

APPENDIX E

POAP Examples

How to use the DFA REST APIs to Control POAP

You can use any programming language that supports Web services to create a Web services client that invokes the DCNM POAP Web services API. This section just lists out the example HTTP request and response for reference.

The examples will show the following steps to configure POAP:

- Step 1** Call logon to get a Dcnm-Token
- Step 2** Update a POAP scope
- Step 3** Create a config/image server
- Step 4** Get a group
- Step 5** List POAP templates
- Step 6** Generate config with a template
- Step 7** Create POAP definition
- Step 8** Logout

Secure Logon

The logon API takes “username:password” with Basic base64 encoded in HTTP Authorization header, like “Authorization: Basic QWxhZGRpbjpvGVuIHNLc2FtZQ==”. It will return the Token in the payload, and this token will be used as Dcnm-Token in the subsequent API.

```
http://10.77.247.111/rest/logon
POST /rest/logon
```

Request

```
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
```

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```

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=
Content-Length: 28
Cookie: JSESSIONID=4C975316B01A44215861475E1B5F9328
Pragma: no-cache
Cache-Control: no-cache
{"expirationTime": 1000000}

```

Response

```

HTTP/1.1 200 OK
Content-Type: application/json
{
    "Token" : " NUVyu5Y0YHDv0tT6xFuIPd+Cu9OA1XCQ "
}

```

Update a POAP scope

```

http://10.77.247.111/rest/poap/dhcp/scopes/scope1
PUT /rest/poap/dhcp/scopes/scope1

```

Request

```

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

```

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```

Content-Length: 28
Cookie: JSESSIONID=4C975316B01A44215861475E1B5F9328
Pragma: no-cache
Cache-Control: no-cache
{
  "scopeName": "scope1",
  "subnet": "4.4.4.0/24",
  "ipRange": "4.4.4.6-4.4.4.8",
  "maxLeaseTime": "3600",
  "bootFilename": "poap_dcnm.py",
  "domainNameServers": "2.2.2.2",
  "routers": "2.2.2.2",
  "tftpServerName": "100.100.100.140"
}
3.2.2 Response
HTTP/1.1 202 Accepted

```

Create a config/image server

```

http://10.77.247.111/rest/poap/servers
POST /rest/poap/servers

```

Request

```

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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```
{
  "id":0,
  "serverName":"TEST_SERVER",
  "url":"scp://10.77.247.151/var/lib/tftpboot/dcnm",
  "userName":"root",
  "password":"admin",
  "lastUpdateTime":1379358179262
}
```

Response

```
202 Accepted
Content-Type: application/json
{
  "id":0,
  "serverName":"TEST_SERVER",
  "lastUpdateTime":0}
}
```

Get a group

This is a SOAP API call, will need to get the “memDbId” for the group which POAP devices belong to. In [Create POAP Definition, page E-48](#), this “memDbId” will be used as “lanGroup” in the request.

`http:// 10.77.247.111:80/DbAdminWSService/DbAdminWS`

3.4.1 Request:

```
<SOAP-ENV:Envelope
  xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <SOAP-ENV:Header>
    <ns0:token
      xmlns:ns0="http://dcnm/headers">NUVyu5Y0YHB5PfWoiQqNY64FVVw6yv2l</ns0:token>
    <ns0:session xmlns:ns0="http://dcnm/headers">0</ns0:session>
  </SOAP-ENV:Header>
  <SOAP-ENV:Body>
    <tns:getGroupNavigation
      xmlns:tns="http://ep.san.jaxws.dcbu.cisco.com/" />
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

REVIEW DRAFT—CISCO CONFIDENTIAL**Response**

```

<env:Envelope xmlns:env="http://schemas.xmlsoap.org/soap/envelope/">
  <env:Header/>
  <env:Body>
    <tns:getGroupNavigationResponse
xmlns:tns="http://ep.san.jaxws.dcbu.cisco.com/">
      <result><![CDATA[<groupList name='Data Center'>
<group isBranch="true" name="Default_LAN" state ="unchecked"
selectable= "true" memDbId="2" type="1" ></group>
<group isBranch="true" name="Default_SAN" state ="unchecked"
selectable= "false" memDbId="1" type="2" >
</group></groupList>]]></result>
    </tns:getGroupNavigationResponse>
  </env:Body>
</env:Envelope>

```

List POAP templates

This is a SOAP API call to get the template, in this example, it will get the Base_Leaf_Template that will later be used to generate the configuration.

<http://10.77.247.139:80/ConfigTemplateWSService/ConfigTemplateWS>

Request

```

<SOAP-ENV:Envelope
xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <SOAP-ENV:Header>
    <ns0:token
xmlns:ns0="http://dcnm/headers">NUVyu5Y0YHB5PfWoiQqNY64FVVw6yv2l</ns0:token>
    <ns0:session xmlns:ns0="http://dcnm/headers">0</ns0:session>
  </SOAP-ENV:Header>
  <SOAP-ENV:Body>
    <tns:getAllPublishedTemplates
xmlns:tns="http://ep.san.jaxws.dcbu.cisco.com/">
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>

```

Response

```

<env:Envelope xmlns:env="http://schemas.xmlsoap.org/soap/envelope/">

```

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```

<env:Header/>
<env:Body>
  <tns:getAllPublishedTemplatesResponse
xmlns:tns="http://ep.san.jaxws.dcbu.cisco.com/">
    <result>
      <item>
        <assignedInstanceId>0</assignedInstanceId>
        <instanceClassId>27</instanceClassId>

<instanceName>com.cisco.dcbu.dcm.model.cfgtemplate.ConfigTemplate:nam
e=Leaf_Template:type=false</instanceName>
        <description>This file specifies the template configuration
for leaf switch with annotations</description>
        <fileName>leaf_annotations.template</fileName>
        <name>Leaf_Template</name>
        <parameters>
          <annotations>
<entry>
            <key>Description</key>
            <value>"The host name of the switch"</value>
          </entry>
          <entry>
            <key>IsMandatory</key>
            <value>true</value>
          </entry>
          <entry>
            <key>UseDNSReverseLookup</key>
            <value>true</value>
          </entry>
          <entry>
            <key>IsSwitchName</key>
            <value>true</value>
          </entry>
        </annotations>
        <name>SWITCH_NAME</name>
        <parameterType>string</parameterType>
        <parameterTypeStructure>false</parameterTypeStructure>
        <structureParameters/>
      </parameters>
    </item>
  </result>
</tns:getAllPublishedTemplatesResponse>

```

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```

    <parameters>
      <annotations>
        <entry>
          <key>Description</key>
          <value>"Vlan interfaces allocated to this VDC
or device"</value>
        </entry>
        <entry>
          <key>IsMandatory</key>
          <value>true</value>
        </entry>
      </annotations>
      <name>ALLOC_INTERFACES</name>
      <parameterType>string[]</parameterType>
      <parameterTypeStructure>>false</parameterTypeStructure>
      <structureParameters/>
    </parameters>
    <parameters>
      <annotations>
        <entry>
          <key>Description</key>
          <value>"DNS name of the XMPP server or XMPP
domain name"</value>
        </entry>
        <entry>
          <key>IsMandatory</key>
          <value>true</value>
        </entry>
      </annotations>
      <name>DNS_HOST_NAME</name>
      <parameterType>string</parameterType>
      <parameterTypeStructure>>false</parameterTypeStructure>
      <structureParameters/>
    </parameters>
    <parameters>
      <annotations>
        <entry>
          <key>Description</key>

```

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```

                                <value>"IP Address for the XMPP DNS name or
domain name"</value>
                                </entry>
                                <entry>
                                    <key>IsMandatory</key>
                                    <value>true</value>
                                </entry>
                                </annotations>
                                <name>DNS_HOST_IP</name>
                                <parameterType>ipV4Address</parameterType>
                                <parameterTypeStructure>false</parameterTypeStructure>
                                <structureParameters/>
                                </parameters>
                                <parameters>
                                    <annotations>
                                        <entry>
                                            <key>Description</key>
                                            <value>"Management IP address used by DCNM to
monitor this device"</value>
                                        </entry>
                                        <entry>
                                            <key>IsManagementIP</key>
                                            <value>true</value>
                                        </entry>
                                        <entry>
                                            <key>IsMandatory</key>
                                            <value>true</value>
                                        </entry>
                                    </annotations>
                                    <name>MGMT_IP</name>
                                    <parameterType>ipV4Address</parameterType>
                                    <parameterTypeStructure>false</parameterTypeStructure>
                                    <structureParameters/>
                                    </parameters>
                                </parameters>
                                <annotations>
                                    <entry>
                                        <key>Description</key>

```


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```

24"</value>
    <value>"The prefix in integer format. e.g.
</entry>
<entry>
    <key>IsMandatory</key>
    <value>true</value>
</entry>
</annotations>
<name>MGMT_PREFIX</name>
<parameterType>integer</parameterType>
<parameterTypeStructure>>false</parameterTypeStructure>
    <structureParameters/>
</parameters>
<parameters>
    <annotations>
        <entry>
            <key>Description</key>
            <value>"Default Gateway IP address"</value>
        </entry>
        <entry>
            <key>IsMandatory</key>
            <value>true</value>
        </entry>
    </annotations>
    <name>DEFAULT_GATEWAY</name>
    <parameterType>ipV4Address</parameterType>
    <parameterTypeStructure>>false</parameterTypeStructure>
    <structureParameters/>
</parameters>
<parameters>
    <annotations>
        <entry>
            <key>Description</key>
            <value>"VLAN facing the server or VMs"</value>
        </entry>
        <entry>
            <key>IsMandatory</key>
            <value>true</value>

```

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```

        </entry>
    </annotations>
    <name>CUSTOMER_FACING_VLAN_ID</name>
    <parameterType>integer</parameterType>
    <parameterTypeStructure>>false</parameterTypeStructure>
    <structureParameters/>
</parameters>
<parameters>
    <annotations>
        <entry>
            <key>Description</key>
            <value>"IP address facing the server or VMs"</value>
        </entry>
        <entry>
            <key>IsMandatory</key>
            <value>true</value>
        </entry>
    </annotations>
    <name>CUSTOMER_FACING_IP</name>
    <parameterType>ipV4Address</parameterType>
    <parameterTypeStructure>>false</parameterTypeStructure>
    <structureParameters/>
</parameters>
<parameters>
    <annotations>
        <entry>
            <key>Description</key>
            <value>"IP subnet facing the server or VMs. The
prefix in integer format. e.g. 24"</value>
        </entry>
        <entry>
            <key>IsMandatory</key>
            <value>true</value>
        </entry>
    </annotations>
    <name>CUSTOMER_FACING_PREFIX</name>
    <parameterType>integer</parameterType>
    <parameterTypeStructure>>false</parameterTypeStructure>

```

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```

        <structureParameters/>
    </parameters>
    <parameters>
        <annotations>
            <entry>
                <key>IsMandatory</key>
                <value>true</value>
            </entry>
        </annotations>
        <name>FABRIC_FORWARDING_ID</name>
        <parameterType>integer</parameterType>
        <parameterTypeStructure>false</parameterTypeStructure>
        <structureParameters/>
    </parameters>
    <parameters>
        <annotations>
            <entry>
                <key>IsMandatory</key>
                <value>true</value>
            </entry>
        </annotations>
        <name>ANYCAST_GATEWAY_MAC</name>
        <parameterType>string</parameterType>
        <parameterTypeStructure>false</parameterTypeStructure>
        <structureParameters/>
    </parameters>
    <parameters>
        <annotations>
            <entry>
                <key>Description</key>
                <value>"The role of the switch. e.g. leaf,
spine"</value>
            </entry>
            <entry>
                <key>IsMandatory</key>
                <value>true</value>
            </entry>
        </annotations>
    </parameters>

```

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```

        <name>SWITCH_ROLE</name>
        <parameterType>string</parameterType>
        <parameterTypeStructure>>false</parameterTypeStructure>
        <structureParameters/>
    </parameters>
    <parameters>
        <annotations>
            <entry>
                <key>IsTier</key>
                <value>true</value>
            </entry>
            <entry>
                <key>Description</key>
                <value>"Tier number of the switch. Tier 1 is
leaf, 2 is spine"</value>
            </entry>
            <entry>
                <key>IsMandatory</key>
                <value>true</value>
            </entry>
        </annotations>
        <name>TIER_NUMBER</name>
        <parameterType>integer</parameterType>
        <parameterTypeStructure>>false</parameterTypeStructure>
        <structureParameters/>
    </parameters>
    <parameters>
        <annotations>
            <entry>
                <key>Description</key>
                <value>"List of VLANs allowed separated by
comma"</value>
            </entry>
            <entry>
                <key>IsMandatory</key>
                <value>true</value>
            </entry>
        </annotations>

```

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```

        <name>VLAN_LIST</name>
        <parameterType>string</parameterType>
        <parameterTypeStructure>>false</parameterTypeStructure>
        <structureParameters/>
    </parameters>
    <parameters>
        <annotations>
            <entry>
                <key>Description</key>
                <value>"The comma separated list of fabric
ports"</value>
            </entry>
            <entry>
                <key>IsMandatory</key>
                <value>true</value>
            </entry>
            <entry>
                <key>IsFabricPort</key>
                <value>true</value>
            </entry>
        </annotations>
        <name>FABRIC_INTERFACES</name>
        <parameterType>interfaceRange</parameterType>
        <parameterTypeStructure>>false</parameterTypeStructure>
        <structureParameters/>
    </parameters>
    <parameters>
        <annotations>
            <entry>
                <key>IsMandatory</key>
                <value>true</value>
            </entry>
        </annotations>
        <name>BGP_NEIGHBOR_IP</name>
        <parameterType>ipV4Address</parameterType>
        <parameterTypeStructure>>false</parameterTypeStructure>
        <structureParameters/>
    </parameters>

```

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```

<parameters>
  <annotations>
    <entry>
      <key>IsMandatory</key>
      <value>true</value>
    </entry>
  </annotations>
  <name>BGP_REMOTE_AS</name>
  <parameterType>integer</parameterType>
  <parameterTypeStructure>>false</parameterTypeStructure>
  <structureParameters/>
</parameters>
<parameters>
  <annotations>
    <entry>
      <key>IsMandatory</key>
      <value>true</value>
    </entry>
  </annotations>
  <name>XMPP_GROUPS_SEP_BY_SPACE</name>
  <parameterType>string</parameterType>
  <parameterTypeStructure>>false</parameterTypeStructure>
  <structureParameters/>
</parameters>
<parameters>
  <annotations>
    <entry>
      <key>IsMandatory</key>
      <value>true</value>
    </entry>
  </annotations>
  <name>XMPP_SERVER</name>
  <parameterType>string</parameterType>
  <parameterTypeStructure>>false</parameterTypeStructure>
  <structureParameters/>
</parameters>
<parameters>
  <annotations>

```

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```

        <entry>
            <key>IsMandatory</key>
            <value>true</value>
        </entry>
    </annotations>
    <name>XMPP_PASSWORD</name>
    <parameterType>string</parameterType>
    <parameterTypeStructure>>false</parameterTypeStructure>
    <structureParameters/>
</parameters>
<parameters>
    <annotations>
        <entry>
            <key>Description</key>
            <value>"True if the cable plan should be
enabled"</value>
        </entry>
        <entry>
            <key>IsMandatory</key>
            <value>true</value>
        </entry>
    </annotations>
    <name>ENABLE_CABLE_PLAN</name>
    <parameterType>boolean</parameterType>
    <parameterTypeStructure>>false</parameterTypeStructure>
    <structureParameters/>
</parameters>
<published>true</published>
<supportedPlatforms>N7K,N6K</supportedPlatforms>
<templateType>POAP</templateType>
<timestamp>2013-09-30 08:04:08</timestamp>
<userDefined>>false</userDefined>
</item>
<item>
    <assignedInstanceId>0</assignedInstanceId>
    <instanceClassId>31</instanceClassId>

```

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```

<instanceName>com.cisco.dcbu.dcm.model.cfgtemplate.ConfigTemplate:nam
e=Base_Leaf_Template:type=false</instanceName>

    <description>This file specifies the template configuration
for leaf switch</description>

        <fileName>base_leaf.template</fileName>
        <name>Base_Leaf_Template</name>
        <parameters>
            <annotations>
                <entry>
                    <key>Description</key>
                    <value>"The host name of the switch"</value>
                </entry>
                <entry>
                    <key>IsMandatory</key>
                    <value>true</value>
                </entry>
                <entry>
                    <key>UseDNSReverseLookup</key>
                    <value>true</value>
                </entry>
                <entry>
                    <key>IsSwitchName</key>
                    <value>true</value>
                </entry>
            </annotations>
            <name>SWITCH_NAME</name>
            <parameterType>string</parameterType>
            <parameterTypeStructure>>false</parameterTypeStructure>
            <structureParameters/>
        </parameters>
        <parameters>
            <annotations>
                <entry>
                    <key>Description</key>
                    <value>"Management IP address used by DCNM to
monitor this device"</value>
                </entry>
            </entry>
        </parameters>

```


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```

        <key>IsVPCPeerLinkSrc</key>
        <value>true</value>
    </entry>
    <entry>
        <key>IsManagementIP</key>
        <value>true</value>
    </entry>
    <entry>
        <key>IsMandatory</key>
        <value>true</value>
    </entry>
</annotations>
<name>MGMT_IP</name>
<parameterType>ipV4Address</parameterType>
<parameterTypeStructure>>false</parameterTypeStructure>
<structureParameters/>
</parameters>
<parameters>
    <annotations>
        <entry>
            <key>Description</key>
            <value>"Management Prefix"</value>
        </entry>
        <entry>
            <key>IsMandatory</key>
            <value>true</value>
        </entry>
    </annotations>
    <name>MGMT_PREFIX</name>
    <parameterType>integer</parameterType>
    <parameterTypeStructure>>false</parameterTypeStructure>
    <structureParameters/>
</parameters>
<parameters>
    <annotations>
        <entry>
            <key>Description</key>
            <value>"Default Gateway IP address"</value>

```

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```

        </entry>
        <entry>
            <key>IsMandatory</key>
            <value>true</value>
        </entry>
    </annotations>
    <name>DEFAULT_GATEWAY</name>
    <parameterType>ipV4Address</parameterType>
    <parameterTypeStructure>false</parameterTypeStructure>
    <structureParameters/>
</parameters>
<parameters>
    <annotations>
        <entry>
            <key>Description</key>
            <value>"Plain text or 5 encrypted"</value>
        </entry>
        <entry>
            <key>IsMandatory</key>
            <value>true</value>
        </entry>
    </annotations>
    <name>ADMIN_PASSWORD</name>
    <parameterType>string</parameterType>
    <parameterTypeStructure>false</parameterTypeStructure>
    <structureParameters/>
</parameters>
<parameters>
    <annotations>
        <entry>
            <key>Description</key>
            <value>"The role of the switch. e.g. leaf,
spine"</value>
        </entry>
        <entry>
            <key>IsMandatory</key>
            <value>true</value>
        </entry>
    </annotations>

```

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```

        <entry>
            <key>IsSwitchRole</key>
            <value>true</value>
        </entry>
    </annotations>
    <defaultValue>leaf</defaultValue>
    <name>SWITCH_ROLE</name>
    <parameterType>string</parameterType>
    <parameterTypeStructure>>false</parameterTypeStructure>
    <structureParameters/>
</parameters>
<parameters>
    <annotations>
        <entry>
            <key>Description</key>
            <value>"The comma and dash separated list of
fabric ports"</value>
        </entry>
        <entry>
            <key>IsMandatory</key>
            <value>true</value>
        </entry>
        <entry>
            <key>IsFabricPort</key>
            <value>true</value>
        </entry>
    </annotations>
    <name>FABRIC_INTERFACES</name>
    <parameterType>interfaceRange</parameterType>
    <parameterTypeStructure>>false</parameterTypeStructure>
    <structureParameters/>
</parameters>
<parameters>
    <annotations>
        <entry>
            <key>Description</key>
            <value>"The comma and dash separated list of
host ports"</value>

```

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```

    </entry>
    <entry>
      <key>IsMandatory</key>
      <value>true</value>
    </entry>
    <entry>
      <key>IsHostPort</key>
      <value>true</value>
    </entry>
  </annotations>
  <name>HOST_INTERFACES</name>
  <parameterType>interfaceRange</parameterType>
  <parameterTypeStructure>>false</parameterTypeStructure>
  <structureParameters/>
</parameters>
<parameters>
  <annotations>
    <entry>
      <key>Description</key>
      <value>"Backbone VLAN ID"</value>
    </entry>
    <entry>
      <key>IsMandatory</key>
      <value>true</value>
    </entry>
  </annotations>
  <name>BACKBONE_VLAN</name>
  <parameterType>integer</parameterType>
  <parameterTypeStructure>>false</parameterTypeStructure>
  <structureParameters/>
</parameters>
<parameters>
  <annotations>
    <entry>
      <key>Description</key>
      <value>"Backbone IP address/prefix"</value>
    </entry>
    <entry>

```

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```

        <key>IsMandatory</key>
        <value>true</value>
    </entry>
</annotations>
<name>BACKBONE_IP</name>
<parameterType>string</parameterType>
<parameterTypeStructure>false</parameterTypeStructure>
<structureParameters/>
</parameters>
<parameters>
    <annotations>
        <entry>
            <key>Description</key>
            <value>"Backbone IPv6 address/prefix"</value>
        </entry>
        <entry>
            <key>IsMandatory</key>
            <value>true</value>
        </entry>
    </annotations>
    <name>BACKBONE_IPV6</name>
    <parameterType>string</parameterType>
    <parameterTypeStructure>false</parameterTypeStructure>
    <structureParameters/>
</parameters>
<parameters>
    <annotations>
        <entry>
            <key>IsMandatory</key>
            <value>true</value>
        </entry>
    </annotations>
    <name>BGP_ROUTER_IP</name>
    <parameterType>string</parameterType>
    <parameterTypeStructure>false</parameterTypeStructure>
    <structureParameters/>
</parameters>
<parameters>

```

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```

        <annotations>
          <entry>
            <key>IsMandatory</key>
            <value>true</value>
          </entry>
        </annotations>
        <name>BGP_RR_IP</name>
        <parameterType>string</parameterType>
        <parameterTypeStructure>false</parameterTypeStructure>
        <structureParameters/>
      </parameters>
      <parameters>
        <annotations>
          <entry>
            <key>Description</key>
            <value>"IP Address of the Auto-config LDAP
Server"</value>
          </entry>
          <entry>
            <key>IsMandatory</key>
            <value>true</value>
          </entry>
        </annotations>
        <name>LDAP_SERVER_IP</name>
        <parameterType>ipV4Address</parameterType>
        <parameterTypeStructure>false</parameterTypeStructure>
        <structureParameters/>
      </parameters>
      <parameters>
        <annotations>
          <entry>
            <key>Description</key>
            <value>"IP Address of the XMPP Server"</value>
          </entry>
          <entry>
            <key>IsMandatory</key>
            <value>true</value>
          </entry>
        </annotations>
      </parameters>
    </parameters>
  </parameters>

```

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```

        </annotations>
        <name>XMPP_SERVER_IP</name>
        <parameterType>ipV4Address</parameterType>
        <parameterTypeStructure>>false</parameterTypeStructure>
        <structureParameters/>
    </parameters>
    <parameters>
        <annotations>
            <entry>
                <key>Description</key>
                <value>"FQDN of the XMPP Server"</value>
            </entry>
            <entry>
                <key>IsMandatory</key>
                <value>>true</value>
            </entry>
        </annotations>
        <name>XMPP_SERVER</name>
        <parameterType>string</parameterType>
        <parameterTypeStructure>>false</parameterTypeStructure>
        <structureParameters/>
    </parameters>
    <parameters>
        <annotations>
            <entry>
                <key>Description</key>
                <value>"Space separated XMPP Spine Group
Names"</value>
            </entry>
            <entry>
                <key>IsMandatory</key>
                <value>>true</value>
            </entry>
        </annotations>
        <name>XMPP_GROUPS</name>
        <parameterType>string</parameterType>
        <parameterTypeStructure>>false</parameterTypeStructure>
        <structureParameters/>

```

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```

</parameters>
<parameters>
  <annotations>
    <entry>
      <key>Description</key>
      <value>"Password"</value>
    </entry>
    <entry>
      <key>IsMandatory</key>
      <value>true</value>
    </entry>
  </annotations>
  <name>XMPP_PASSWORD</name>
  <parameterType>string</parameterType>
  <parameterTypeStructure>>false</parameterTypeStructure>
  <structureParameters/>
</parameters>
<parameters>
  <annotations>
    <entry>
      <key>Description</key>
      <value>"True if VPC should be configured"</value>
    </entry>
    <entry>
      <key>IsMandatory</key>
      <value>true</value>
    </entry>
  </annotations>
  <name>ENABLE_VPC</name>
  <parameterType>boolean</parameterType>
  <parameterTypeStructure>>false</parameterTypeStructure>
  <structureParameters/>
</parameters>
<parameters>
  <annotations>
    <entry>
      <key>IsVPCDomainID</key>
      <value>true</value>

```


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```

        </entry>
    </annotations>
    <name>VPC_DOMAIN_ID</name>
    <parameterType>integer</parameterType>
    <parameterTypeStructure>>false</parameterTypeStructure>
    <structureParameters/>
</parameters>
<parameters>
    <annotations>
        <entry>
            <key>IsVPCPeerLinkDst</key>
            <value>>true</value>
        </entry>
    </annotations>
    <name>VPC_PEER_DST</name>
    <parameterType>ipV4Address</parameterType>
    <parameterTypeStructure>>false</parameterTypeStructure>
    <structureParameters/>
</parameters>
<parameters>
    <annotations>
        <entry>
            <key>IsVPCPeerLinkPortChannel</key>
            <value>>true</value>
        </entry>
        <entry>
            <key>IsVPCPort</key>
            <value>>true</value>
        </entry>
    </annotations>
    <name>VPC_PEER_LINK_PORT_CHANNEL_NUMBER</name>
    <parameterType>integer</parameterType>
    <parameterTypeStructure>>false</parameterTypeStructure>
    <structureParameters/>
</parameters>
<parameters>
    <annotations>
        <entry>

```

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```

        <key>IsVPCPeerLinkPort</key>
        <value>true</value>
    </entry>
</annotations>
<name>VPC_PEER_LINK_IF_NAMES</name>
<parameterType>interfaceRange</parameterType>
<parameterTypeStructure>>false</parameterTypeStructure>
    <structureParameters/>
</parameters>
<parameters>
    <annotations/>
    <name>VPC_ARRAY</name>
    <parameterType>structureArray</parameterType>
    <parameterTypeStructure>true</parameterTypeStructure>
    <structureParameters>
        <entry>
            <key>ID</key>
            <value>
                <annotations>
                    <entry>
                        <key>IsVPCPortChannel</key>
                        <value>true</value>
                    </entry>
                    <entry>
                        <key>IsVPCID</key>
                        <value>true</value>
                    </entry>
                </annotations>
                <name>ID</name>
                <parameterType>integer</parameterType>
            </value>
        </entry>
        <entry>
            <key>IF_NAME</key>
            <value>

```

REVIEW DRAFT—CISCO CONFIDENTIAL

```

        <annotations>
            <entry>
                <key>IsVPCPort</key>
                <value>true</value>
            </entry>
        </annotations>
        <name>IF_NAME</name>
        <parameterType>interface</parameterType>

<parameterTypeStructure>false</parameterTypeStructure>
        <structureParameters/>
    </value>
</entry>
</structureParameters>
</parameters>
<published>true</published>
<supportedPlatforms>N7K,N6K</supportedPlatforms>
<templateType>POAP</templateType>
<timestamp>2013-09-30 08:04:08</timestamp>
<userDefined>false</userDefined>
</item>
<item>
    <assignedInstanceClassId>0</assignedInstanceClassId>
    <instanceClassId>36</instanceClassId>

<instanceName>com.cisco.dcbu.dcm.model.cfgtemplate.ConfigTemplate:nam
e=Base_Spine_Template:type=false</instanceName>
    <description>This file specifies the template configuration
for spine switch</description>
    <fileName>base_spine.template</fileName>
    <name>Base_Spine_Template</name>
    <parameters>
        <annotations>
            <entry>
                <key>Description</key>
                <value>"The host name of the switch"</value>
            </entry>
            <entry>
                <key>IsMandatory</key>

```

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```

        <value>true</value>
    </entry>
    <entry>
        <key>UseDNSReverseLookup</key>
        <value>true</value>
    </entry>
    <entry>
        <key>IsSwitchName</key>
        <value>true</value>
    </entry>
</annotations>
<name>SWITCH_NAME</name>
<parameterType>string</parameterType>
<parameterTypeStructure>>false</parameterTypeStructure>
<structureParameters/>
</parameters>
<parameters>
    <annotations>
        <entry>
            <key>Description</key>
            <value>"Management IP address used by DCNM to
monitor this device"</value>
        </entry>
        <entry>
            <key>IsManagementIP</key>
            <value>true</value>
        </entry>
        <entry>
            <key>IsMandatory</key>
            <value>true</value>
        </entry>
    </annotations>
    <name>MGMT_IP</name>
    <parameterType>ipV4Address</parameterType>
    <parameterTypeStructure>>false</parameterTypeStructure>
    <structureParameters/>
</parameters>
<parameters>

```

REVIEW DRAFT—CISCO CONFIDENTIAL

```

    <annotations>
      <entry>
        <key>Description</key>
        <value>"Management Prefix"</value>
      </entry>
      <entry>
        <key>IsMandatory</key>
        <value>true</value>
      </entry>
    </annotations>
    <name>MGMT_PREFIX</name>
    <parameterType>integer</parameterType>
    <parameterTypeStructure>>false</parameterTypeStructure>
    <structureParameters/>
  </parameters>
  <parameters>
    <annotations>
      <entry>
        <key>Description</key>
        <value>"Default Gateway IP address"</value>
      </entry>
      <entry>
        <key>IsMandatory</key>
        <value>true</value>
      </entry>
    </annotations>
    <name>DEFAULT_GATEWAY</name>
    <parameterType>ipV4Address</parameterType>
    <parameterTypeStructure>>false</parameterTypeStructure>
    <structureParameters/>
  </parameters>
  <parameters>
    <annotations>
      <entry>
        <key>Description</key>
        <value>"Plain text or 5 encrypted"</value>
      </entry>
      <entry>

```

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```

        <key>IsMandatory</key>
        <value>true</value>
    </entry>
</annotations>
<name>ADMIN_PASSWORD</name>
<parameterType>string</parameterType>
<parameterTypeStructure>>false</parameterTypeStructure>
<structureParameters/>
</parameters>
<parameters>
    <annotations>
        <entry>
            <key>Description</key>
            <value>"The role of the switch. e.g. leaf,
spine"</value>

        </entry>
        <entry>
            <key>IsMandatory</key>
            <value>true</value>
        </entry>
        <entry>
            <key>IsSwitchRole</key>
            <value>true</value>
        </entry>
    </annotations>
    <defaultValue>spine</defaultValue>
    <name>SWITCH_ROLE</name>
    <parameterType>string</parameterType>
    <parameterTypeStructure>>false</parameterTypeStructure>
    <structureParameters/>
</parameters>
<parameters>
    <annotations>
        <entry>
            <key>Description</key>
            <value>"The comma and dash separated list of
fabric ports"</value>

        </entry>

```

REVIEW DRAFT—CISCO CONFIDENTIAL

```

    <entry>
      <key>IsMandatory</key>
      <value>true</value>
    </entry>
    <entry>
      <key>IsFabricPort</key>
      <value>true</value>
    </entry>
  </annotations>
  <name>FABRIC_INTERFACES</name>
  <parameterType>interfaceRange</parameterType>
  <parameterTypeStructure>>false</parameterTypeStructure>
  <structureParameters/>
</parameters>
<parameters>
  <annotations>
    <entry>
      <key>Description</key>
      <value>"Backbone VLAN ID"</value>
    </entry>
    <entry>
      <key>IsMandatory</key>
      <value>true</value>
    </entry>
  </annotations>
  <name>BACKBONE_VLAN</name>
  <parameterType>integer</parameterType>
  <parameterTypeStructure>>false</parameterTypeStructure>
  <structureParameters/>
</parameters>
<parameters>
  <annotations>
    <entry>
      <key>Description</key>
      <value>"Backbone IP address"</value>
    </entry>
    <entry>
      <key>IsMandatory</key>

```

REVIEW DRAFT – CISCO CONFIDENTIAL

```

        <value>true</value>
    </entry>
</annotations>
<name>BACKBONE_IP</name>
<parameterType>ipV4Address</parameterType>
<parameterTypeStructure>>false</parameterTypeStructure>
    <structureParameters/>
</parameters>
<parameters>
    <annotations>
        <entry>
            <key>Description</key>
            <value>"Backbone Prefix"</value>
        </entry>
        <entry>
            <key>IsMandatory</key>
            <value>true</value>
        </entry>
    </annotations>
    <name>BACKBONE_PREFIX</name>
    <parameterType>integer</parameterType>
    <parameterTypeStructure>>false</parameterTypeStructure>
    <structureParameters/>
</parameters>
<parameters>
    <annotations>
        <entry>
            <key>Description</key>
            <value>"IP Address of the XMPP Server"</value>
        </entry>
        <entry>
            <key>IsMandatory</key>
            <value>true</value>
        </entry>
    </annotations>
    <name>XMPP_SERVER_IP</name>
    <parameterType>ipV4Address</parameterType>
    <parameterTypeStructure>>false</parameterTypeStructure>

```


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```

        <structureParameters/>
    </parameters>
    <parameters>
        <annotations>
            <entry>
                <key>Description</key>
                <value>"FQDN of the XMPP Server"</value>
            </entry>
            <entry>
                <key>IsMandatory</key>
                <value>true</value>
            </entry>
        </annotations>
        <name>XMPP_SERVER</name>
        <parameterType>string</parameterType>
        <parameterTypeStructure>>false</parameterTypeStructure>
        <structureParameters/>
    </parameters>
    <parameters>
        <annotations>
            <entry>
                <key>Description</key>
                <value>"Space separated XMPP Spine Group
Names"</value>
            </entry>
            <entry>
                <key>IsMandatory</key>
                <value>true</value>
            </entry>
        </annotations>
        <name>XMPP_GROUPS</name>
        <parameterType>string</parameterType>
        <parameterTypeStructure>>false</parameterTypeStructure>
        <structureParameters/>
    </parameters>
    <parameters>
        <annotations>
            <entry>

```

REVIEW DRAFT – CISCO CONFIDENTIAL

```

        <key>IsMandatory</key>
        <value>true</value>
    </entry>
</annotations>
<name>XMPP_PASSWORD</name>
<parameterType>string</parameterType>
<parameterTypeStructure>>false</parameterTypeStructure>
<structureParameters/>
</parameters>
<published>true</published>
<supportedPlatforms>N7K,N6K</supportedPlatforms>
<templateType>POAP</templateType>
<timestamp>2013-09-30 08:04:08</timestamp>
<userDefined>>false</userDefined>
</item>
<item>
    <assignedInstanceClassId>0</assignedInstanceClassId>
    <instanceClassId>38</instanceClassId>

    <instanceName>com.cisco.dcbu.dcm.model.cfgtemplate.ConfigTemplate:nam
e=VPC_Template:type=false</instanceName>

    <description>This file specifies the template configuration
for vpc with annotations</description>
    <fileName>vpc_annotations.template</fileName>
    <name>VPC_Template</name>
    <parameters>
        <annotations>
            <entry>
                <key>IsVPCDomainID</key>
                <value>true</value>
            </entry>
        </annotations>
        <name>VPC_DOMAIN_ID</name>
        <parameterType>integer</parameterType>
        <parameterTypeStructure>>false</parameterTypeStructure>
        <structureParameters/>
    </parameters>
    <parameters>

```

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```

    <annotations>
      <entry>
        <key>IsVPCPeerLinkSrc</key>
        <value>true</value>
      </entry>
    </annotations>
    <name>VPC_PEER_SRC</name>
    <parameterType>ipV4Address</parameterType>
    <parameterTypeStructure>false</parameterTypeStructure>
    <structureParameters/>
  </parameters>
  <parameters>
    <annotations>
      <entry>
        <key>IsVPCPeerLinkDst</key>
        <value>true</value>
      </entry>
    </annotations>
    <name>VPC_PEER_DST</name>
    <parameterType>ipV4Address</parameterType>
    <parameterTypeStructure>false</parameterTypeStructure>
    <structureParameters/>
  </parameters>
  <parameters>
    <annotations>
      <entry>
        <key>IsVPCPeerLinkPortChannel</key>
        <value>true</value>
      </entry>
      <entry>
        <key>IsVPCPort</key>
        <value>true</value>
      </entry>
    </annotations>
    <name>VPC_PEER_LINK_PORT_CHANNEL_NUMBER</name>
    <parameterType>integer</parameterType>
    <parameterTypeStructure>false</parameterTypeStructure>
    <structureParameters/>

```

REVIEW DRAFT – CISCO CONFIDENTIAL

```

</parameters>
<parameters>
  <annotations/>
  <name>VPC_PEER_LINK_PORT_CHANNEL_DESCRIPTION</name>
  <parameterType>string</parameterType>
  <parameterTypeStructure>>false</parameterTypeStructure>
  <structureParameters/>
</parameters>
<parameters>
  <annotations>
    <entry>
      <key>IsVPCPeerLinkPort</key>
      <value>true</value>
    </entry>
  </annotations>
  <name>VPC_PEER_LINK_IF_NAMES</name>
  <parameterType>interfaceRange</parameterType>
  <parameterTypeStructure>>false</parameterTypeStructure>
  <structureParameters/>
</parameters>
<parameters>
  <annotations/>
  <name>VPC_ARRAY</name>
  <parameterType>structureArray</parameterType>
  <parameterTypeStructure>true</parameterTypeStructure>
  <structureParameters>
    <entry>
      <key>ID</key>
      <value>
        <annotations>
          <entry>
            <key>IsVPCID</key>
            <value>true</value>
          </entry>
        </annotations>
        <name>ID</name>
        <parameterType>integer</parameterType>
      </value>
    </entry>
  </structureParameters>
</parameters>

```

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7

REVIEW DRAFT – CISCO CONFIDENTIAL

```

        <key>DESCRIPTION</key>
        <value>
            <annotations/>
            <name>DESCRIPTION</name>
            <parameterType>string</parameterType>

<parameterTypeStructure>false</parameterTypeStructure>
        <structureParameters/>
    </value>
</entry>
</structureParameters>
</parameters>
<published>true</published>
<supportedPlatforms>N7K,N6K</supportedPlatforms>
<templateType>POAP</templateType>
<timestamp>2013-09-30 08:04:08</timestamp>
<userDefined>false</userDefined>
</item>
</result>
</tns:getAllPublishedTemplatesResponse>
</env:Body>
</env:Envelope>

```

Generate Configuration with the template

This is a SOAP API call to generate the configuration and later used to create the POAP definition. In this example, it's using the "Base_Leaf_Template" to generate the configuration.

<http://10.77.247.139:80/ConfigTemplateWSService/ConfigTemplateWS>

Request

```

<SOAP-ENV:Envelope
xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <SOAP-ENV:Header>
        <ns0:token
xmlns:ns0="http://dcnm/headers">Z029rayKhzlieynOjb2N+b1x7pRHNyqB</ns0:token>

        <ns0:session xmlns:ns0="http://dcnm/headers">0</ns0:session>
    </SOAP-ENV:Header>

```

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```

<SOAP-ENV:Body>
  <tns:getPopulatedCommands
xmlns:tns="http://ep.san.jaxws.dcbu.cisco.com/">
    <arg0>
      <instanceClassId>31</instanceClassId>

<instanceName>com.cisco.dcbu.dcm.model.cfgtemplate.ConfigTemplate:nam
e=Base_Leaf_Template:type=false</instanceName>
    </arg0>
    <arg1>
      <item>SWITCH_NAME</item>
      <item>MGMT_IP</item>
      <item>MGMT_PREFIX</item>
      <item>DEFAULT_GATEWAY</item>
      <item>ADMIN_PASSWORD</item>
      <item>SWITCH_ROLE</item>
      <item>FABRIC_INTERFACES</item>
      <item>HOST_INTERFACES</item>
      <item>BACKBONE_VLAN</item>
      <item>BACKBONE_IP</item>
      <item>BACKBONE_IPV6</item>
      <item>BGP_ROUTER_IP</item>
      <item>BGP_RR_IP</item>
      <item>LDAP_SERVER_IP</item>
      <item>XMPP_SERVER_IP</item>
      <item>XMPP_SERVER</item>
      <item>XMPP_GROUPS</item>
      <item>XMPP_PASSWORD</item>
      <item>ENABLE_VPC</item>
      <item>VPC_DOMAIN_ID</item>
      <item>VPC_PEER_DST</item>
      <item>VPC_PEER_LINK_PORT_CHANNEL_NUMBER</item>
      <item>VPC_PEER_LINK_IF_NAMES</item>
      <item>VPC_ARRAY</item>
    </arg1>
    <arg2>
      <item>leaf-SR123456</item>
      <item>172.22.31.23</item>

```

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```

    <item>24</item>
    <item>172.22.31.1</item>
    <item>cisco123</item>
    <item>leaf</item>
    <item>eth1/4-8</item>
    <item>eth1/10-12</item>
    <item>12</item>
    <item>172.22.31.15</item>
    <item>2345::2346</item>
    <item>172.22.31.10</item>
    <item>172.22.31.12</item>
    <item>172.22.31.2</item>
    <item>172.22.31.3</item>
    <item>xmpp.cisco.com</item>
    <item>leaf_group</item>
    <item>xmpp_123</item>
    <item>True</item>
    <item>3</item>
    <item>172.22.31.24</item>
    <item>2</item>
    <item>eth3/4</item>
    <item>{{2,eth4/4}}</item>
  </arg2>
  <arg3>true</arg3>
</tns:getPopulatedCommands>
</SOAP-ENV:Body>
</SOAP-ENV:Envelope>

```

Response**Note**

Replace \$\$ with empty in the below response

```

<env:Envelope xmlns:env="http://schemas.xmlsoap.org/soap/envelope/">
  <env:Header/>
  <env:Body>
    <tns:getPopulatedCommandsResponse
      xmlns:tns="http://ep.san.jaxws.dcbu.cisco.com/">
      <result>license grace-period

```


REVIEW DRAFT—CISCO CONFIDENTIAL

```

hostname $$leaf-SR123456$$
install feature-set fabric
feature-set fabric
feature fabric forwarding
install feature-set fabricpath
feature-set fabricpath
!#Cable Management
feature lldp
feature cable-management
fabric connectivity tier 1
feature bgp
feature interface-vlan
feature vn-segment-vlan-based
feature dhcp
feature evb
feature pim
!#feature SPoM
feature fabric access
!### Vinci Multicast Forwarding (NGMVPN)
feature fabric multicast
!### Vinci passive PIM
ip multicast fabric-forwarding
fabric forwarding identifier 1
fabric forwarding anycast-gateway-mac 2020.0000.00AA
fabric forwarding switch-role leaf
username admin password $$cisco123$$ role network-admin
no password strength-check
ip domain-lookup
!### Configure IP host for SPoM XMPP server below
ip host $$xmpp.cisco.com$$ $$172.22.31.3$$
!### Configure SPoM XMPP Server below
fabric access server $$xmpp.cisco.com$$ vrf management password
$$xmpp_123$$
!### Subscribe this device to this XMPP group
fabric access group $$leaf_group$$
fabric database profile-map global
    ethernet-tag encapsulation dot1q default dynamic
    ethernet-tag encapsulation vni default dynamic

```

REVIEW DRAFT – CISCO CONFIDENTIAL

```

vdp vni default dynamic
!### Configure fabric database location
!### db-table "ou=segments,dc=cisco,dc=com"
!### is a variable that should match the table
!### name that is populated in the LDAP database.
fabric database type asset
    server protocol ldap ip $$172.22.31.2$$
        db-table ou=segments,dc=cisco,dc=com key-type 1
!### Enable global mobility-domain only when you
!### are going to use (vlan, mobility_domain) to search ADBM database
!### fabric database mobility-domain %mobility_domain
route-map FABRIC-RMAP-REDIST-HOST deny 10
    match interface Vlan $$12$$
route-map FABRIC-RMAP-REDIST-HOST permit 20
    match ip address HOSTS

route-map FABRIC-RMAP-REDIST-V6HOST deny 10
    match interface Vlan $$12$$
route-map FABRIC-RMAP-REDIST-V6HOST permit 20
    match ip address V6HOSTS
ip dhcp snooping
service dhcp
ip dhcp relay
ip dhcp relay information option
ip dhcp relay information option vpn
interface Vlan $$12$$
    no shutdown
    ip address $$172.22.31.15$$
    ipv6 address $$2345::2346$$
    fabric forwarding control-segment
interface $$eth1/7$$
    no shutdown
    switchport
    switchport mode fabricpath
    fabricpath isis hello-interval 100
    fabricpath isis retransmit-interval 10
    fabricpath isis retransmit-throttle-interval 200
interface $$eth1/8$$

```

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```
no shutdown
switchport
switchport mode fabricpath
fabricpath isis hello-interval 100
fabricpath isis retransmit-interval 10
fabricpath isis retransmit-throttle-interval 200
interface $$eth1/6$$
no shutdown
switchport
switchport mode fabricpath
fabricpath isis hello-interval 100
fabricpath isis retransmit-interval 10
fabricpath isis retransmit-throttle-interval 200
interface $$eth1/5$$
no shutdown
switchport
switchport mode fabricpath
fabricpath isis hello-interval 100
fabricpath isis retransmit-interval 10
fabricpath isis retransmit-throttle-interval 200
interface $$eth1/4$$
no shutdown
switchport
switchport mode fabricpath
fabricpath isis hello-interval 100
fabricpath isis retransmit-interval 10
fabricpath isis retransmit-throttle-interval 200
interface $$eth1/10$$
switchport
switchport mode trunk
no shutdown
interface $$eth1/11$$
switchport
switchport mode trunk
no shutdown
interface $$eth1/12$$
switchport
switchport mode trunk
```

REVIEW DRAFT – CISCO CONFIDENTIAL

```

no shutdown
route-map ALL-PATHS permit 10
    set path-selection all advertise
vlan $$12$$
    mode fabricpath
router bgp 100
    router-id $$172.22.31.10$$
    address-family ipv4 unicast
        redistribute hmm route-map FABRIC-RMAP-REDIST-HOST
        maximum-paths ibgp 2
        additional-paths receive
        additional-paths selection route-map ALL-PATHS
    address-family ipv6 unicast
        redistribute hmm route-map FABRIC-RMAP-REDIST-V6HOST
        maximum-paths ibgp 2
        additional-paths receive
        additional-paths selection route-map ALL-PATHS
    address-family vpnv4 unicast
        additional-paths receive
    address-family vpnv6 unicast
        additional-paths receive
    address-family ipv4 mvpn
        additional-paths receive
    address-family ipv6 mvpn
        additional-paths receive
neighbor $$172.22.31.12$$ remote-as 100
    address-family ipv4 unicast
        send-community both
    address-family ipv6 unicast
        send-community both
    address-family vpnv4 unicast
        send-community extended
    address-family vpnv6 unicast
        send-community extended
    address-family ipv4 mvpn
        send-community both
    address-family ipv6 mvpn
        send-community both

```

REVIEW DRAFT—CISCO CONFIDENTIAL

```

vrf context management
    ip route 0.0.0.0/0 $$172.22.31.1$$
interface mgmt0
    vrf member management
    no cdp enable
    ip address $$172.22.31.23$$/$$24$$
system fabric dynamic-vlans 2500-3500
!###l3vm uses bootflash:platform.inf for the core vlans.
!###Please refer to CSCuj12763 for additional details
system fabric core-vlans 2500-2999
line console
    exec-timeout 0
line vty
!### Sample config for setting interface
!### address e.g. for connecting to
!### 101.101.101.91 ldap server
!interface Ethernet 1/18
! no switchport
! ip address 101.101.101.22/24
! no shutdown
configure profile vrf_tenant_profile
    vlan $id
        mode fabricpath
        vn-segment $segment
    interface vlan $id
        vrf member $vrfname
        ip address $$172.22.31.15$$
        ipv6 address $$2345::2346$$
        no shut
exit
configure profile vrf-common
    vrf context $vrfName
    vni $include_l3_segid
    rd auto
    address-family ipv4 unicast
        route-target both auto
    router bgp $asn
    vrf $vrfName

```

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```

        address-family ipv4 unicast
            redistribute hmm route-map FABRIC-RMAP-REDIST-HOST
            maximum-paths ibgp 2
    exit
    config profile GoldProfile
        interface vlan $vlanId
            vrf member $vrfName
            ip address $gatewayIpAddress/$netMaskLength
            ip dhcp relay address $dhcpServerAddr use-vrf default
            fabric forwarding mode proxy-gateway
            no ip redirects
            no shutdown
        vlan $vlanId
            vn-segment $segmentId
        include profile vrf-common
    end

    configure profile vrf-common-v6
        vrf context $vrfName
            vni $include_l3_segid
            rd auto
            address-family ipv6 unicast
                route-target both auto
            router bgp $asn
            vrf $vrfName
                address-family ipv6 unicast
                    redistribute hmm route-map FABRIC-RMAP-REDIST-V6HOST
                    maximum-paths ibgp 2
    exit

    config profile GoldProfile-v6
        interface vlan $vlanId
            vrf member $vrfName
            ipv6 address $gatewayIpv6Address/$prefixLength
            fabric forwarding mode proxy-gateway
            no shutdown
        vlan $vlanId
            vn-segment $segmentId

```

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```

include profile vrf-common-v6
end

configure profile vrf-common-v4nv6
  vrf context $vrfName
    vni $include_l3_segid
    rd auto
    address-family ipv4 unicast
      route-target both auto
    address-family ipv6 unicast
      route-target both auto
    router bgp $asn
    vrf $vrfName
      address-family ipv4 unicast
        redistribute hmm route-map FABRIC-RMAP-REDIST-HOST
        maximum-paths ibgp 2
      address-family ipv6 unicast
        redistribute hmm route-map FABRIC-RMAP-REDIST-V6HOST
        maximum-paths ibgp 2
  exit

config profile GoldProfile-v4nv6
  interface vlan $vlanId
    vrf member $vrfName
    ip address $gatewayIpAddress/$netMaskLength
    ipv6 address $gatewayIpv6Address/$prefixLength
    ip dhcp relay address $dhcpServerAddr use-vrf default
    fabric forwarding mode proxy-gateway
    no ip redirects
    no shutdown
  vlan $vlanId
    vn-segment $segmentId
  include profile vrf-common-v4nv6
end</result>

</tns:getPopulatedCommandsResponse>
</env:Body>
</env:Envelope>

```

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Create POAP Definition

This REST API call will generate the DCNM POAP definition, save the definition into DCNM database and publish the configuration to the devices. This will use the configuration generated from step 6 and pass them in the request which shown in blue color.

REST URL: `http://10.77.247.139/rest/poap/poap-definitions/`

HTTP Method: POST

Request

```
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: 28
Cookie: JSESSIONID=4C975316B01A44215861475E1B5F9328
Pragma: no-cache
Cache-Control: no-cache
{
  "poapTemplateCol": [{"templateContent": "license grace-period\nhostname
leaf-SR123456\n\ninstall feature-set fabric\nfeature-set
fabric\nfeature fabric forwarding\n\ninstall feature-set
fabricpath\nfeature-set fabricpath\n\n!#Cable Management\nfeature
lldp\nfeature cable-management\nfabric connectivity tier 1\n\nfeature
bgp\nfeature interface-vlan\nfeature vn-segment-vlan-based\nfeature
dhcp\nfeature evb\nfeature pim\n\n!#feature SPoM\nfeature fabric
access\n\n!### Vinci Multicast Forwarding (NGMVPN)\nfeature fabric
multicast\n\n!### Vinci passive PIM\nnip multicast
fabric-forwarding\n\nfabric forwarding identifier 1\nfabric forwarding
anycast-gateway-mac 2020.0000.00AA\nfabric forwarding switch-role
leaf\n\nusername admin password cisco123 role network-admin\nno
password strength-check\nnip domain-lookup\n\n!### Configure IP host for
SPoM XMPP server below\nnip host xmpp.cisco.com 172.22.31.3\n\n!###
Configure SPoM XMPP Server below\nfabric access server xmpp.cisco.com
vrf management password xmpp_123\n\n!### Subscribe this device to this
XMPP group \nfabric access group leaf_group\n\nfabric database
profile-map global\n  ethernet-tag encapsulation dot1q default
dynamic\n  ethernet-tag encapsulation vni default dynamic\n  vdp vni
default dynamic\n\n!### Configure fabric database location\n\n!###"}]
```


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```

db-table \"ou=segments,dc=cisco,dc=com\"\\n!### is a variable that
should match the table\\n!### name that is populated in the LDAP
database.\\nfabric database type asset\\n server protocol ldap ip
172.22.31.2\\n db-table ou=segments,dc=cisco,dc=com key-type
1\\n\\n!### Enable global mobility-domain only when you \\n!### are going
to use (vlan, mobility_domain) to search ADBM database \\n!### fabric
database mobility-domain %mobility_domain\\n\\nroute-map
FABRIC-RMAP-REDIST-HOST deny 10\\n match interface Vlan 12\\nroute-map
FABRIC-RMAP-REDIST-HOST permit 20\\n match ip address HOSTS
\\n\\nroute-map FABRIC-RMAP-REDIST-V6HOST deny 10\\n match interface
Vlan 12\\nroute-map FABRIC-RMAP-REDIST-V6HOST permit 20\\n match ip
address V6HOSTS\\n\\nip dhcp snooping\\nservice dhcp\\nip dhcp relay\\nip
dhcp relay information option\\nip dhcp relay information option
vpn\\n\\ninterface Vlan 12\\n no shutdown\\n ip address 172.22.31.15\\n
ipv6 address 2345::2346\\n fabric forwarding
control-segment\\n\\n\\ninterface eth1/7\\n no shutdown\\n switchport\\n
switchport mode fabricpath\\n fabricpath isis hello-interval 100\\n
fabricpath isis retransmit-interval 10\\n fabricpath isis
retransmit-throttle-interval 200\\n\\ninterface eth1/8\\n no shutdown\\n
switchport\\n switchport mode fabricpath\\n fabricpath isis
hello-interval 100\\n fabricpath isis retransmit-interval 10\\n
fabricpath isis retransmit-throttle-interval 200\\n\\ninterface eth1/6\\n
no shutdown\\n switchport\\n switchport mode fabricpath\\n fabricpath
isis hello-interval 100\\n fabricpath isis retransmit-interval 10\\n
fabricpath isis retransmit-throttle-interval 200\\n\\ninterface eth1/5\\n
no shutdown\\n switchport\\n switchport mode fabricpath\\n fabricpath
isis hello-interval 100\\n fabricpath isis retransmit-interval 10\\n
fabricpath isis retransmit-throttle-interval 200\\n\\ninterface eth1/4\\n
no shutdown\\n switchport\\n switchport mode fabricpath\\n fabricpath
isis hello-interval 100\\n fabricpath isis retransmit-interval 10\\n
fabricpath isis retransmit-throttle-interval 200\\n\\n\\ninterface
eth1/10\\n switchport \\n switchport mode trunk\\n no
shutdown\\n\\ninterface eth1/11\\n switchport \\n switchport mode trunk\\n
no shutdown\\n\\ninterface eth1/12\\n switchport \\n switchport mode
trunk\\n no shutdown\\n\\nroute-map ALL-PATHS permit 10\\n set
path-selection all advertise\\n\\nvlan 12\\n mode fabricpath\\n\\nrouter
bgp 100\\n router-id 172.22.31.10\\n address-family ipv4 unicast\\n
redistribute hmm route-map FABRIC-RMAP-REDIST-HOST \\n maximum-paths
ibgp 2 \\n additional-paths receive\\n additional-paths selection
route-map ALL-PATHS\\n address-family ipv6 unicast\\n redistribute
hmm route-map FABRIC-RMAP-REDIST-V6HOST\\n maximum-paths ibgp 2\\n
additional-paths receive\\n additional-paths selection route-map
ALL-PATHS\\n address-family vpnv4 unicast\\n additional-paths
receive\\n address-family vpnv6 unicast\\n additional-paths receive\\n
address-family ipv4 mvpn\\n additional-paths receive\\n
address-family ipv6 mvpn\\n additional-paths receive\\n\\n neighbor
172.22.31.12 remote-as 100\\n address-family ipv4 unicast\\n
send-community both\\n address-family ipv6 unicast\\n
send-community both\\n address-family vpnv4 unicast\\n
send-community extended\\n address-family vpnv6 unicast\\n
send-community extended\\n address-family ipv4 mvpn\\n
send-community both\\n address-family ipv6 mvpn\\n send-community
both\\n\\nvrf context management\\n ip route 0.0.0.0/0

```

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```

172.22.31.1\n\ninterface mgmt0\n  vrf member management\n  no cdp
enable\n  ip address 172.22.31.23/24\n\nsystem fabric dynamic-vlans
2500-3500\n\n!###l3vm uses bootflash:platform.inf for the core vlans.
\n!###Please refer to CSCuj12763 for additional details\n\nsystem fabric
core-vlans 2500-2999\n\nline console\n  exec-timeout 0\n\nline
vty\n\n\n!### Sample config for setting interface\n!### address e.g.
for connecting to\n!### 101.101.101.91 ldap server\n\n!interface
Ethernet 1/18\n!  no switchport\n!  ip address 101.101.101.22/24\n!  no
shutdown\n\nconfigure profile vrf_tenant_profile\n  vlan $id\n
mode fabricpath\n  vn-segment $segment\n  interface vlan $id\n
vrf member $vrfname\n  ip address 172.22.31.15\n  ipv6 address
2345::2346\n  no shut\n\nexit\n\nconfigure profile vrf-common\n  vrf
context $vrfName\n  vni $include_l3_segid\n  rd auto\n
address-family ipv4 unicast\n  route-target both auto\n  router
bgp $asn\n  vrf $vrfName\n  address-family ipv4 unicast\n
redistribute hmm route-map FABRIC-RMAP-REDIST-HOST\n  maximum-paths
ibgp 2\n\nexit\n\nconfigure profile GoldProfile\n  interface vlan $vlanId\n
vrf member $vrfName\n  ip address $gatewayIpAddress/$netMaskLength\n
ip dhcp relay address $dhcpServerAddr use-vrf default\n  fabric
forwarding mode proxy-gateway\n  no ip redirects\n  no shutdown\n
vlan $vlanId\n  vn-segment $segmentId\n  include profile
vrf-common\n\nend\n\nconfigure profile vrf-common-v6\n  vrf context
$vrfName\n  vni $include_l3_segid\n  rd auto\n  address-family
ipv6 unicast\n  route-target both auto\n  router bgp $asn\n  vrf
$vrfName\n  address-family ipv6 unicast\n  redistribute hmm
route-map FABRIC-RMAP-REDIST-V6HOST\n  maximum-paths ibgp 2
\n\nexit\n\nconfigure profile GoldProfile-v6\n  interface vlan $vlanId\n
vrf member $vrfName\n  ipv6 address
$gatewayIpv6Address/$prefixLength\n  fabric forwarding mode
proxy-gateway\n  no shutdown\n  vlan $vlanId\n  vn-segment
$segmentId\n  include profile vrf-common-v6\n\nend\n\nconfigure profile
vrf-common-v4nv6\n  vrf context $vrfName\n  vni $include_l3_segid\n
rd auto\n  address-family ipv4 unicast\n  route-target both auto\n
address-family ipv6 unicast\n  route-target both auto\n  router
bgp $asn\n  vrf $vrfName\n  address-family ipv4 unicast\n
redistribute hmm route-map FABRIC-RMAP-REDIST-HOST\n  maximum-paths
ibgp 2\n  address-family ipv6 unicast\n  redistribute hmm
route-map FABRIC-RMAP-REDIST-V6HOST\n  maximum-paths ibgp 2
\n\nexit\n\nconfigure profile GoldProfile-v4nv6\n  interface vlan $vlanId\n
vrf member $vrfName\n  ip address $gatewayIpAddress/$netMaskLength\n
ipv6 address $gatewayIpv6Address/$prefixLength\n  ip dhcp relay
address $dhcpServerAddr use-vrf default\n  fabric forwarding mode
proxy-gateway\n  no ip redirects\n  no shutdown\n  vlan $vlanId\n
vn-segment $segmentId\n  include profile
vrf-common-v4nv6\n\nend\n", "templateName": "Base_Leaf_Template", "methodT
ype": "POST", "id": 0, "templateNVPairs": [{"0": {"text": "leaf-SR12345
6", "annotations": [{"value": "\\\"The host name of the
switch\\\"\\\", \"key\": \"Description\\\", {\"value\": \"true\\\", \"key\": \"I
sMandatory\\\", {\"value\": \"true\\\", \"key\": \"UseDNSReverseLookup\\\", {\\
\"value\": \"true\\\", \"key\": \"IsSwitchName\\\"}], \"name\": \"SWITCH_NAME\\
\"}, \"1\": {\"text\": \"172.22.31.23\\\", \"annotations\": [{\"value\": \"\\\"
Management IP address used by DCNM to monitor this
device\\\"\\\", \"key\": \"Description\\\", {\"value\": \"true\\\", \"key\": \"I

```

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```

sVPCPeerLinkSrc\"}, {"value\" : \"true\", \"key\" : \"IsManagementIP\"}, {
  \"value\" : \"true\", \"key\" : \"IsMandatory\"}], \"name\" : \"MGMT_IP\"}, \"2
\": {\"text\" : \"24\", \"annotations\" : [{\"value\" : \"\\\"Management
Prefix\\\"\", \"key\" : \"Description\"}, {\"value\" : \"true\", \"key\" : \"I
sMandatory\"}], \"name\" : \"MGMT_PREFIX\"}, \"3\" : {\"text\" : \"172.22.31.
1\", \"annotations\" : [{\"value\" : \"\\\"Default Gateway IP
address\\\"\", \"key\" : \"Description\"}, {\"value\" : \"true\", \"key\" : \"
IsMandatory\"}], \"name\" : \"DEFAULT_GATEWAY\"}, \"4\" : {\"text\" : \"cisco
123\", \"annotations\" : [{\"value\" : \"\\\"Plain text or 5
encrypted\\\"\", \"key\" : \"Description\"}, {\"value\" : \"true\", \"key\" :
\"IsMandatory\"}], \"name\" : \"ADMIN_PASSWORD\"}, \"5\" : {\"text\" : \"leaf
\", \"annotations\" : [{\"value\" : \"\\\"The role of the switch. e.g. leaf,
spine\\\"\", \"key\" : \"Description\"}, {\"value\" : \"true\", \"key\" : \"Is
Mandatory\"}, {\"value\" : \"true\", \"key\" : \"IsSwitchRole\"}], \"name\" :
\"SWITCH_ROLE\"}, \"6\" : {\"text\" : \"eth1/4-8\", \"annotations\" : [{\"val
ue\" : \"\\\"The comma and dash separated list of fabric
ports\\\"\", \"key\" : \"Description\"}, {\"value\" : \"true\", \"key\" : \"Is
Mandatory\"}, {\"value\" : \"true\", \"key\" : \"IsFabricPort\"}], \"name\" :
\"FABRIC_INTERFACES\"}, \"7\" : {\"text\" : \"eth1/10-12\", \"annotations\"
: [{\"value\" : \"\\\"The comma and dash separated list of host
ports\\\"\", \"key\" : \"Description\"}, {\"value\" : \"true\", \"key\" : \"Is
Mandatory\"}, {\"value\" : \"true\", \"key\" : \"IsHostPort\"}], \"name\" : \"
HOST_INTERFACES\"}, \"8\" : {\"text\" : \"12\", \"annotations\" : [{\"value\"
: \"\\\"Backbone VLAN
ID\\\"\", \"key\" : \"Description\"}, {\"value\" : \"true\", \"key\" : \"IsMan
datory\"}], \"name\" : \"BACKBONE_VLAN\"}, \"9\" : {\"text\" : \"172.22.31.15
\", \"annotations\" : [{\"value\" : \"\\\"Backbone IP
address/prefix\\\"\", \"key\" : \"Description\"}, {\"value\" : \"true\", \"k
ey\" : \"IsMandatory\"}], \"name\" : \"BACKBONE_IP\"}, \"10\" : {\"text\" : \"2
345:2346\", \"annotations\" : [{\"value\" : \"\\\"Backbone IPv6
address/prefix\\\"\", \"key\" : \"Description\"}, {\"value\" : \"true\", \"k
ey\" : \"IsMandatory\"}], \"name\" : \"BACKBONE_IPV6\"}, \"11\" : {\"text\" : \"
172.22.31.10\", \"annotations\" : [{\"value\" : \"true\", \"key\" : \"IsMand
atory\"}], \"name\" : \"BGP_ROUTER_IP\"}, \"12\" : {\"text\" : \"172.22.31.12
\", \"annotations\" : [{\"value\" : \"true\", \"key\" : \"IsMandatory\"}], \"n
ame\" : \"BGP_RR_IP\"}, \"13\" : {\"text\" : \"172.22.31.2\", \"annotations\"
: [{\"value\" : \"\\\"IP Address of the Auto-config LDAP
Server\\\"\", \"key\" : \"Description\"}, {\"value\" : \"true\", \"key\" : \"I
sMandatory\"}], \"name\" : \"LDAP_SERVER_IP\"}, \"14\" : {\"text\" : \"172.22
.31.3\", \"annotations\" : [{\"value\" : \"\\\"IP Address of the XMPP
Server\\\"\", \"key\" : \"Description\"}, {\"value\" : \"true\", \"key\" : \"I
sMandatory\"}], \"name\" : \"XMPP_SERVER_IP\"}, \"15\" : {\"text\" : \"xmpp.c
isco.com\", \"annotations\" : [{\"value\" : \"\\\"FQDN of the XMPP
Server\\\"\", \"key\" : \"Description\"}, {\"value\" : \"true\", \"key\" : \"I
sMandatory\"}], \"name\" : \"XMPP_SERVER\"}, \"16\" : {\"text\" : \"leaf_grou
p\", \"annotations\" : [{\"value\" : \"\\\"Space separated XMPP Spine Group
Names\\\"\", \"key\" : \"Description\"}, {\"value\" : \"true\", \"key\" : \"Is
Mandatory\"}], \"name\" : \"XMPP_GROUPS\"}, \"17\" : {\"text\" : \"xmpp_123\"
, \"annotations\" : [{\"value\" : \"\\\"Password\\\"\", \"key\" : \"Descripti
on\"}, {\"value\" : \"true\", \"key\" : \"IsMandatory\"}], \"name\" : \"XMPP_P
ASSWORD\"}, \"18\" : {\"text\" : \"True\", \"annotations\" : [{\"value\" : \"\\
\\\"True if VPC should be
configured\\\"\", \"key\" : \"Description\"}, {\"value\" : \"true\", \"key\"

```

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```

:{"IsMandatory":true,"name":"ENABLE_VPC","19":{"text":"3","annotations":{"value":"true","key":"IsVPCDomainID"},"name":"VPC_DOMAIN_ID","20":{"text":"172.22.31.24","annotations":{"value":"true","key":"IsVPCPeerLinkDst"},"name":"VPC_PEER_DST","21":{"text":"2","annotations":{"value":"true","key":"IsVPCPeerLinkPortChannel"},"name":"VPC_PEER_LINK_PORT_CHANNEL_NUMBER","22":{"text":"eth3/4","annotations":{"value":"true","key":"IsVPCPeerLinkPort"},"name":"VPC_PEER_LINK_IF_NAMES","23":{"text":"","2,eth4/4"},"annotations":[]},"name":"VPC_ARRAY"}}},"poapSwitchCol":[{"switchName":"leaf-SR123456","publish":"true","lanGroup":2,"deviceType":"N6K","systemImageName":"n6000-system-image.bin","virutalDeviceContextName":"vdc","kickstartImageName":"n6000-kick-image.bin","methodType":"POST","imageServerId":1,"serialNumber":"SR123456","switchStatus":"Not Discovered","configServerId":1,"username":"admin","mgmtIp":"172.22.31.23","publishStatus":"Published","tier":0,"id":0,"password":"cisco123"}]}

```

Response

HTTP/1.1 202 Accepted