



# **Common support module**

## **ONTAP Select**

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# Common support module

All of the Python scripts use a common Python class in a single module.

```
1 #!/usr/bin/env python
2 ##-----
3 #
4 # File: deploy_requests.py
5 #
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7 #
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20 #
21 ##-----
22
23 import json
24 import logging
25 import requests
26
27 requests.packages.urllib3.disable_warnings()
28
29 class DeployRequests(object):
30     '''
31     Wrapper class for requests that simplifies the ONTAP Select Deploy
32     path creation and header manipulations for simpler code.
33     '''
34
35     def __init__(self, ip, admin_password):
36         self.base_url = 'https://{}/api'.format(ip)
37         self.auth = ('admin', admin_password)
38         self.headers = {'Accept': 'application/json'}
39         self.logger = logging.getLogger('deploy')
40
41     def post(self, path, data, files=None, wait_for_job=False):
```

```

39         if files:
40             self.logger.debug('POST FILES:')
41             response = requests.post(self.base_url + path,
42                                     auth=self.auth, verify=False,
43                                     files=files)
44         else:
45             self.logger.debug('POST DATA: %s', data)
46             response = requests.post(self.base_url + path,
47                                     auth=self.auth, verify=False,
48                                     json=data,
49                                     headers=self.headers)
50
51         self.logger.debug('HEADERS: %s\nBODY: %s', self.
filter_headers(response), response.text)
52         self.exit_on_errors(response)
53
54         if wait_for_job and response.status_code == 202:
55             self.wait_for_job(response.json())
56         return response
57
58     def patch(self, path, data, wait_for_job=False):
59         self.logger.debug('PATCH DATA: %s', data)
60         response = requests.patch(self.base_url + path,
61                                  auth=self.auth, verify=False,
62                                  json=data,
63                                  headers=self.headers)
64         self.logger.debug('HEADERS: %s\nBODY: %s', self.
filter_headers(response), response.text)
65         self.exit_on_errors(response)
66
67         if wait_for_job and response.status_code == 202:
68             self.wait_for_job(response.json())
69         return response
70
71     def put(self, path, data, files=None, wait_for_job=False):
72         if files:
73             print('PUT FILES: {}'.format(data))
74             response = requests.put(self.base_url + path,
75                                    auth=self.auth, verify=False,
76                                    data=data,
77                                    files=files)
78         else:
79             self.logger.debug('PUT DATA:')
80             response = requests.put(self.base_url + path,
81                                    auth=self.auth, verify=False,
82                                    json=data,

```

```

83             headers=self.headers)
84
85         self.logger.debug('HEADERS: %s\nBODY: %s', self.
filter_headers(response), response.text)
86         self.exit_on_errors(response)
87
88         if wait_for_job and response.status_code == 202:
89             self.wait_for_job(response.json())
90         return response
91
92     def get(self, path):
93         """ Get a resource object from the specified path """
94         response = requests.get(self.base_url + path, auth=self.auth,
verify=False)
95         self.logger.debug('HEADERS: %s\nBODY: %s', self.
filter_headers(response), response.text)
96         self.exit_on_errors(response)
97         return response
98
99     def delete(self, path, wait_for_job=False):
100         """ Delete's a resource from the specified path """
101         response = requests.delete(self.base_url + path, auth=self
.auth, verify=False)
102         self.logger.debug('HEADERS: %s\nBODY: %s', self.
filter_headers(response), response.text)
103         self.exit_on_errors(response)
104
105         if wait_for_job and response.status_code == 202:
106             self.wait_for_job(response.json())
107         return response
108
109     def find_resource(self, path, name, value):
110         ''' Returns the 'id' of the resource if it exists, otherwise
None '''
111         resource = None
112         response = self.get('{path}?{field}={value}'.format(
113             path=path, field=name, value=value))
114         if response.status_code == 200 and response.json().get
('num_records') >= 1:
115             resource = response.json().get('records')[0].get('id')
116         return resource
117
118     def get_num_records(self, path, query=None):
119         ''' Returns the number of records found in a container, or
None on error '''
120         resource = None

```

```

121         query_opt = '?{}'.format(query) if query else ''
122         response = self.get('{path}{query}'.format(path=path, query
=query_opt))
123         if response.status_code == 200 :
124             return response.json().get('num_records')
125         return None
126
127     def resource_exists(self, path, name, value):
128         return self.find_resource(path, name, value) is not None
129
130     def wait_for_job(self, response, poll_timeout=120):
131         last_modified = response['job']['last_modified']
132         job_id = response['job']['id']
133
134         self.logger.info('Event: ' + response['job']['message'])
135
136         while True:
137             response = self.get('/jobs/{}?fields=state,message&'
138                                 'poll_timeout={} &last_modified=>={}'
139                                 .format(
140                                     job_id, poll_timeout,
141                                     last_modified))
142
143             job_body = response.json().get('record', {})
144
145             # Show interesting message updates
146             message = job_body.get('message', '')
147             self.logger.info('Event: ' + message)
148
149             # Refresh the last modified time for the poll loop
150             last_modified = job_body.get('last_modified')
151
152             # Look for the final states
153             state = job_body.get('state', 'unknown')
154             if state in ['success', 'failure']:
155                 if state == 'failure':
156                     self.logger.error('FAILED background job.\nJOB:
%s', job_body)
157                     exit(1) # End the script if a failure occurs
158                     break
159
160     def exit_on_errors(self, response):
161         if response.status_code >= 400:
162             self.logger.error('FAILED request to URL: %s\nHEADERS:
%s\nRESPONSE BODY: %s',
163                               response.request.url,

```

```
162         self.filter_headers(response),
163         response.text)
164     response.raise_for_status()    # Displays the response error,
and exits the script
165
166     @staticmethod
167     def filter_headers(response):
168         ''' Returns a filtered set of the response headers '''
169         return {key: response.headers[key] for key in ['Location',
'request-id'] if key in response.headers}
```

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