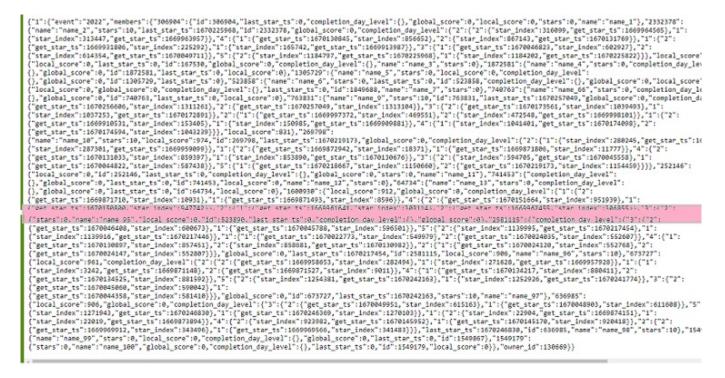Article

[Robert Cemper](#) · Jan 30, 2023   1m read

JSONfile-to-Global #2

The power of the presented tool becomes visible with a large JSON file.
The example I have prepared is composed of the daily results of AoC 2023.
Anonymization makes it usable for demo purposes.
As the original, it is an uninterrupted sequence of bytes without any NewLine or similar.
6 660 895 Bytes raw in sequence (as by NTFS). With this content (shrinked):

{"1":{"event":"2022","members":{"306904":{"id":306904,"last_star_ts":0,"completion_day_level":{},"global_score":0,"local_score":0,"stars":0,"name":"name_1"},"2332378":
{"name":"name_2","stars":10,"last_star_ts":1670225968,"id":2332378,"global_score":0,"completion_day_level":{"2":{"2":{"star_index":316099,"get_star_ts":1669964565},"1":
{"star_index":313447,"get_star_ts":1669963957}},"4":{"1":{"get_star_ts":1670130845,"star_index":856652},"2":{"star_index":867143,"get_star_ts":1670131769}},"1":{"2":
{"get_star_ts":1669931806,"star_index":225292},"1":{"star_index":165742,"get_star_ts":1669913907}},"3":{"1":{"get_star_ts":1670046823,"star_index":602927},"2":
{"star_index":614354,"get_star_ts":1670049711}},"5":{"2":{"star_index":1184797,"get_star_ts":1670225968},"1":{"star_index":1184202,"get_star_ts":1670225822}}},"local_score"
{"local_score":0,"last_star_ts":0,"id":167530,"global_score":0,"completion_day_level":{},"name":"name_3","stars":0},"1872581":{"name":"name_4","stars":0,"completion_day_lev
{},"global_score":0,"id":1872581,"last_star_ts":0,"local_score":0},"1305729":{"name":"name_5","stars":0,"local_score":0,"completion_day_level":
{},"global_score":0,"id":1305729,"last_star_ts":0},"523858":{"name":"name_6","stars":0,"last_star_ts":0,"id":523858,"completion_day_level":{},"global_score":0,"local_score"
{"local_score":0,"global_score":0,"completion_day_level":{},"last_star_ts":0,"id":1849688,"name":"name_7","stars":0},"740763":{"name":"name_66","stars":0,"completion_day_le
{},"global_score":0,"id":740763,"last_star_ts":0,"local_score":0},"763831":{"name":"name_9","stars":10,"id":763831,"last_star_ts":1670257049,"global_score":0,"completion_da
{"get_star_ts":1670256606,"star_index":1311261},"2":{"get_star_ts":1670257049,"star_index":1313104}},"3":{"2":{"get_star_ts":1670173561,"star_index":1039493},"1":
{"star_index":1037253,"get_star_ts":1670172891},"2":{"1":{"get_star_ts":1669997372,"star_index":469551},"2":{"star_index":472548,"get_star_ts":1669998101}},"1":{"2":
{"get_star_ts":1669910531,"star_index":153405},"1":{"star_index":150985,"get_star_ts":1669909881}},"4":{"1":{"star_index":1041401,"get_star_ts":1670174093},"2":
{"get_star_ts":1670174594,"star_index":1043239}}},"local_score":831},"269798":
{"name":"name_10","stars":10,"local_score":974,"id":269798,"last_star_ts":1670219173,"global_score":0,"completion_day_level":{"2":{"1":{"star_index":280245,"get_star_ts":16
{"star_index":287301,"get_star_ts":1669959099}},"1":{"2":{"get_star_ts":1669872942,"star_index":18371},"1":{"get_star_ts":1669871806,"star_index":11777}},"4":{"2":
{"get_star_ts":1670131033,"star_index":859397},"1":{"star_index":853890,"get_star_ts":1670130676}},"3":{"2":{"star_index":594705,"get_star_ts":1670045558},"1":
{"get_star_ts":1670044822,"star_index":587438}},"5":{"1":{"star_index":1670218667,"star_index":1150660},"2":{"get_star_ts":1670219173,"star_index":1154459}}}},"252146":
{"local_score":0,"id":252146,"last_star_ts":0,"completion_day_level":{},"global_score":0,"stars":0,"name":"name_11"},"741453":{"completion_day_level":
{},"global_score":0,"last_star_ts":0,"id":741453,"local_score":0,"name":"name_12","stars":0},"64734":{"name":"name_13","stars":0,"completion_day_level":
{},"global_score":0,"last_star_ts":0,"id":64734,"local_score":0},"1600930":{"local_score":912,"global_score":0,"completion_day_level":{"1":{"2":
{"get_star_ts":1669871710,"star_index":10931},"1":{"get_star_ts":1669871493,"star_index":8596}},"4":{"2":{"get_star_ts":1670151664,"star_index":951939},"1":
{"star_index":1670150300,"star_index":647742},"2":{"1":{"get_star_ts":1669961641,"star_index":303112},"2":{"get_star_ts":1669962455,"star_index":306355}},"3":{"2":
{"stars":0,"name":"name_95","local_score":0,"id":523896,"last_star_ts":0,"completion_day_level":{},"global_score":0},"2581115":{"completion_day_level":{"3":{"2":
{"get_star_ts":1670046408,"star_index":600673},"1":{"get_star_ts":1670045788,"star_index":596501}},"5":{"2":{"star_index":1139995,"get_star_ts":1670217454},"1":
{"star_index":1139916,"get_star_ts":1670217446}},"1":{"1":{"get_star_ts":1670022773,"star_index":549979},"2":{"get_star_ts":1670024035,"star_index":552607}},"4":{"1":
{"get_star_ts":1670130807,"star_index":857451},"2":{"star_index":858681,"get_star_ts":1670130082}},"2":{"1":{"get_star_ts":1670024120,"star_index":552768},"2":
{"get_star_ts":1670024147,"star_index":552807}}},"global_score":0,"last_star_ts":1670217454,"id":2581115,"local_score":906,"name":"name_96","stars":10},"673727":
{"local_score":961,"completion_day_level":{"2":{"2":{"get_star_ts":1669958653,"star_index":282494},"1":{"star_index":271628,"get_star_ts":1669957928}},"1":{"1":
{"star_index":3242,"get_star_ts":1669871148},"2":{"get_star_ts":1669871527,"star_index":9011}},"4":{"1":{"get_star_ts":1670134217,"star_index":880411},"2":
{"get_star_ts":1670134525,"star_index":881592}},"5":{"2":{"star_index":1254381,"get_star_ts":1670242643},"1":{"star_index":1252926,"get_star_ts":1670241774}},"3":{"2":
{"get_star_ts":1670045060,"star_index":590042},"1":
{"get_star_ts":1670045058,"star_index":581410}}},"global_score":0,"id":673727,"last_star_ts":1670242163,"stars":10,"name":"name_97"},"636985":
{"local_score":906,"global_score":0,"completion_day_level":{"3":{"2":{"get_star_ts":1670049951,"star_index":615163},"1":{"get_star_ts":1670048903,"star_index":611608}},"5"
{"star_index":1271943,"get_star_ts":1670246830},"1":{"get_star_ts":1670246369,"star_index":1270103}},"1":{"2":{"star_index":22904,"get_star_ts":1669874151},"1":
{"star_index":22019,"get_star_ts":1669873094}},"4":{"2":{"star_index":923982,"get_star_ts":1670145952},"1":{"star_index":1670145170,"star_index":920418}},"2":{"2":
{"get_star_ts":1669969912,"star_index":343496},"1":{"get_star_ts":1669969566,"star_index":341483}}},"last_star_ts":1670246830,"id":630985,"name":"name_98","stars":10},"154
{"name":"name_99","stars":0,"local_score":0,"completion_day_level":{},"global_score":0,"last_star_ts":0,"id":1549867},"1549179":
{"stars":0,"name":"name_100","global_score":0,"completion_day_level":{},"last_star_ts":0,"id":1549179,"local_score":0}},"owner_id":130669}}

It is loaded into an %DynamicObject using the method %FromJSONfile.
If you try to investigate that object using **ZWRITE** you end with <MAXSTRING>
And this is perfectly correct. The maximum string size is exceeded.

If you iterate down to the embedded JSON objects this conflict is gone as they are only 30kB
The mystery is exercised by [%Stream.DynamicCharacter](#) which acts in the background.

The resulting Global is as huge as its source.
But now you can navigate and examine the individual elements.
A snapshot from SMP in the resulting Global top subscript

Global Node:	^json	Cancel	Delete
Search History:	^json ⌄	Maximum Rows:	1000

1:	1 ↔▶
2:	2 ↔▶
3:	3 ↔▶
4:	4 ↔▶
5:	5 ↔▶
6:	6 ↔▶
7:	7 ↔▶
8:	8 ↔▶
9:	9 ↔▶
10:	10 ↔▶
11:	11 ↔▶
12:	12 ↔▶
13:	13 ↔▶
14:	14 ↔▶
15:	15 ↔▶
16:	16 ↔▶
17:	17 ↔▶
18:	18 ↔▶
19:	19 ↔▶
20:	20 ↔▶

246:	246 ↔▶	
247:	247 ↔▶	
248:	248 ↔▶	
249:	249 ↔▶	
250:	250 ↔▶	
251:	author	= ""
252:	dependencies ↔▶	
253:	description	= ""
254:	license	= ISC
255:	main	= index.js
256:	name	= GitHub
257:	number	= 123456
258:	scripts ↔▶	
259:	version	= 1.0.0

Total: 259 [End of global]

and total:

```
276480: ^json(250,"members",2581115,"completion_day_level",4,1,"get_star_ts") = 1670130897
276481: ^json(250,"members",2581115,"completion_day_level",4,1,"star_index")   = 857451
276482: ^json(250,"members",2581115,"completion_day_level",4,2,"get_star_ts") = 1670130982
276483: ^json(250,"members",2581115,"completion_day_level",4,2,"star_index")   = 858681
276484: ^json(250,"members",2581115,"completion_day_level",5,1,"get_star_ts") = 1670217446
276485: ^json(250,"members",2581115,"completion_day_level",5,1,"star_index")   = 1139916
276486: ^json(250,"members",2581115,"completion_day_level",5,2,"get_star_ts") = 1670217454
276487: ^json(250,"members",2581115,"completion_day_level",5,2,"star_index")   = 1139995
276488: ^json(250,"members",2581115,"global_score")                           = 0
276489: ^json(250,"members",2581115,"id")                                     = 2581115
276490: ^json(250,"members",2581115,"last_star_ts")                           = 1670217454
276491: ^json(250,"members",2581115,"local_score")                           = 906
276492: ^json(250,"members",2581115,"name")                                   = name_96
276493: ^json(250,"members",2581115,"stars")                                  = 10
276494: ^json(250,"members",2668789,"global_score")                           = 0
276495: ^json(250,"members",2668789,"id")                                     = 2668789
276496: ^json(250,"members",2668789,"last_star_ts")                           = 0
276497: ^json(250,"members",2668789,"local_score")                           = 0
276498: ^json(250,"members",2668789,"name")                                   = name_55
276499: ^json(250,"members",2668789,"stars")                                  = 0
276500: ^json(250,"owner_id")                                                 = 130669
```

I had to run this from Terminal as SMP failed after a few 10000 lines and used this single line instead:

```
s g="^json" f i=1:1 s g=$q(@g,1,v) q:g=""  w i,":",?8,g,?78,"= ",v,!
```

Video

GitHub

#Globals #JSON #Tips & Tricks #Tools #InterSystems IRIS #Open Exchange