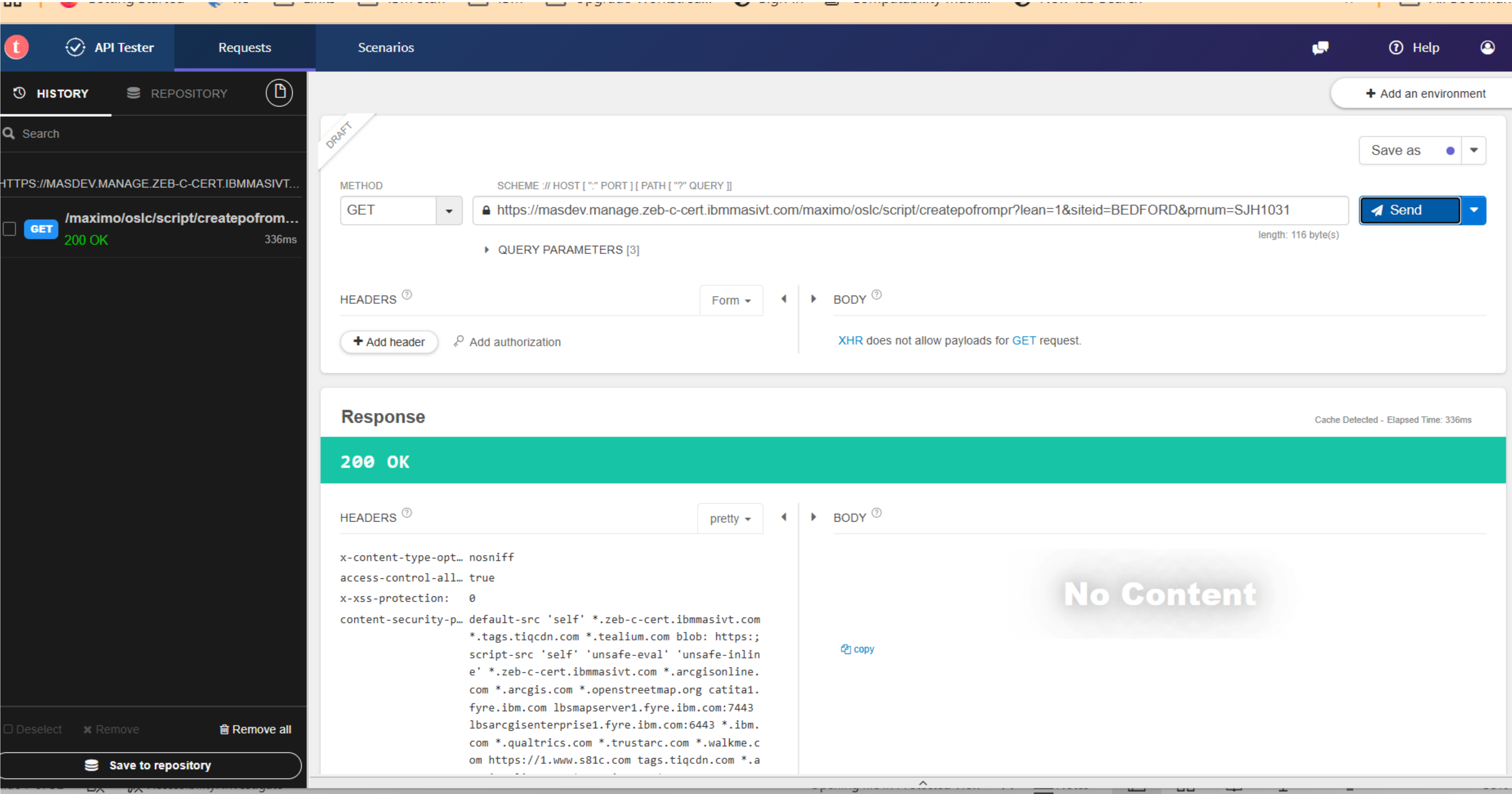
Define a script that will create PO(s) from a PR – no launch point needed

CREATEPOFROMPR

```
from psdi.server import MXServer
maxServer=MXServer.getMXServer()
siteid=request.getQueryParam("siteid")
prnum=request.getQueryParam("prnum")
if siteid and prnum:
    userInfo=request.getUserInfo()
    prset=maxServer.getMboSet("PR",userInfo)
    prset.setQbeExactMatch(True)
    prset.setQbe("prnum",prnum)
    prset.setQbe("siteid",siteid)
    prMbo=prset.moveFirst()
    if prMbo:
        prMbo.createPOsFromPR(MXServer.getMXServer().getDate())
        prset.save()
        prset.close()
else:
    service.error("pr","missingscriptinfo")
```

Execute Get

https://{yourserver}/maximo/oslc/script/createpofrompr?lean=1&siteid=BEDFORD&prnum=SJH1031



Execute Get

https://{yourserver}/maximo/oslc/script/createpofrompr?lean=1&siteid=BEDFORD&prnum=SJH1031

PR	PR Lines	Ship To / Bill To	Terms and Conditions	L
----	-----------------	-------------------	----------------------	---

PR

SJH1031

sjh 1031

PR Lines

(1 - 1 of 1)

	Line	Item		Description
^	1	560-00	i>	Tubing, Copper-1 I

Line Item

Line

1

Line Type

Item

Related Records

Requisition

PO

1095

>

Requisition Line

PO Line

1

RFQ

Contract

>

>

Error handling- Get
https://{yourserver}/maximo/oslc/script/createpofrompr?lean=1&siteid=BEDFORD

RY

REPOSITORY

Save as

METHOD

SCHEME :// HOST [":" PORT] [PATH ["?" QUERY]]

GET

https://masdev.manage.zeb-c-cert.ibmzasivt.com/maximo/oslc/script/createpofrompr?lean=1&siteid=BEDFORD

length: 102 byte(s)

Send

QUERY PARAMETERS [2]

HEADERS ?

Form

+

Add header

Add authorization

BODY ?

XHR does not allow payloads for GET request.

Response

Cache Detected - Elapsed Time: 365ms

400 Bad Request

HEADERS ?

pretty

BODY ?

pretty

x-content-type-opt... nosniff

access-control-all... true

x-xss-protection: 0

content-security-p... default-src 'self' *.zeb-c-cert.ibmzasivt.com *.tags.tiqcdn.com *.tealium.com blob: https;; script-src 'self' 'unsafe-eval' 'unsafe-inlin e' *.zeb-c-cert.ibmzasivt.com *.arcgisonline. com *.arcgis.com *.openstreetmap.org catita1. fyre.ibm.com lbsmapserver1.fyre.ibm.com:7443 lbsarcgisenterprise1.fyre.ibm.com:6443 *.ibm. com *.qualtrics.com *.trustarc.com *.walkme.c om https://1.www.s81c.com tags.tiqcdn.com *.a rcgisonline.com *.arcgis.com *.openstreetmap.

Error: {

extendedError: {

moreInfo: {

href: "oslc/error/messages/BMXZZ7132E"

}

},

reasonCode: "BMXZZ7132E",

message: "BMXZZ7132E - Missing Site or PR Num",

statusCode: "400".

Using scripts as a function

Automation Scripting – Script as a function

- Function will be used as part of a formula
- Do whatever you need...but result is numeric
 - Maybe call external system to get info
- Can use formula:
 - As attribute formula to fill an attribute
 - As object formula to use as part of API call
 - Leverage for Health score driver, AIP, etc
- See [playbook](https://ibm-maximo-dev.github.io/maximo-autoscript-documentation/otherlaunch/formulafunc/) for additional reference

<https://ibm-maximo-dev.github.io/maximo-autoscript-documentation/otherlaunch/formulafunc/>

My PM data - different PMs for the same asset

Constraints

- Non-floating/use target start = true
- Does not consider forecast
- Does not consider hierarchy
- Does not consider status

Last Start Date	Earliest Due Date	Has Route
4/28/2026	5/18/2026	N
5/4/2026	5/4/2027	N
4/28/2026	4/28/2027	N
5/4/2026	5/8/2026	N
5/5/2026	5/14/2026	Y

Define a script that will calculate, for an asset, the number of days between latest PM last start and earliest due date across PMs

PMDAYS

```
from java.util.concurrent import TimeUnit

includeroutes = params[0]

PMSet = mbo.getMboSet("PM")
where = "(assetnum = :assetnum and siteid=:siteid)"
if includeroutes.intValue() == 1:
    where = where + " or exists (select 1 from route_stop s where s.assetnum = :assetnum and s.siteid=:siteid and s.route=pm.route and s.siteid = pm.siteid)"

PMSet = mbo.getMboSet("PMDAYS", "PM", where)

i = 0
earliestDate = None
lastStart = None
while PMSet.getMbo(i) is not None:
    PM = PMSet.getMbo(i)
    NextDate = PM.getDate("ERLSTWOGENDATE")
    PMlastStart = PM.getDate("LASTSTARTDATE")
    if earliestDate is None:
        earliestDate = NextDate
    if earliestDate is not None and NextDate is not None and earliestDate > NextDate:
        earliestDate = NextDate
    if lastStart is None:
        lastStart = PMlastStart
    if lastStart is not None and PMlastStart is not None and lastStart < PMlastStart:
        lastStart = PMlastStart
    i=i+1

if earliestDate is not None and lastStart is not None:
    diff = earliestDate.getTime() - lastStart.getTime()
else:
    diff = 0

evalresult = TimeUnit.DAYS.convert(diff, TimeUnit.MILLISECONDS)
```

Define the function

Database Configuration

Find navigation item

Available Queries

More Actions

Prompt tuning for the assistant

Manage Admin Mode

Apply Configuration Changes

Discard Configuration Changes

Delete Backup Tables

Update Statistics

Refresh Index Tables

Field Length and Format

Services

GL Account Configuration

Add/Modify Formula Function

Add/Modify Formula For Object

Configure Formula Functions

(1 - 1 of 1)

Name	Number Of Paramaters	Implementation Type	Class name or Script name
PMDAYS			
^ PMDAYS	1	script	PMDAYS

Name

PMDAYS

Description

PM Days

*Number Of Paramaters

1

*Implementation Type

script

Class name or Script name

PMDAYS

User Defined?

☒

Cancel

OK

Define the formulas (our example will be Object Formulas)

Database Configuration

Find navigation item

Available Queries

Discard Configuration Changes

Delete Backup Tables

Update Statistics

Refresh Index Tables

Field Length and Format

Services

GL Account Configuration

Add/Modify Formula Function

Add/Modify Formula For Object

Add/Modify Formula For Attrib...

Manage eSig Actions

Messages

Obj

S

0 - (

Configure Formula for Object

Object Name	Formula Name	Formula Expression
	pmd	
ASSET	PMDAYSNOROUTES	pmdays(0)
ASSET	PMDAYSROUTES	pmdays(1)

1 - 2 of 2

Conditional Formula

(0 - 0 of 0)

Condition	Formula Expression	Evaluation Order

Cancel

OK

Last Start Date	Earliest Due Date	Has Route
4/28/2026	5/18/2026	N
5/4/2026	5/4/2027	N
4/28/2026	4/28/2027	N
5/4/2026	5/8/2026	N
5/5/2026	5/14/2026	Y

Without Route:

- Latest Last Start Date = 5/4/2026
- Earliest of Due Dates = 5/8/2026
- Days between = 4

With Route:

- Latest Last Start Date = 5/5/2026
- Earliest of Due Dates = 5/8/2026
- Days between = 3

Execute Get

https://{yourserver}/maximo/oslc/os/mxapiasset?lean=1&oslc.select=assetnum,siteid,exp.PMDAYSNOROUTES&oslc.where=assetnum="11430"

METHOD

GET

SCHEME :// HOST [":" PORT] [PATH ["?" QUERY]]

Send

https://massupp.manage.mx2.apps.mxos-support4.cp.fyre.ibm.com/maximo/oslc/os/mxapiasset?lean=1&oslc.select=assetnum,siteid,exp.PMDAYSNOROUTES&oslc.where=assetnum="11430"

length: 169 char(s) 173 byte(s)

QUERY PARAMETERS [3]

HEADERS ⓘ

Form ▾

BODY ⓘ

+ Add header

Add authorization

XHR does not allow payloads for GET request.

Response

Cache Detected - Elapsed

200 OK

HEADERS ⓘ

pretty ▾

BODY ⓘ

pretty ▾

x-content-ty... nosniff

access-contr... true

x-xss-protec... 0

content-secu... font-src 'self' data: https://1.www.s81c.com *.walkme.com *.mx2.apps.mxos-support4.cp.fyre.ibm.com *.qualtrics.com *.siteintercept.qualtrics.com https://1.www.s81c.com *.ibm.com tags.tiqcdn.com *.trustarc.com; style-src 'self' 'unsafe-inline' 'unsafe-eval' *.walkme.com *.mx2.apps.mxos-support4.cp.fyre.ibm.com 1.www.s81c.com *.ibm.com tags.tiqcdn.com *.tealiu.com *.tags.tiqcdn.com *.trustarc.com prefmgr-cookie.truste-svc.net; img-src 'self' d2qhvajt

{

member: ▾ [

{

assetmeter_collectionref: "oslc/os/mxapiasset/_MTE0MzAvQkVERk9SRA--/int_assetmeter",

ahrrplan_collectionref: "oslc/os/mxapiasset/_MTE0MzAvQkVERk9SRA--/ahrrplan",

moddowntimehist_collectionref: "oslc/os/mxapiasset/_MTE0MzAvQkVERk9SRA--/moddowntimehist",

downtimereport_collectionref: "oslc/os/mxapiasset/_MTE0MzAvQkVERk9SRA--/downtimereport",

_rowstamp: "[0 0 0 0 0 -14 -25 80]",

ahflag_collectionref: "oslc/os/mxapiasset/_MTE0MzAvQkVERk9SRA--/ahflag",

mapsketch_collectionref: "oslc/os/mxapiasset/_MTE0MzAvQkVERk9SRA--/mapsketch",

_imagelibref: "oslc/images/180",

assetnum: "11430",

siteid: "BEDFORD",

href: ↗ "oslc/os/mxapiasset/_MTE0MzAvQkVERk9SRA--",

pmdaysnoroutes: 4.0,

assetspec_collectionref: "oslc/os/mxapiasset/_MTE0MzAvQkVERk9SRA--/assetspec",

Top

Bottom

Collapse

Open

2Request

Copy

Execute Get

https://{yourserver}/maximo/oslc/os/mxapiasset?lean=1&oslc.select=assetnum,siteid,exp.PMDAYSROUTES
&oslc.where=assetnum="11430"

METHOD

GET

SCHEME :// HOST [":" PORT] [PATH ["?" QUERY]]

https://massupp.manage.mx2.apps.mxos-support4.cp.fyre.ibm.com/maximo/oslc/os/mxapiasset?lean=1&oslc.select=assetnum,siteid,exp.PMDAYSROUTES

length: 167 char(s) 171 byte(s)

Send

QUERY PARAMETERS [3]

HEADERS ?

Form

+

Add header

+

Add authorization

BODY ?

XHR does not allow payloads for GET request.

Response

Cache Detected - Elapsed Time: 127n

200 OK

HEADERS ?

pretty

x-content-ty... nosniff

access-contr... true

x-xss-protec... 0

content-secu... ont-src 'self' data: https://1.wwww.s81c.com *.walkme.com *.ope
nstreetmap.org *.mx2.apps.mxos-
support4.cp.fyre.ibm.com; scrip
t-src 'self' 'unsafe-inline' 'u
nsafe-eval' *.walkme.com *.mx2.
apps.mxos-support4.cp.fyre.ibm.
com *.qualtrics.com *.siteinter
cept.qualtrics.com https://1.ww
w.s81c.com *.ibm.com tags.tiqcd
n.com *.trustarc.com; style-src
'self' 'unsafe-inline' 'unsafe-
eval' *.openstreetmap.org *.wal
kme.com *.mx2 apps.mxos-support

BODY ?

pretty

{

member: [

{

assetmeter_collectionref: "oslc/os/mxapiasset/_MTE0MzAvQkVERk9SRA--/int_assetmeter",

ahrrplan_collectionref: "oslc/os/mxapiasset/_MTE0MzAvQkVERk9SRA--/ahrrplan",

moddowntimehist_collectionref: "oslc/os/mxapiasset/_MTE0MzAvQkVERk9SRA--/moddowntimehist",

downtimereport_collectionref: "oslc/os/mxapiasset/_MTE0MzAvQkVERk9SRA--/downtimereport",

_rowstamp: "[0 0 0 0 0 -14 -25 80]",

ahflag_collectionref: "oslc/os/mxapiasset/_MTE0MzAvQkVERk9SRA--/ahflag",

pmdaysroutes: 3.0,

mapsketch_collectionref: "oslc/os/mxapiasset/_MTE0MzAvQkVERk9SRA--/mapsketch",

_imagelibref: "oslc/images/180",

assetnum: "11430",

Thank you!