



Script to resize cluster nodes

ONTAP Select

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You can use the following script to resize the nodes in an ONTAP Select cluster.

```
1 #!/usr/bin/env python
2 ##-----
3 #
4 # File: resize_nodes.py
5 #
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7 #
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18 # terms
19 # no less restrictive than those set forth herein.
20 #
21 ##-----
22
23 import argparse
24 import logging
25 import sys
26
27 from deploy_requests import DeployRequests
28
29 def _parse_args():
30     """ Parses the arguments provided on the command line when
31     executing this
32     script and returns the resulting namespace. If all required
33     arguments
34     are not provided, an error message indicating the mismatch is
35     printed and
36     the script will exit.
37     """
38
39     parser = argparse.ArgumentParser(description=(
40         'Uses the ONTAP Select Deploy API to resize the nodes in the
```

```

    cluster.'
36         ' For example, you might have a small (4 CPU, 16GB RAM per
node) 2 node'
37         ' cluster and wish to resize the cluster to medium (8 CPU,
64GB RAM per'
38         ' node). This script will take in the cluster details and then
perform'
39         ' the operation and wait for it to complete.'
40     ))
41     parser.add_argument('--deploy', required=True, help=(
42         'Hostname or IP of the ONTAP Select Deploy VM.'
43     ))
44     parser.add_argument('--deploy-password', required=True, help=(
45         'The password for the ONTAP Select Deploy admin user.'
46     ))
47     parser.add_argument('--cluster', required=True, help=(
48         'Hostname or IP of the cluster management interface.'
49     ))
50     parser.add_argument('--instance-type', required=True, help=(
51         'The desired instance size of the nodes after the operation is
complete.'
52     ))
53     parser.add_argument('--ontap-password', required=True, help=(
54         'The password for the ONTAP administrative user account.'
55     ))
56     parser.add_argument('--ontap-username', default='admin', help=(
57         'The username for the ONTAP administrative user account.
Default: admin.'
58     ))
59     parser.add_argument('--nodes', nargs='+', metavar='NODE_NAME',
help=(
60         'A space separated list of node names for which the resize
operation'
61         ' should be performed. The default is to apply the resize to
all nodes in'
62         ' the cluster. If a list of nodes is provided, it must be
provided in HA'
63         ' pairs. That is, in a 4 node cluster, nodes 1 and 2
(partners) must be'
64         ' resized in the same operation.'
65     ))
66     return parser.parse_args()
67
68
69 def _get_cluster(deploy, parsed_args):
70     """ Locate the cluster using the arguments provided """

```

```

71
72     cluster_id = deploy.find_resource('/clusters', 'ip', parsed_args
    .cluster)
73     if not cluster_id:
74         return None
75     return deploy.get('/clusters/%s?fields=nodes' % cluster_id).
    json()['record']
76
77
78 def _get_request_body(parsed_args, cluster):
79     """ Build the request body """
80
81     changes = {'admin_password': parsed_args.ontap_password}
82
83     # if provided, use the list of nodes given, else use all the nodes
    in the cluster
84     nodes = [node for node in cluster['nodes']]
85     if parsed_args.nodes:
86         nodes = [node for node in nodes if node['name'] in
    parsed_args.nodes]
87
88     changes['nodes'] = [
89         {'instance_type': parsed_args.instance_type, 'id': node['id']}
    for node in nodes]
90
91     return changes
92
93
94 def main():
95     """ Set up the resize operation by gathering the necessary data
    and then send
96         the request to the ONTAP Select Deploy server.
97     """
98
99     logging.basicConfig(
100         format='[% (asctime)s] [% (levelname)5s] [% (message)s]', level
    =logging.INFO,)
101
102     logging.getLogger('requests.packages.urllib3').setLevel(logging
    .WARNING)
103
104     parsed_args = _parse_args()
105     deploy = DeployRequests(parsed_args.deploy, parsed_args
    .deploy_password)
106
107     cluster = _get_cluster(deploy, parsed_args)

```

```
108     if not cluster:
109         deploy.logger.error(
110             'Unable to find a cluster with a management IP of %s' %
111             parsed_args.cluster)
112         return 1
113
114     changes = _get_request_body(parsed_args, cluster)
115     deploy.patch('/clusters/%s' % cluster['id'], changes,
116                 wait_for_job=True)
117
118 if __name__ == '__main__':
119     sys.exit(main())
```

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