Common support module

ONTAP Select

NetApp
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Common support module

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

```
#!/usr/bin/env python
##-----------------------------------------------------------------------
#
# File: deploy_requests.py
#
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#
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#
##-----------------------------------------------------------------------

import json
import logging
import requests

requests.packages.urllib3.disable_warnings()

class DeployRequests(object):
    '''
    Wrapper class for requests that simplifies the ONTAP Select Deploy
    path creation and header manipulations for simpler code.
    '''

    def __init__(self, ip, admin_password):
        self.base_url = 'https://{}/api'.format(ip)
        self.auth = ('admin', admin_password)
        self.headers = {'Accept': 'application/json'}
        self.logger = logging.getLogger('deploy')

    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,
```

```
                                    headers=self.headers)

        self.logger.debug('HEADERS: %s\nBODY: %s', self.
filter_headers(response), response.text)
        self.exit_on_errors(response)

        if wait_for_job and response.status_code == 202:
            self.wait_for_job(response.json())
        return response

    def get(self, path):
        """ Get a resource object from the specified path """
        response = requests.get(self.base_url + path, auth=self.auth,
verify=False)
        self.logger.debug('HEADERS: %s\nBODY: %s', self.
filter_headers(response), response.text)
        self.exit_on_errors(response)
        return response

    def delete(self, path, wait_for_job=False):
        """ Delete's a resource from the specified path """
        response = requests.delete(self.base_url + path, auth=self
.auth, verify=False)
        self.logger.debug('HEADERS: %s\nBODY: %s', self.
filter_headers(response), response.text)
        self.exit_on_errors(response)

        if wait_for_job and response.status_code == 202:
            self.wait_for_job(response.json())
        return response

    def find_resource(self, path, name, value):
        ''' Returns the 'id' of the resource if it exists, otherwise
None '''
        resource = None
        response = self.get('{path}?{field}={value}'.format(
                            path=path, field=name, value=value))
        if response.status_code == 200 and response.json().get
('num_records') >= 1:
            resource = response.json().get('records')[0].get('id')
        return resource

    def get_num_records(self, path, query=None):
        ''' Returns the number of records found in a container, or
None on error '''
        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=>={}'
    .format(
139                                     job_id, poll_timeout,
    last_modified))
140 
141             job_body = response.json().get('record', {})
142 
143             # Show interesting message updates
144             message = job_body.get('message', '')
145             self.logger.info('Event: ' + message)
146 
147             # Refresh the last modified time for the poll loop
148             last_modified = job_body.get('last_modified')
149 
150             # Look for the final states
151             state = job_body.get('state', 'unknown')
152             if state in ['success', 'failure']:
153                 if state == 'failure':
154                     self.logger.error('FAILED background job.\nJOB:
    %s', job_body)
155                     exit(1)    # End the script if a failure occurs
156                 break
157 
158     def exit_on_errors(self, response):
159         if response.status_code >= 400:
160             self.logger.error('FAILED request to URL: %s\nHEADERS:
    %s\nRESPONSE BODY: %s',
161                               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}
```