



apiwat soodlek (2022)

# Agenda

- Register and grant permission Sharepoint add-in
- Working with Postman
- Working with NodeJS



# Register and grant permission Sharepoint add-in

# Topic

- Register App in SharePoint
- Grant permission to an add-in
- View site collection app permissions



# Register App in SharePoint

## 1. Navigate to AppRegNew

URL: [https://{{your\\_site\\_url}}.sharepoint.com/sites/{{sitename}}/\\_layouts/15/appregnew.aspx](https://{{your_site_url}}.sharepoint.com/sites/{{sitename}}/_layouts/15/appregnew.aspx)

Example: [https://apiwatdev.sharepoint.com/sites/Demo/\\_layouts/15/appregnew.aspx](https://apiwatdev.sharepoint.com/sites/Demo/_layouts/15/appregnew.aspx)

The screenshot shows the 'App Information' section of the SharePoint AppRegNew page. It includes fields for Client Id (with a 'Generate' button), Client Secret (with a 'Generate' button), Title, App Domain (with an example note), and Redirect URI (with an example note). At the bottom are 'Create' and 'Cancel' buttons.

<b>Client Id</b>	Generate a unique client id for your add-in. It's a GUID which will be used to identify your add-in.
<b>Client Secret</b>	Acts like a password for your add-in. It will include some special characters as well. So while using it, we have to encode the same first.
<b>Title</b>	The name of your add-in that will be displayed to the end user.
<b>App Domain</b>	For provider-hosted add-in, this will be the domain where, the add-in is hosted. For token generation add-in, <b>fill in any value</b> . Make sure, <b>not to include protocols(https) or slashes(/)</b> .
<b>Redirect URI</b>	For provider-hosted add-in, fill in the redirect URL. For token generation add-in, <b>fill in any value</b> .

# Register App in SharePoint

2. filled in all the details, And hit Create to register the add-in

Client Id:

Client Secret:

Title:

App Domain:   
Example: "www.contoso.com"

Redirect URI:   
Example: "https://www.contoso.com/default.aspx"

**\*COPY ข้อมูลชุดนี้ไว้**

The app identifier has been successfully created.  
Client Id: 7bdddfcc-f371-4ef6-bad6-7b3231426372  
Client Secret: 6SDrV3zuHA5Cn1zwc0y0nNG0YzSwmiuYNkh30vHHJjs=  
Title: DemoApp2  
App Domain: www.localhost.com  
Redirect URI: https://www.localhost.com

# Grant permission to an add-in

## 1. Navigate to AppInv

URL: [https://{{your\\_site\\_url}}.sharepoint.com/sites/{{sitename}}/\\_layouts/15/appinv.aspx](https://{{your_site_url}}.sharepoint.com/sites/{{sitename}}/_layouts/15/appinv.aspx)

Example: [https://apiwatdev.sharepoint.com/sites/Demo/\\_layouts/15/appinv.aspx](https://apiwatdev.sharepoint.com/sites/Demo/_layouts/15/appinv.aspx)

## 2. Filed App Id (Client Id) and hit 'Lookup'

App Id and Title

The app's identity and its title.

App Id:

Title:

App Domain:

Example: "www.contoso.com"

Redirect URL:

Example: "https://www.contoso.com/default.aspx"

App's Permission Request XML

The permission required by the app.

Permission Request XML:

App Id:

Title:  DemoApp2

App Domain:  www.localhost.com

Example: "www.contoso.com"

Redirect URL:  https://www.localhost.com/

Example: "https://www.contoso.com/default.aspx"

Permission Request XML:

# Grant permission to an add-in

## 3. Fill Permission Request XML

App Id:

Title:

App Domain:

Example: "www.contoso.com"

Redirect URL:

Example: "https://www.contoso.com/default.aspx"

Permission Request XML:

```
<AppPermissionRequests AllowAppOnlyPolicy="true">
<AppPermissionRequest
Scope="http://sharepoint/content/sitecollection"
Right="FullControl"/>
<AppPermissionRequest
Scope="http://sharepoint/content/sitecollection/web"
Right="FullControl"/>
</AppPermissionRequests>
```



```
<AppPermissionRequests AllowAppOnlyPolicy="true">
<AppPermissionRequest Scope="http://sharepoint/content/
sitecollection" Right="FullControl"/>
<AppPermissionRequest Scope="http://sharepoint/content/
sitecollection/web" Right="FullControl"/>
</AppPermissionRequests>
```

4. hit the **Create** button. You will now be prompted to trust the add-in for all the permissions that it requires.

Do you trust DemoApp2?

Let it have full control of this site collection.



DemoApp2

Let it have full control of this site.

Let it share its permissions with other users.

Let it access basic information about the users of this site.

# View site collection app permissions

## 1. Navigate to Appprincipals

URL: [https://{{your\\_site\\_url}}.sharepoint.com/sites/{{sitename}}/\\_layouts/15/appprincipals.aspx](https://{{your_site_url}}.sharepoint.com/sites/{{sitename}}/_layouts/15/appprincipals.aspx)

Example: [https://apiwatdev.sharepoint.com/sites/Demo/\\_layouts/15/appprincipals.aspx](https://apiwatdev.sharepoint.com/sites/Demo/_layouts/15/appprincipals.aspx)

Settings › Site Collection App Permissions <span>ⓘ</span>	
App Display Name ↑	App Identifier
✗ Demo	i:0i.t ms.sp.ext 045a0ccc-9d8e-4605-a39f-0aa5da0212a5@faf02a40-add9-4fb7-828b-bad2755b0fc7
✗ DemoApp	i:0i.t ms.sp.ext f952f8ba-c783-4aae-8f14-5562efabd7a4@faf02a40-add9-4fb7-828b-bad2755b0fc7
✗ DemoApp2	i:0i.t ms.sp.ext 7bdddfcc-f371-4ef6-bad6-7b3231426372@faf02a40-add9-4fb7-828b-bad2755b0fc7

# Working With Postman

# Topic

- Preparing postman environments
- Auth
- CRUD

## Postman collection json

[https://github.com/apiwatdev/nodejs-sharepoint-rest-api/blob/master/postman/SharePoint%20Rest%20API%20\(CRUD%20and%20AUTH\).postman\\_collection.json](https://github.com/apiwatdev/nodejs-sharepoint-rest-api/blob/master/postman/SharePoint%20Rest%20API%20(CRUD%20and%20AUTH).postman_collection.json)



# Preparing postman environments

<b>principal</b>	Fixed value '00000003-0000-0ff1-ce00-000000000000'
<b>realm</b>	<p>Id ของ Sharepoint app อัญชลังเครื่องหมาย '@' ในหน้า Site Collection App Permissions</p> <p><b>App Identifier</b></p> <p><code>i:0i.t ms.sp.ext 045a0ccc-9d8e-4605-a39f-0aa5da0212a5@faf02a40-add9-4fb7-828b-bad2755b0fc7</code></p>
<b>appReg_clientId</b>	Client ID
<b>appReg_clientSecret</b>	Client Secret
<b>site_url</b>	<p>Sharepoint Site URL</p> <p>example : <a href="https://apiwatdev.sharepoint.com/sites/Demo">https://apiwatdev.sharepoint.com/sites/Demo</a></p>
<b>SiteDomain</b>	<p>Sharepoint URL</p> <p>* not to include protocols(https) or slashes(/).</p> <p>example : <a href="apiwatdev.sharepoint.com">apiwatdev.sharepoint.com</a></p>

## sharepoint Copy

	VARIABLE	TYPE ⓘ	INITIAL VALUE ⓘ	CURR...
<input checked="" type="checkbox"/>	principal	default	00000003-0000-0ff1-ce00-000000000000	00000003-0000-0ff1-ce00-000000000000
<input checked="" type="checkbox"/>	realm	default	faf02a40-add9-4fb7-828b-bad2755b0fc7	faf02a40-add9-4fb7-828b-bad2755b0fc7
<input checked="" type="checkbox"/>	appReg_clientId	default	045a0ccc-9d8e-4605-a39f-0aa5da0212a5	045a0ccc-9d8e-4605-a39f-0aa5da0212a5
<input checked="" type="checkbox"/>	appReg_clientSecret	default	+AVOfOnjrmcKLAkKxtL1ls3UGFlaM...	+AVOfOnjrmcKLAkKxtL1ls3UGFlaM...
<input checked="" type="checkbox"/>	targetHost	default	scgo365.sharepoint.com	scgo365.sharepoint.com
<input checked="" type="checkbox"/>	site_url	default	https://apiwatdev.sharepoint.com/...	https://apiwatdev.sharepoint.com/...
<input checked="" type="checkbox"/>	BearerToken	default	Bearer eyJ0eXAiOiJKV1QiLCJhbG...	Bearer eyJ0eXAiOiJKV1QiLCJhbG...
<input checked="" type="checkbox"/>	SiteDomain	default	apiwatdev.sharepoint.com	apiwatdev.sharepoint.com

# Auth

Method	GET
URL	https://accounts.accesscontrol.windows.net/{{realm}}/tokens/OAuth/2

## Request Body (form-data)

grant_type	client_credentials
client_id	{{appReg_clientId}}@{{realm}}
client_secret	{{appReg_clientSecret}}
resource	{{principal}}/{{SiteDomain}}@{{realm}}

SharePoint Rest API / Get Access Token

GET https://accounts.accesscontrol.windows.net/{{realm}}/tokens/OAuth/2

Params Authorization Headers (10) **Body** Pre-request Script Tests Settings Cookies

Body (form-data)

KEY	VALUE	DESCRIPTION	...	Bulk Edit
grant_type	client_credentials			
client_id	{{appReg_clientId}}@{{realm}}			
client_secret	{{appReg_clientSecret}}			
resource	{{principal}}/{{SiteDomain}}@{{realm}}			

Body Cookies (4) Headers (15) Test Results Status: 200 OK Time: 387 ms Size: 2.13 KB Save Response

Pretty Raw Preview Visualize JSON

```

1  {
2    "token_type": "Bearer",
3    "expires_in": "86399",
4    "not_before": "1651760076",
5    "expires_on": "1651846776",
6    "resource": "00000003-0000-0000-0000-000000000000/apiwatdev.sharepoint.com@faf02a40-add9-4fb7-828b-bad2755b0fc7",
7    "access_token":
8      "eyJ0eXAiOiJKV1QiLCJhbGciOiJSUzI1NiIsIng1dCI6ImpTMVhvMU9XRGpfNTJ2YndHTmd2UU8yVnpNYyIsImtpZCI6ImpTMVhvMU9XRGpfNTJ2YndHTmd2UU8yVnpNYyJ9.
eyJhdWQiOiIwMDAwMDAwMyQwMDAwLTBmZjEtY2UwMC0wMDAwMDAwMDA0YXBpd2F0ZGV2LnNoYXJ1cG9pbnQuY29tQGZhZjAyYTQwLWFkZDktNGZiNy04MjhiLWJhZDI3NTViMGZjNyIsIm1zcyI6IjAwMDAwMDAxLTAwMDAtMDAwMC1jMDAwLTAwMDAwMDAwMEBmYWYwMmE0MC1hZGQ5LTrmYjctODI4Yi1iYWQyNzU1YjBmYzcilCJpYXQoIjE2NTe3NjAwNzYsIm5iZiI6MTY1MTc2MDA3NiwiZXhwIjoxNjUxODQ2Nzc2LCJpZGVudG10eXByb3ZpZGVyIjoiMDAwMDAwMDEtMDAwMC0wMDAwLWAwMDAtMDAwMDAwMDAwMDAwMDAwQGZhZjAyYTQwLWFkZDktNGZiNy04MjhiLWJhZDI3NTViMGZjNyIsIm5hbWVpZCI6IjA0NWEwY2NjLT1kOGUTNDYwNS1hMzlmLTBhYTVkYTAyMTJhNUBmYWYwMmE0MC1hZGQ5LTrmYjctODI4Yi1iYWQyNzU1YjBmYzcilCJvaWQoIiOZjhZGYwYy1lMDk0LTr1NGYtYjIwNy02NTI5ZTYxYzAyNDciLCJzdWIi0iI0ZjhZGYwYy1lMDk0LTr1NGYtYjIwNy02NTI5ZTYxYzAyNDciLCJ0cnVzdGVkZm9yZGVsZWdhG1vbI6ImZhbHN1In0.
KJRnsgMNdefSgITKVW1x7d8XbiAI52pdZcekLTWKNNpMaghsPcm8ek3CQ06-0urDMJULAOqG2cjNP3Mn6iCLSMBCdUvPt6IhE3duhuL_bFa8LQ6jy024xDgRkKpAPLCeHGiwlwV5px5SmPhZqXy2v171FJ38WuUQMpp0oEbkITp82K6TSVCRY2o6Jj5ZK7WqDEJe73fvWlVZ2ZBGik0WBJD1gX8LmTew-e5H67ZYt8hysIuR2YR0qxTFYSHQAIUPxb4xvc0CCc1nWLvREoxtDB1c5WjijHX2txN7cVzzTfhKPeFMWzjm8vk2q8WfPCWBwHyV-QrjeTM3KkvD-07SA"

```

# Get Items (CRUD)

<b>Method</b>	GET
<b>URL</b>	<code>{{site_url}}/_api/web/lists/getByTitle('listname')/Items</code>

## Request header

<b>Authorization</b>	Bearer {{token}}
<b>Content-Type</b>	application/json;odata=verbose
<b>Accept</b>	application/json;odata=verbose

GET  [{{site\\_url}}/\\_api/web/lists/getByTitle\('listname'\)/Items]({{site_url}}/_api/web/lists/getByTitle('listname')/Items) Send

Params Authorization **Headers (10)** Body Pre-request Script Tests Settings Cookies

Headers 7 hidden

KEY	VALUE	DESCRIPTION	...	Bulk Edit	Presets
<input checked="" type="checkbox"/> Authorization	Bearer eyJ0eXAiOiJKV1QiLCJhbGciOiJSUzI1Nlslng...				
<input checked="" type="checkbox"/> Content-Type	application/json;odata=verbose				
<input checked="" type="checkbox"/> Accept	application/json;odata=verbose				

Body Cookies Headers (26) Test Results 🌐 Status: 200 OK Time: 194 ms Size: 19.33 KB [Save Response](#)

Pretty Raw Preview Visualize [JSON](#) [Copy](#) [Search](#)

```
1 {  
2   "d": {  
3     "results": [  
4       {  
5         "__metadata": {  
6           "id": "8a40fcdf-e77f-48c2-bac3-a7173e4835fd",  
7           "uri": "https://apiwatdev.sharepoint.com/sites/Demo/_api/Web/Lists  
8             (guid'573cde9b-94a3-421e-bf00-c3a540bf28eb')/Items(2)",  
9           "etag": "\"1\"",  
10          "type": "SP.Data.ListnameListItem"  
11        },  
12        "File": {  
13          "Title": "Bolley",  
14          "FileLeafRef": "Bolley",  
15          "FileSystemObjectType": 0,  
16          "Id": 8,  
17          "ServerRedirectedEmbedUri": null,  
18          "ServerRedirectedEmbedUrl": "",  
19          "ID": 8,  
20          "ContentTypeId": "0x0100BC55062C22AE3A4EA21EC0BF0F01AC0C000C26E6C1DB99A64B8E12E224F6B74291",  
21          "Title": "1234",  
22          "Modified": "2022-04-21T03:37:02Z",  
23          "Created": "2022-04-21T03:33:37Z",  
24          "AuthorId": 1073741822,  
25          "EditorId": 1073741822,  
26          "OData__UIVersionString": "4.0",  
27          "Attachments": false,  
28          "GUID": "b7c27f2d-0f12-4ee6-8490-35fb5b482115",  
29          "ComplianceAssetId": null,  
30          "lastname": "Bolley",  
31          "firstname": "Arisa"  
32        }  
33      }  
34    }  
35  }  
36 }  
37 }  
38 }  
39 }  
40 }  
41 }  
42 }  
43 }  
44 }  
45 }  
46 }  
47 }  
48 }  
49 }  
50 }  
51 }  
52 }  
53 }  
54 }  
55 }  
56 }  
57 }  
58 }  
59 }  
60 }  
61 }  
62 }  
63 }  
64 }  
65 }  
66 }  
67 }  
68 }  
69 }  
70 }  
71 }  
72 }  
73 }  
74 }  
75 }  
76 }  
77 }  
78 }  
79 }  
80 }  
81 }  
82 }  
83 }  
84 }  
85 }  
86 }  
87 }  
88 }  
89 }  
90 }  
91 }  
92 }  
93 }  
94 }  
95 }  
96 }  
97 }  
98 }  
99 }  
100 }  
101 }  
102 }  
103 }  
104 }  
105 }  
106 }  
107 }  
108 }  
109 }  
110 }  
111 }  
112 }  
113 }  
114 }  
115 }  
116 }  
117 }  
118 }  
119 }  
120 }  
121 }  
122 }  
123 }  
124 }  
125 }  
126 }  
127 }  
128 }  
129 }  
130 }  
131 }  
132 }  
133 }  
134 }  
135 }  
136 }  
137 }  
138 }  
139 }  
140 }  
141 }  
142 }  
143 }  
144 }  
145 }  
146 }  
147 }  
148 }  
149 }  
150 }  
151 }  
152 }  
153 }  
154 }  
155 }  
156 }  
157 }  
158 }  
159 }  
160 }  
161 }  
162 }  
163 }  
164 }  
165 }  
166 }  
167 }  
168 }  
169 }  
170 }  
171 }  
172 }  
173 }  
174 }  
175 }  
176 }  
177 }  
178 }  
179 }  
180 }  
181 }  
182 }  
183 }  
184 }  
185 }  
186 }  
187 }  
188 }  
189 }  
190 }  
191 }  
192 }  
193 }  
194 }  
195 }  
196 }  
197 }  
198 }  
199 }  
200 }  
201 }  
202 }  
203 }  
204 }  
205 }  
206 }  
207 }  
208 }  
209 }  
210 }  
211 }  
212 }  
213 }  
214 }  
215 }  
216 }  
217 }  
218 }  
219 }  
220 }  
221 }  
222 }  
223 }  
224 }  
225 }  
226 }  
227 }  
228 }  
229 }  
230 }  
231 }  
232 }  
233 }  
234 }  
235 }  
236 }  
237 }  
238 }  
239 }  
240 }  
241 }  
242 }  
243 }  
244 }  
245 }  
246 }  
247 }  
248 }  
249 }  
250 }  
251 }  
252 }  
253 }  
254 }  
255 }  
256 }  
257 }  
258 }  
259 }  
260 }  
261 }  
262 }  
263 }  
264 }  
265 }  
266 }  
267 }  
268 }  
269 }  
270 }  
271 }  
272 }  
273 }  
274 }  
275 }  
276 }  
277 }  
278 }  
279 }  
280 }  
281 }  
282 }  
283 }  
284 }  
285 }  
286 }  
287 }  
288 }  
289 }  
290 }  
291 }  
292 }  
293 }  
294 }  
295 }  
296 }  
297 }  
298 }  
299 }  
300 }  
301 }  
302 }  
303 }  
304 }  
305 }  
306 }  
307 }  
308 }  
309 }  
310 }  
311 }  
312 }  
313 }  
314 }  
315 }  
316 }  
317 }  
318 }  
319 }  
320 }  
321 }  
322 }  
323 }  
324 }  
325 }  
326 }  
327 }  
328 }  
329 }  
330 }  
331 }  
332 }  
333 }  
334 }  
335 }  
336 }  
337 }  
338 }  
339 }  
340 }  
341 }  
342 }  
343 }  
344 }  
345 }  
346 }  
347 }  
348 }  
349 }  
350 }  
351 }  
352 }  
353 }  
354 }  
355 }  
356 }  
357 }  
358 }  
359 }  
360 }  
361 }  
362 }  
363 }  
364 }  
365 }  
366 }  
367 }  
368 }  
369 }  
370 }  
371 }  
372 }  
373 }  
374 }  
375 }  
376 }  
377 }  
378 }  
379 }  
380 }  
381 }  
382 }  
383 }  
384 }  
385 }  
386 }  
387 }  
388 }  
389 }  
390 }  
391 }  
392 }  
393 }  
394 }  
395 }  
396 }  
397 }  
398 }  
399 }  
400 }  
401 }  
402 }  
403 }  
404 }  
405 }  
406 }  
407 }  
408 }  
409 }  
410 }  
411 }  
412 }  
413 }  
414 }  
415 }  
416 }  
417 }  
418 }  
419 }  
420 }  
421 }  
422 }  
423 }  
424 }  
425 }  
426 }  
427 }  
428 }  
429 }  
430 }  
431 }  
432 }  
433 }  
434 }  
435 }  
436 }  
437 }  
438 }  
439 }  
440 }  
441 }  
442 }  
443 }  
444 }  
445 }  
446 }  
447 }  
448 }  
449 }  
450 }  
451 }  
452 }  
453 }  
454 }  
455 }  
456 }  
457 }  
458 }  
459 }  
460 }  
461 }  
462 }  
463 }  
464 }  
465 }  
466 }  
467 }  
468 }  
469 }  
470 }  
471 }  
472 }  
473 }  
474 }  
475 }  
476 }  
477 }  
478 }  
479 }  
480 }  
481 }  
482 }  
483 }  
484 }  
485 }  
486 }  
487 }  
488 }  
489 }  
490 }  
491 }  
492 }  
493 }  
494 }  
495 }  
496 }  
497 }  
498 }  
499 }  
500 }  
501 }  
502 }  
503 }  
504 }  
505 }  
506 }  
507 }  
508 }  
509 }  
510 }  
511 }  
512 }  
513 }  
514 }  
515 }  
516 }  
517 }  
518 }  
519 }  
520 }  
521 }  
522 }  
523 }  
524 }  
525 }  
526 }  
527 }  
528 }  
529 }  
530 }  
531 }  
532 }  
533 }  
534 }  
535 }  
536 }  
537 }  
538 }  
539 }  
540 }  
541 }  
542 }  
543 }  
544 }  
545 }  
546 }  
547 }  
548 }  
549 }  
550 }  
551 }  
552 }  
553 }  
554 }  
555 }  
556 }  
557 }  
558 }  
559 }  
560 }  
561 }  
562 }  
563 }  
564 }  
565 }  
566 }  
567 }  
568 }  
569 }  
570 }  
571 }  
572 }  
573 }  
574 }  
575 }  
576 }  
577 }  
578 }  
579 }  
580 }  
581 }  
582 }  
583 }  
584 }  
585 }  
586 }  
587 }  
588 }  
589 }  
590 }  
591 }  
592 }  
593 }  
594 }  
595 }  
596 }  
597 }  
598 }  
599 }  
600 }  
601 }  
602 }  
603 }  
604 }  
605 }  
606 }  
607 }  
608 }  
609 }  
610 }  
611 }  
612 }  
613 }  
614 }  
615 }  
616 }  
617 }  
618 }  
619 }  
620 }  
621 }  
622 }  
623 }  
624 }  
625 }  
626 }  
627 }  
628 }  
629 }  
630 }  
631 }  
632 }  
633 }  
634 }  
635 }  
636 }  
637 }  
638 }  
639 }  
640 }  
641 }  
642 }  
643 }  
644 }  
645 }  
646 }  
647 }  
648 }  
649 }  
650 }  
651 }  
652 }  
653 }  
654 }  
655 }  
656 }  
657 }  
658 }  
659 }  
660 }  
661 }  
662 }  
663 }  
664 }  
665 }  
666 }  
667 }  
668 }  
669 }  
670 }  
671 }  
672 }  
673 }  
674 }  
675 }  
676 }  
677 }  
678 }  
679 }  
680 }  
681 }  
682 }  
683 }  
684 }  
685 }  
686 }  
687 }  
688 }  
689 }  
690 }  
691 }  
692 }  
693 }  
694 }  
695 }  
696 }  
697 }  
698 }  
699 }  
700 }  
701 }  
702 }  
703 }  
704 }  
705 }  
706 }  
707 }  
708 }  
709 }  
710 }  
711 }  
712 }  
713 }  
714 }  
715 }  
716 }  
717 }  
718 }  
719 }  
720 }  
721 }  
722 }  
723 }  
724 }  
725 }  
726 }  
727 }  
728 }  
729 }  
730 }  
731 }  
732 }  
733 }  
734 }  
735 }  
736 }  
737 }  
738 }  
739 }  
740 }  
741 }  
742 }  
743 }  
744 }  
745 }  
746 }  
747 }  
748 }  
749 }  
750 }  
751 }  
752 }  
753 }  
754 }  
755 }  
756 }  
757 }  
758 }  
759 }  
760 }  
761 }  
762 }  
763 }  
764 }  
765 }  
766 }  
767 }  
768 }  
769 }  
770 }  
771 }  
772 }  
773 }  
774 }  
775 }  
776 }  
777 }  
778 }  
779 }  
770 }  
771 }  
772 }  
773 }  
774 }  
775 }  
776 }  
777 }  
778 }  
779 }  
780 }  
781 }  
782 }  
783 }  
784 }  
785 }  
786 }  
787 }  
788 }  
789 }  
790 }  
791 }  
792 }  
793 }  
794 }  
795 }  
796 }  
797 }  
798 }  
799 }  
800 }  
801 }  
802 }  
803 }  
804 }  
805 }  
806 }  
807 }  
808 }  
809 }  
8010 }  
8011 }  
8012 }  
8013 }  
8014 }  
8015 }  
8016 }  
8017 }  
8018 }  
8019 }  
8020 }  
8021 }  
8022 }  
8023 }  
8024 }  
8025 }  
8026 }  
8027 }  
8028 }  
8029 }  
8030 }  
8031 }  
8032 }  
8033 }  
8034 }  
8035 }  
8036 }  
8037 }  
8038 }  
8039 }  
8040 }  
8041 }  
8042 }  
8043 }  
8044 }  
8045 }  
8046 }  
8047 }  
8048 }  
8049 }  
8050 }  
8051 }  
8052 }  
8053 }  
8054 }  
8055 }  
8056 }  
8057 }  
8058 }  
8059 }  
8060 }  
8061 }  
8062 }  
8063 }  
8064 }  
8065 }  
8066 }  
8067 }  
8068 }  
8069 }  
8070 }  
8071 }  
8072 }  
8073 }  
8074 }  
8075 }  
8076 }  
8077 }  
8078 }  
8079 }  
8080 }  
8081 }  
8082 }  
8083 }  
8084 }  
8085 }  
8086 }  
8087 }  
8088 }  
8089 }  
8090 }  
8091 }  
8092 }  
8093 }  
8094 }  
8095 }  
8096 }  
8097 }  
8098 }  
8099 }  
80100 }  
80101 }  
80102 }  
80103 }  
80104 }  
80105 }  
80106 }  
80107 }  
80108 }  
80109 }  
80110 }  
80111 }  
80112 }  
80113 }  
80114 }  
80115 }  
80116 }  
80117 }  
80118 }  
80119 }  
80120 }  
80121 }  
80122 }  
80123 }  
80124 }  
80125 }  
80126 }  
80127 }  
80128 }  
80129 }  
80130 }  
80131 }  
80132 }  
80133 }  
80134 }  
80135 }  
80136 }  
80137 }  
80138 }  
80139 }  
80140 }  
80141 }  
80142 }  
80143 }  
80144 }  
80145 }  
80146 }  
80147 }  
80148 }  
80149 }  
80150 }  
80151 }  
80152 }  
80153 }  
80154 }  
80155 }  
80156 }  
80157 }  
80158 }  
80159 }  
80160 }  
80161 }  
80162 }  
80163 }  
80164 }  
80165 }  
80166 }  
80167 }  
80168 }  
80169 }  
80170 }  
80171 }  
80172 }  
80173 }  
80174 }  
80175 }  
80176 }  
80177 }  
80178 }  
80179 }  
80180 }  
8
```

# Get Item by Id (CRUD)

<b>Method</b>	GET
<b>URL</b>	<code>{{site_url}}/_api/web/lists/getByTitle('listname')/Items({{ID}})</code>

GET [▼](#) `{{site_url}}/_api/web/lists/getByTitle('listname')/Items(5)` [Send](#) [▼](#)

Params Authorization [Headers \(10\)](#) [Body](#) [Pre-request Script](#) [Tests](#) [Settings](#) [Cookies](#)

Headers [7 hidden](#)

KEY	VALUE	DESCRIPTION	...	Bulk Edit	Presets
<input checked="" type="checkbox"/> Authorization	Bearer eyJ0eXAiOiJKV1QiLCJhbGciOiJSUzI1NiIsIn...				
<input checked="" type="checkbox"/> Content-Type	application/json;odata=verbose				
<input checked="" type="checkbox"/> Accept	application/json;odata=verbose				
Key	Value	Description			

## Request header

<b>Authorization</b>	Bearer {{token}}
<b>Content-Type</b>	application/json;odata=verbose
<b>Accept</b>	application/json;odata=verbose

Body Cookies Headers (27) Test Results Save Response ▾

Pretty Raw Preview Visualize JSON ▾  

```
1 {
2   "d": {
3     "__metadata": {
4       "id": "6077dd2f-9e12-4638-a878-5d63bccdc031",
5       "uri": "https://apiwatdev.sharepoint.com/sites/Demo/_api/Web/Lists(guid'573cde9b-94a3-421e-bf00-c3a540bf28eb')/Items
6         (5)",
7       "etag": "\"2\"",
8       "type": "SP.Data.ListnameListItem"
9     },
10    "FirstUniqueAncestorSecurableObject": {
11      "__deferred": {
12        "uri": "https://apiwatdev.sharepoint.com/sites/Demo/_api/Web/Lists(guid'573cde9b-94a3-421e-bf00-c3a540bf28eb')/
13          Items(5)/FirstUniqueAncestorSecurableObject"
14      }
15    }
16  }
17}
```

# Create Item (CRUD)

Method	POST
URL	<code>{{site_url}}/_api/web/lists/getByTitle('listname')/Items</code>

## Request header

Authorization	Bearer {{token}}
Content-Type	application/json;odata=verbose
Accept	application/json;odata=verbose

## Request Body (JSON)

Json	<pre>{   "__metadata": {     "type": "SP.Data.ListnameListItem"   },   "Title": "6666",   "firstname": "Johnney",   "lastname": "Groo" }</pre>
------	--

SharePoint Rest API / listname / Create a item list

POST  `{{site_url}}/_api/web/lists/getByTitle('listname')/Items`

Params Authorization Headers (12) Body ● Pre-request Script Tests Settings Cookies

Headers (9 hidden)

KEY	VALUE	DESCRIPTION	...	Bulk Edit	Presets
Authorization	Bearer eyJ0eXAiOiJKV1QiLCJhbGciOiJSUzI1NiIsIn1...				
Content-Type	application/json;odata=verbose				
Accept	application/json;odata=verbose				
Key	Value	Description			

Body Cookies Headers (27) Test Results

Status: 201 Created Time: 441 ms Size: 4.48 KB Save Response

Pretty Raw Preview Visualize JSON

```

1  {
2    "d": {
3      "__metadata": {
4        "id": "a93ad77e-4850-4dc0-bf97-7d51ed100683",
5        "uri": "https://apiwatdev.sharepoint.com/sites/Demo/_api/Web/Lists(guid'573cde9b-94a3-421e-bf00-c3a540bf28eb')/Items
6        (12)",
7        "etag": "\"1\"",
8        "type": "SP.Data.ListnameListItem"
9      },
10     "FirstUniqueAncestorSecurableObject": {
11       "__deferred": {
12         "uri": "https://apiwatdev.sharepoint.com/sites/Demo/_api/Web/Lists(guid'573cde9b-94a3-421e-bf00-c3a540bf28eb')/Items
13        (12)/FirstUniqueAncestorSecurableObject"
14       }
15     }
16   }
17 }
```

# Update Item (CRUD)

Method	POST
URL	<code>{{site_url}}/_api/web/lists/getByTitle('listname')/Items({{ID}})</code>

## Request header

Authorization	Bearer {{token}}
Content-Type	application/json;odata=verbose
Accept	application/json;odata=verbose
If-Match	*
X-HTTP-Method	MERGE

## Request Body (JSON)

Json	<pre>{   "__metadata": {     "type": "SP.Data.ListnameListItem"   },   "Title": "6666",   "firstname": "Johnney",   "lastname": "Groo" }</pre>
------	--

The screenshot shows the Postman interface with the following details:

- Method:** POST
- URL:** `POST {{site_url}}/_api/web/lists/getByTitle('listname')/Items({{ID}})`
- Headers (14):**
  - Authorization: Bearer eyJ0eXAiOiJKV1QiLCJhbGciOiJSUzI1NiL...
  - Content-Type: application/json;odata=verbose
  - Accept: application/json;odata=verbose
  - If-Match: \*
  - X-HTTP-Method: MERGE
- Body:** (Empty)
- Response:** Status: 204 No Content, Time: 324 ms, Size: 1.25 KB

# Delete Item (CRUD)

Method	POST
URL	<code>{{site_url}}/_api/web/lists/getByTitle('listname')/Items({{ID}})</code>

## Request header

Authorization	Bearer {{token}}
Content-Type	application/json;odata=verbose
Accept	application/json;odata=verbose
If-Match	*
X-HTTP-Method	DELETE

## Request Body (JSON)

Json	<pre>{   "__metadata": {     "type": "SP.Data.ListnameListItem"   },   "Title": "6666",   "firstname": "Johnney",   "lastname": "Groo" }</pre>
------	--

The screenshot shows the Postman API client interface. The request URL is `POST {{site_url}}/_api/web/lists/getByTitle('listname')/Items(12)`. The 'Headers' tab is selected, showing the following configuration:

Key	Value	Description
Authorization	Bearer eyJ0eXAiOiJKV1QiLCJhbGciOiJSUzI1NiL...	
Content-Type	application/json;odata=verbose	
Accept	application/json;odata=verbose	
X-HTTP-Method	DELETE	
If-Match	*	

The 'Body' tab is selected, showing a single JSON object:

```
{
  "__metadata": {
    "type": "SP.Data.ListnameListItem"
  },
  "Title": "6666",
  "firstname": "Johnney",
  "lastname": "Groo"
}
```

The status bar at the bottom indicates: Status: 200 OK Time: 262 ms Size: 1.21 KB Save Response.

# Working with NodeJS

# Topic

- node-sp-auth (npm)
  - gd-sprest (npm)
  - Review code

	<pre> &lt;standard input&gt;:18641: warning [p 269, 7.5i] : can't break line     -fivar-visibility=[public protecte d private package]     -freplace-objc-classes     -fzero-link -gen-decls     -Wassign-intercept -Wno-protocol     -Wselector     -Wstrict-selector-match     -Wundeclared-selector          Language Independent Options         -fmessage-length=n     </pre>	<pre> line "cmatrix -b") ERROR: apport (pid 18449) Thu Mar 16 11:44:58 2017: debug: session dbus call: (true,)  ERROR: apport (pid 18449) Thu Mar 16 11:44:58 2017: apport: report /var/crash/_usr_bin_cma trix.1000.crash already exists and unseen, do ing nothing to avoid disk usage DoS ERROR: apport (pid 18485) Thu Mar 16 11:44:59 2017: called for pid 18484, signal 8, core l imit 0 ERROR: apport (pid 18485) Thu Mar 16 11:44:59 2017: executable: /usr/bin/cmatrix (command line "cmatrix -b"))     </pre>	<pre> 20 20 20 20   \$( 00000dc0 20 65 78 65 63 2 20 20 20 20   exec 4&gt;81 00000dd0 20 20 20 20 2 7a 31 20 2d   00000dea 63 64 66 71 20 20 65 63 68   cdfq - 4&gt;6 00000df0 6f 20 24 3f 20 26 2d 20 7c   o \$? &gt;84 00000e00 0a 20 20 20 20 20 20 20 20   00000e10 20 65 76 61 20 2d 20 2d   eval \$(     </pre>																																													
B/s 1 B/s																																																
B/s 4 B/s																																																
633276860 -0700 rn/serial8250/tty s: 0 IO Links: 3 d: ( 0/  ro 0 b P 121117019 -0700 745114275 -0700 745114275 -0700	<pre> R      F 0 ,      m  N S   v     &amp; , \ # e Y s      F r B d - v ; &gt; P x b # p      4  I + B l Y U y 9 b , ? ,      [ 0 V c { ; V 3 ] :   T   \ &amp; q . &lt; ; 9 u Y E \ 2 L :     </pre>	<pre> x0llllllolllocllloolllooooodxo 0xxdddxxdddxdxxxxxxxxddkkkkkkd K0kk0k000000000KKKKKKKKKKKKKKKK KK0000000000000KKKKKKKKKKKKKKKK KK0000000KKKKKKKKKKKKKKKKKKKKKK K00000000KKKKKKKKKKKKKKKKKKKKKK K0k0000k0KKKKKKKKKKKKKKKK00000k KK00000000000KKKKKKKKKKKKKKKKKK KK0000000KKKKKKKKKKKKKKKKKKKKKK KK0000000000000000000000000000000k KK0000000000000000000000000000000k KK000000000k000k0KKKKKKKKKKKKKK kkkkkkkkkkkkkkkkkkkkkkkkkkkkkd     </pre>	Screen must be at least 160x80																																													
_burst interval_ms	<pre> EAFNOSUPPORT 97 Address family not supported by protocol ENOSYS 38 Function not implemented EXDEV 18 Invalid cross-device link EREMOTEIO 121 Remote I/O error ENOLINK 67 Link has been severed EPROTOTYPE 91 Protocol wrong type for socket ENETUNREACH 101 Network is unreachable ENOTSUP 95 Operation not supported ENFILE 23 Too many open files in system EL2NSYNC 45 Level 2 not synchronized ELIBSCN 81 .ltb section in a.out corrupted EDQUOT 122 Disk quota exceeded     </pre>	<pre> A: 184.7 V: 209.9 A-V:-25.123 ct:-14.229 354     </pre>																																														
threshold nd																																																
lta-echo-romeo-pa fa-tango key-echo-bravo-Br niform lfa-tango-mike-ec vo-yankee 0 juliett-india-U ee-mike-PERIOD mber-echo-novembe ta-charlie	<pre> 9!v+U netcon1@ubuntu The key's randomart image is: +---[DSA 1024]---+  +==o...  +o.=o.  +o..o..  +o+=.=  +o+=.=  +oo+ . 5  oBo* . .  =oBo...     </pre>	<pre> CPU[     100.0%] Tasks: 151 Mem[     631M/973M] Load average: Swp[     432M/1022M] Uptime: 00:00:00     </pre> <table border="1"> <thead> <tr> <th>PID</th><th>USER</th><th>PRI</th><th>NI</th><th>VIRT</th><th>RES</th><th>SHR</th><th>S</th><th>L</th></tr> </thead> <tbody> <tr> <td>55531</td><td>netcon1</td><td>39</td><td>19</td><td>23992</td><td>2568</td><td>2300</td><td>R</td><td>15.5</td></tr> <tr> <td>55705</td><td>netcon1</td><td>39</td><td>19</td><td>23992</td><td>2576</td><td>2344</td><td>R</td><td>15.5</td></tr> <tr> <td>47651</td><td>netcon1</td><td>20</td><td>0</td><td>65012</td><td>31712</td><td>2704</td><td>R</td><td>11.0</td></tr> <tr> <td>4826</td><td>netcon1</td><td>20</td><td>0</td><td>655M</td><td>25200</td><td>11900</td><td>S</td><td>11.0</td></tr> </tbody> </table>	PID	USER	PRI	NI	VIRT	RES	SHR	S	L	55531	netcon1	39	19	23992	2568	2300	R	15.5	55705	netcon1	39	19	23992	2576	2344	R	15.5	47651	netcon1	20	0	65012	31712	2704	R	11.0	4826	netcon1	20	0	655M	25200	11900	S	11.0	
PID	USER	PRI	NI	VIRT	RES	SHR	S	L																																								
55531	netcon1	39	19	23992	2568	2300	R	15.5																																								
55705	netcon1	39	19	23992	2576	2344	R	15.5																																								
47651	netcon1	20	0	65012	31712	2704	R	11.0																																								
4826	netcon1	20	0	655M	25200	11900	S	11.0																																								

# Reference.

- <https://docs.microsoft.com/en-us/sharepoint/dev/sp-add-ins/authorization-and-authentication-of-sharepoint-add-ins>
- <https://docs.microsoft.com/en-us/sharepoint/dev/sp-add-ins/get-to-know-the-sharepoint-rest-service?tabs=csom>
- <https://piyushksingh.com/2018/12/26/register-app-in-sharepoint/>
- <https://www.npmjs.com/package/node-sp-auth>
- <https://www.npmjs.com/package/gd-sprest>
- <https://stackoverflow.com/questions/24535200/enable-authentication-for-iis-app-in-powershell>
- <https://stackoverflow.com/questions/67418291/sharepoint-online-token-type-is-not-allowed>