



Auto Config Examples

How to Use the DFA Rest APIs to Control Auto-Configuration

This example shows how to use DCNM REST APIs for auto-configuration.



Note

While reviewing the actual API calls, a section is available to provide the sample.

Create a Network

- Step 1** Logon to get a token
 - Step 2** Create a Profile
 - Step 3** Create an Organization
 - Step 4** Create a network under the partition.
 - Step 5** Logout
-

Call Logon

```
URL: https://10.77.247.111/rest/logon
HTTP Method: POST
Resource Name: /rest/logon
Host: 10.77.247.111
User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US; rv:1.9.2.3)
Gecko/20100401 Firefox/3.6.3
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
Accept-Language: en-us,en;q=0.5
Accept-Encoding: gzip,deflate
Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
Keep-Alive: 115
Connection: keep-alive
Content-Type: application/json; charset=UTF-8
Authorization: Basic YWRtaW46YWRtaW4xMjM=
```

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```

Content-Length: 28
Cookie: JSESSIONID=4C975316B01A44215861475E1B5F9328
Pragma: no-cache
Cache-Control: no-cache
{"expirationTime": 1000000}
HTTP/1.1
Status Code: 200 OK
Content-Type: application/json
{
  "token" : " NUVyu5Y0YHDv0tT6xFuIPd+Cu9OA1XCQ "
}

```

Create a Profile

```

URL: http://10.77.247.111/rest/auto-config/profiles
HTTP Method: POST
Resource Name: /rest/auto-config/profiles
Host: 10.77.247.111
User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US; rv:1.9.2.3)
Gecko/20100401 Firefox/3.6.3
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
Accept-Language: en-us,en;q=0.5
Accept-Encoding: gzip,deflate
Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
Keep-Alive: 115
Connection: keep-alive
Content-Type: application/json; charset=UTF-8
Dcnm-Token: NUVyu5Y0YHDv0tT6xFuIPd+Cu9OA1XCQ
Content-Length: 179
Cookie: JSESSIONID=4C975316B01A44215861475E1B5F9328
Pragma: no-cache
Cache-Control: no-cache
{
  "profileName": "customProfile",
  "profileType": "FPVLAN",
  "profileSubType": "network:universal",
  "description": "custom Profile for a network in DFA traditional
forwarding mode.",
  "configCommands": "vlan $vlanId\r  vn-segment $segmentId\r  mode
fabricpath\r  interface vlan $vlanId\r  vrf member $vrfName\r  ip
address $gatewayIpAddress/$netMaskLength tag 12345\r  ip dhcp relay
address $dhcpServerAddr use-vrf $vrfDhcp\r  ipv6 address
$gatewayIpv6Address/$prefixLength tag 12345\r  fabric forwarding mode
anycast-gateway\r  mtu $mtuValue\r  no shutdown\r  include profile
any\r!",
  "forwardingMode": "anycast-gateway"
}
Status Code: 202 Accepted
Content-Type: application/json
{
  "profileName": "customProfile"
}

```

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```

URL: http://10.77.247.111/rest/auto-config/organizations
HTTP Method: POST
Resource Name: /rest/auto-config/organizations
Host: 10.77.247.111
User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US; rv:1.9.2.3)
Gecko/20100401 Firefox/3.6.3
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
Accept-Language: en-us,en;q=0.5
Accept-Encoding: gzip,deflate
Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
Keep-Alive: 115
Connection: keep-alive
Content-Type: application/json; charset=UTF-8
Dcnm-Token: NUVyu5Y0YHDv0tT6xFuIPd+Cu9OA1XCQ
Content-Length: 179
Cookie: JSESSIONID=4C975316B01A44215861475E1B5F9328
Pragma: no-cache
Cache-Control: no-cache
{
  "organizationName" : "organization1",
  "description" : "organization1",
  "orchestrationSource" : "vCloud Director"
}
Status Code: 202 Accepted
Content-Type: application/json
{
  "organizationName" : "organization1"
}

```

List Organizations

```

URL: http://10.77.247.111/rest/auto-config/organizations
HTTP Method: GET
Resource Name: /rest/auto-config/organizations?detail=true
Host: 10.77.247.111
User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US; rv:1.9.2.3)
Gecko/20100401 Firefox/3.6.3
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
Accept-Language: en-us,en;q=0.5
Accept-Encoding: gzip,deflate
Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
Keep-Alive: 115
Connection: keep-alive
Content-Type: application/json; charset=UTF-8
Dcnm-Token: NUVyu5Y0YHDv0tT6xFuIPd+Cu9OA1XCQ
Content-Length: 179
Cookie: JSESSIONID=4C975316B01A44215861475E1B5F9328
Pragma: no-cache
Cache-Control: no-cache

```

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```

Accept: application/json
Status Code: 200 OK
Content-Type: application/json
[
  {
    "organizationName": "organization1",
    "description": "organization1",
    "orchestrationSource": "vCloud Director"
  }
  {
    "organizationName": "organization2",
    "description": "organization2",
    "orchestrationSource": "vCloud Director"
  }
]

```

Create a Partition

```

URL:http://10.77.247.111/rest/auto-config/organizations/organization1/partitions
HTTP Method: POST
Resource Name: /rest/auto-config/organizations/organization1/partitions
Host: 10.77.247.111
User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US; rv:1.9.2.3) Gecko/20100401 Firefox/3.6.3
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
Accept-Language: en-us,en;q=0.5
Accept-Encoding: gzip,deflate
Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
Keep-Alive: 115
Connection: keep-alive
Content-Type: application/json; charset=UTF-8
Dcnm-Token: NUVyu5Y0YHDv0tT6xFuIPd+Cu9OA1XCQ
Content-Length: 179
Cookie: JSESSIONID=4C975316B01A44215861475E1B5F9328
Pragma: no-cache
Cache-Control: no-cache
{
  "partitionName": "partition1",
  "description": "partition1",
  "serviceNodeIpAddress": "3.3.3.3",
  "organizationName": "organization1",
  "dnsServer": "10.10.10.1",
  "secondaryDNSServer": "20.20.20.1",
  "dciId": "23",
  "dciExtensionStatus": "Not Extended",
  "vrfProfileName": "vrf-common-universal",
  "vrfName": "organization1:partition1",
  "configArg": "$vrfName=organization1:partition1;
  $include_vrfSegmentId=;
  $include_serviceNodeIpAddress=;
  $include_borderLeafRt=65000:9999;$asn=65000"
}

```

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```

}

Status Code: 202 Accepted
Content-Type: application/json

{
  "partitionName": "partition1"
}

```

Create a Network

```

URL: http://10.77.247.111/rest/auto-config/organizations/
organization1/partitions/partition1/networks
HTTP Method: POST
Resource Name:
/rest/auto-config/organizations/organization1/partitions/partition1/netw
orks
Host: 10.77.247.111
User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US; rv:1.9.2.3)
Gecko/20100401 Firefox/3.6.3
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
Accept-Language: en-us,en;q=0.5
Accept-Encoding: gzip,deflate
Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
Keep-Alive: 115
Connection: keep-alive
Content-Type: application/json; charset=UTF-8
Dcnm-Token: NUVyu5Y0YHDv0tT6xFuIPd+Cu90A1XCQ
Content-Length: 179
Cookie: JSESSIONID=4C975316B01A44215861475E1B5F9328
Pragma: no-cache
Cache-Control: no-cache
{
  "segmentId": "444444",
  "profileName": "defaultNetworkUniversalTfProfile",
  "networkName": "organization1_net",
  "networkRole": "Host Network",
  "netmaskLength": "24",
  "gateway": "13.13.13.1",
  "gatewayIpv6Address": "12::aa",
  "prefixLength": "16",
  "configArg": "$vlanId=;$segmentId=444444;$vrfName=organization1:partition1;
$gatewayIpAddress=13.13.13.1;$netMaskLength=24;$dhcpServerAddr=10.10.10.1;$vrfDhcp=;
$gatewayIpv6Address=12::aa;$prefixLength=16;$mtuValue=22",
  "organizationName": "organization1",
  "partitionName": "partition1",
  "vSwitchControllerId": "2.2.2.2",
  "staticIpStart": "3.3.3.1",
  "staticIpEnd": "3.3.3.10",
  "dhcpScope": {
    "subnet": "13.13.13.0/24",
    "gateway": "13.13.13.1",

```

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```

    "ipRange": "13.13.13.1-13.13.13.20"
  },
  "vrfName": "organization1:partition1"
}
Status Code: 202 Accepted
Content-Type: application/json

{
  "segmentId": "444444"
}

```

Logout

```

URL: http://10.77.247.111/rest/logout
HTTP Method: POST
Resource Name: /rest/logout
Host: 10.77.247.111
User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US; rv:1.9.2.3)
Gecko/20100401 Firefox/3.6.3
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
Accept-Language: en-us,en;q=0.5
Accept-Encoding: gzip,deflate
Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
Keep-Alive: 115
Connection: keep-alive
Content-Type: application/json; charset=UTF-8
Dcnm-Token: NUVyu5Y0YHDv0tT6xFuIPd+Cu9OA1XCQ
Content-Length: 179
Cookie: JSESSIONID=4C975316B01A44215861475E1B5F9328
Pragma: no-cache
Cache-Control: no-cache
Status Code: 202 Accepted

```

Get All Config templates

```

URL:
http://10.77.247.111/fmrest/config/templates/?filterStr=name:OTV&sortBy=
+instanceClassId
HTTP Method: GET
REQUEST HEADERS:
Content-Type: application/json; charset=UTF-8
Dcnm-Token: NUVyu5Y0YHDv0tT6xFuIPd+Cu9OA1XCQ
range: 1-3
RESPONSE HEADERS:
items: 50
RESPONSE BODY:
[
  {
    "instanceClassId": 30,
    "name": "OTV_Multicast",

```

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```

        "description": " OTV template for multicast transport",
        "userDefined": false,
        "parameters":
        [
        ],
        "supportedPlatforms": "N7K",
        "fileName": "otv_multicast.template",
        "timestamp": "2015-05-21 12:30:44"
    },
    {
        "instanceClassId": 35,
        "name":
"OTV_Unicast_With_Two_Adjacency_Servers_and_HSRP_Isolation",
        "description": " OTV template for unicast transport with two
adjacency servers & HSRP isolation",
        "userDefined": false,
        "parameters":
        [
        ],
        "supportedPlatforms": "N7K",
        "fileName":
"otv_unicast_with_two_adjacency_servers_and_hsrp_isolation.template",
        "timestamp": "2015-05-21 12:30:44"
    },
    {
        "instanceClassId": 39,
        "name": "OTV_Unicast_With_One_Adjacency_Server",
        "description": " OTV template for unicast transport with only
primary adjacency server",
        "userDefined": false,
        "parameters":
        [
        ],
        "supportedPlatforms": "N7K",
        "fileName": "otv_unicast_with_one_adjacency_server.template",
        "timestamp": "2015-05-21 12:30:44"
    }
}
]

```

Get Config Template

URL: <http://10.77.247.111/fmrest/config/templates/>

HTTP Method: GET

REQUEST HEADERS:

Content-Type: application/json; charset=UTF-8

Dcnm-Token: NUVyu5Y0YHDv0tT6xFuIPd+Cu90A1XCQ

RESPONSE BODY:

```

{
    "instanceClassId": 30,
    "name": "OTV_Multicast",
    "description": "OTV template for multicast transport",

```

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```

"userDefined": false,
"parameters":
[
  {
    "name": "SITE_VLAN",
    "parameterType": "integer"
  },
  {
    "name": "SITE_ID",
    "parameterType": "string"
  },
  {
    "name": "OVERLAY_ID",
    "parameterType": "integer"
  },
  {
    "name": "JOIN_INTF",
    "parameterType": "interface"
  },
  {
    "name": "CONTROL_GROUP_IP",
    "parameterType": "ipAddress"
  },
  {
    "name": "DATA_GROUP_NETWORK",
    "parameterType": "ipV4AddressWithSubnet"
  },
  {
    "name": "OTV_VLANS",
    "parameterType": "integerRange"
  }
],
"supportedPlatforms": "N7K",
"content": "##template properties
name = OTV_Multicast;
description = OTV template for multicast transport;
userDefined = false;
supportedPlatforms = N7K;
##
##template variables
integer SITE_VLAN;
string SITE_ID;
integer OVERLAY_ID;
interface JOIN_INTF;
ipAddress CONTROL_GROUP_IP;
ipV4AddressWithSubnet DATA_GROUP_NETWORK;
integerRange OTV_VLANS;
##
##template content
feature otv
!
vlan $$$SITE_VLAN$$,$$OTV_VLANS$$
!
```


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```

otv site-vlan $$SITE_VLAN$$
otv site-identifier $$SITE_ID$$
!
interface Overlay$$OVERLAY_ID$$
  otv join-interface $$JOIN_INTF$$
  otv control-group $$CONTROL_GROUP_IP$$
  otv data-group $$DATA_GROUP_NETWORK$$
  otv extend-vlan $$OTV_VLANS$$
!
interface $$JOIN_INTF$$
  shutdown
  no switchport
  ip igmp version 3
  no shutdown
!
interface Overlay$$OVERLAY_ID$$
  no shutdown
!
##
",
  "fileName": "otv_multicast.template",
  "timestamp": "2015-05-21 12:30:44"
}

```

Create Config Template

URL: http://10.77.247.111/fmrest/config/templates/

HTTP Method: POST

REQUEST HEADERS:

Content-Type: text/plain; charset=UTF-8

Dcnm-Token: NUVyu5Y0YHDv0tT6xFuIPd+Cu90A1XCQ

REQUEST BODY:

```

##template properties
name =test rest1;
description="test template creation";
userDefined= true;
supportedPlatforms = All;
templateType = CLI;
published = false;
##
##template variables
integer VLAN_ID;
##
##template content
vlan $$VLAN_ID$$
##
RESPONSE BODY:
{
  "instanceClassId": 20778
}

```

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```

URL: http://10.77.247.111/fmrest/config/templates/test rest1
HTTP Method: PUT
REQUEST HEADERS:
Content-Type: text/plain; charset=UTF-8
Dcnm-Token: NUVyu5Y0YHDv0tT6xFuIPd+Cu90A1XCQ
REQUEST BODY:
##template properties
name =test rest1;
description="test template creation modified";
userDefined= true;
supportedPlatforms = All;
templateType = CLI;
published = false;
##
##template variables
integer VLAN_ID;
##
##template content
vlan $$VLAN_ID$$
##
RESPONSE BODY:
Template modification successful

```

Validate Config Template

```

URL: http://10.77.247.111/fmrest/config/templates/validate
HTTP Method: POST
REQUEST HEADERS:
Content-Type: text/plain; charset=UTF-8
Dcnm-Token: NUVyu5Y0YHDv0tT6xFuIPd+Cu90A1XCQ
REQUEST BODY:
##template properties
name =test rest1;
description="test template creation modified";
userDefined= true;
supportedPlatforms = All;
templateType = CLI;
published = false;
##
##template variables
integer VLAN_ID;
##
##template content
vlan $$VLAN_ID_NOT_EXIST$$
##
RESPONSE BODY:
[
  {

```

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```

        "reportItemType": "WARNING",
        "message": "VLAN_ID_NOT_EXIST is not declared in template
variables section. Will be considered as string paramter.",
        "startLine": 13,
        "endLine": 13,
        "startColumn": 6,
        "endColumn": 27
    }
]

```

Populate Config Template

URL: http://10.77.247.111/fmrest/config/templates/test rest1/populate
HTTP Method: POST
REQUEST HEADERS:
Content-Type: application/json; charset=UTF-8
Dcnm-Token: NUVyu5Y0YHDv0tT6xFuIPd+Cu90A1XCQ
REQUEST BODY:
[123]
RESPONSE BODY:
vlan 123

Get Config Template Switches

URL: http://10.77.247.111/fmrest/config/templates/test rest1/switches
HTTP Method: GET
REQUEST HEADERS:
Content-Type: application/json; charset=UTF-8
Dcnm-Token: NUVyu5Y0YHDv0tT6xFuIPd+Cu90A1XCQ
RESPONSE BODY:
[
 {
 "version": "6.0(2)N1(2)",
 "hostName": "N5548-38",
 "platform": "Cisco Nexus 5K Switch",
 "ipAddress": "10.127.117.38",
 "group": "LAN"
 },
 {
 "version": "6.0(2)N1(2)",
 "hostName": "N5596-37",
 "platform": "Cisco Nexus 5K Switch",
 "ipAddress": "10.127.117.37",
 "group": "LAN"
 }
]

REVIEW DRAFT – CISCO CONFIDENTIAL**Delete a Config Template**

URL: http://10.77.247.111/fmrest/config/templates/test rest1
HTTP Method: DELETE
REQUEST HEADERS:
Content-Type: application/json; charset=UTF-8
Dcnm-Token: NUVyu5Y0YHDv0tT6xFuIPd+Cu90A1XCQ
RESPONSE BODY:
 Template deletion successful

Create Config Template Job

URL: http://10.77.247.111/fmrest/config/templates/jobs
HTTP Method: POST
REQUEST HEADERS:
Content-Type: application/json; charset=UTF-8
Dcnm-Token: NUVyu5Y0YHDv0tT6xFuIPd+Cu90A1XCQ
REQUEST BODY:

```
{
  "description": "test rest1:",
  "timeout": 30,
  "taskEnabled": true,
  "scheduledTimeStr": "19/05/2015 11:05:00:00",
  "configDeliveryTaskRollbackSetting": "Rollback on All Devices",
  "configDeliveryTaskDeliveryOrderSetting": "parallel",
  "configTemplateRef": {"name": "test rest1"},
  "configDeliveryTaskDeviceDetailsCol": [
    {
      "ipAddress": "10.127.117.37",
      "paramValues": ["123"]
    },
    {
      "ipAddress": "10.127.117.38",
      "paramValues": ["1234"]
    }
  ],
  "isCopyRunToStartTask": false,
  "userName": "admin",
  "password": "dcnm_2008"
}
```

RESPONSE BODY:
 { "instanceClassId": 46}

Get All Config Template Job

URL: http://10.77.247.111/fmrest/config/templates/jobs/?sortBy=+jobId
HTTP Method: GET

REVIEW DRAFT – CISCO CONFIDENTIAL**REQUEST HEADERS:****Content-Type:** application/json; charset=UTF-8**Dcnm-Token:** NUVyu5Y0YHDv0tT6xFuIPd+Cu9OA1XCQ**RESPONSE BODY:**

```
[
  {
    "instanceClassId": 43,
    "createdTime": 1432044334147,
    "jobId": "43",
    "description": "test rest1:",
    "progress": 0,
    "timeout": 30,
    "taskEnabled": true,
    "scheduledTime": 1463600100000,
    "scheduledTimeStr": "2016/05/19-01:05:00 UTC +05:30",
    "createdTimeStr": "2015/05/19-19:35:34 UTC +05:30",
    "deviceLabels": "10.127.117.37",
    "configDeliveryTaskRollbackSetting": "rollback_on_all_devices",
    "isCopyRunToStartTask": false,
    "userName": "admin",
    "password": "wTtXovmRvJRvEmoJsbtJG3McFLFpCP+zGCHYKsTLeLo="
  },
  {
    "instanceClassId": 44,
    "createdTime": 1432044365915,
    "jobId": "44",
    "description": "test rest1:",
    "progress": 0,
    "timeout": 30,
    "taskEnabled": true,
    "scheduledTime": 1388518500000,
    "scheduledTimeStr": "2014/01/01-01:05:00 UTC +05:30",
    "createdTimeStr": "2015/05/19-19:36:05 UTC +05:30",
    "deviceLabels": "10.127.117.37",
    "configDeliveryTaskRollbackSetting": "rollback_on_all_devices",
    "isCopyRunToStartTask": false,
    "userName": "admin",
    "password": "wTtXovmRvJRvEmoJsbtJG3McFLFpCP+zGCHYKsTLeLo="
  }
]
```

Get a Config Template Job

URL: <http://10.77.247.111/fmrest/config/templates/jobs/46>**HTTP Method:** GET**REQUEST HEADERS:****Content-Type:** application/json; charset=UTF-8**Dcnm-Token:** NUVyu5Y0YHDv0tT6xFuIPd+Cu9OA1XCQ**RESPONSE BODY:**

```
{
  "instanceClassId": 46,
```

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```

    "createdTime": 1432104413397,
    "jobId": "46",
    "description": "test rest1:",
    "configDeliveryTaskStatus": "failed",
    "progress": 100,
    "timeout": 30,
    "taskEnabled": true,
    "scheduledTime": 1388518500000,
    "startTime": 1432104443525,
    "endTime": 1432104463946,
    "scheduledTimeStr": "2014/01/01-01:05:00 UTC +05:30",
    "startTimeStr": "2015/05/20-12:17:23 UTC +05:30",
    "endTimeStr": "2015/05/20-12:17:43 UTC +05:30",
    "createdTimeStr": "2015/05/20-12:16:53 UTC +05:30",
    "deviceLabels": "10.127.117.37",
    "configDeliveryTaskRollbackSetting": "rollback_on_all_devices",
    "configDeliveryTaskDeviceDetailsCol":
    [
      {
        "configDeliveryTaskDeviceStatus": "FAILED_ROLLBACK",
        "failureCause": "One or more commands have failed in device
and rolledback.",
        "ipAddress": "10.127.117.37",
        "configCommands": "EXECUTED_CMD::checkpoint file
bootflash:dcm-cfg-delivery0.9721877456442085
EXECUTED_CMD::vlan 123
FAILED_CMD::test
FAILED_RESPONSE::^
FAILED_RESPONSE::% Invalid command at '^' marker.
EXECUTED_CMD::rollback running-config file
bootflash:dcm-cfg-delivery0.9721877456442085 verbose
"
      }
    ],
    "isCopyRunToStartTask": false,
    "userName": "admin",
    "password": "XXVSnWgqjEf76coR4S1UAg=="
  }
}

```

Delete a Config Template Job

URL: <http://10.77.247.111/fmrest/config/templates/jobs/46>

HTTP Method: DELETE

REQUEST HEADERS:

Content-Type: application/json; charset=UTF-8

Dcnm-Token: NUVyu5Y0YHDv0tT6xFuIPd+Cu9OA1XCQ

RESPONSE BODY:

Job deletion successful