



Script to resize cluster nodes

ONTAP Select

David Peterson
November 21, 2019

This PDF was generated from https://docs.netapp.com/us-en/ontap-select/reference_api_script_resize.html on November 11, 2020. Always check docs.netapp.com for the latest.

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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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15 # that the software application product is distributed pursuant to terms
16 # no less restrictive than those set forth herein.
17 #
18 ##-----
19
20 import argparse
21 import logging
22 import sys
23
24 from deploy_requests import DeployRequests
25
26
27 def _parse_args():
28     """ Parses the arguments provided on the command line when executing this
29         script and returns the resulting namespace. If all required arguments
30         are not provided, an error message indicating the mismatch is printed and
31         the script will exit.
32     """
33
34     parser = argparse.ArgumentParser(description=(
35         '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' % parsed_args
111             .cluster)
112         return 1
113
114     changes = _get_request_body(parsed_args, cluster)
115     deploy.patch('/clusters/%s' % cluster['id'], changes, wait_for_job=True)
116
117 if __name__ == '__main__':
118     sys.exit(main())

```

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