

**DCFabric SDN控制器**

**北向接口文档**

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# 文档修订记录

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| --- | --- | --- | --- | --- | --- | --- |
| **版本编号** | **修订原因** | **简要说明**  **（变更内容和变更范围）** | **日期** | **变更人** | **批准日期** | **批准人** |
| V1.0 | 创建 | 首次创建 | 2014-04-13 | 薛秋宝 |  |  |
| V1.1 | 增加 | 增加角色配置、meter表、group表等内容 | 2014-07-20 | 薛秋宝 |  |  |
| V1.2 | 增加 | 增加与openstack对接的接口 | 2014-09-17 | 薛秋宝 |  |  |
| V1.3.6 | 增加 | 增加静态流表下发接口  Group表下发增加多个bucket,支持PUT消息进行修改 | 2014-11-12 | 薛秋宝 |  |  |
| V1.3.7 | 增加 | 增加多租户接口  增加静态流表修改接口  增加静态流表删除接口 | 2014-11-24 | 邓超 |  |  |
| V2.0.0 | 重构 | DCFabric代码重构 | 2015-2-28 | 邓超 |  |  |
| V2.0.1 | 修改 | DCFabric接口文档修正 | 2015-5-15 | 邓超 |  |  |
| V2.0.2 | 修改 | DCFabric接口文档修正 | 2015-5-24 | 赵良智 |  |  |
| V2.0.3 | 增加 | DCFabric接口文档修正 | 2016-5-19 | 赵中国 |  |  |

**修订原因：**创建；增加；修改；删除

# 文档审批信息

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **序号** | **审批人** | **角色** | **审批日期** | **签字** | **备注** |
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# 简介

## 编写目的

本文旨在辅助开发人员通过北向接口二次开发SDN控制器

## 读者对象

本文档预期读者包括：

* 数据中心SDN控制器开发项目管理和开发相关人员
* 系统需求组、系统架构组、系统设计组
* 管理员、运营维护人员

## 文档约定

本手册所有描述适用于x86架构64位CentOS 6.5版本或x86 GNOS系统，如非必须，用于部署数据中心SDN控制器的服务器不得有部署其他非OS自带的第三方服务，否则需要重新评估能否正常兼容安装本数据中心SDN控制器。本文下文中所描述的安装部署服务器均默认符合此约定。

如果使用本手册遇到问题请联系相关人员。

## 北向接口说明

接口方式：Restful接口

数据格式：JSON格式（暂不支持XML格式）

通信协议：HTTP

请求方法：GET、POST、PUT、DELETE

通信端口：8080或者8081（8080为sdn\_center服务端口；8081为DCFabric\_Controller服务端口。可配）

Controllerhost：DCFabric\_Controller服务IP

SdnCenterhost：sdn\_center服务IP

例如：[GET] <http://10.8.1.168:8081/gn/switchinfo/json>

## 术语定义

|  |  |  |
| --- | --- | --- |
| **术语和缩写** | **全拼** | **解释** |
|  |  |  |
|  |  |  |

# 交换机信息

## 查询交换机信息

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/gn/switchinfo/json |
| 请求方式 | GET |
| 请求报文 | N/A |
| 响应报文 | {  "switchInfo": [  {  "DPID": "交换机Datapath ID",  "inetAddr": "交换机连接地址",  "mfrDesc": "厂商信息",  "hwDesc": "硬件信息",  "swDesc": "软件信息",  "serialNum": "序列号",  "dpDesc": "datapath描述",  "buffers": "buffer个数",  "ports": [  {  "name": "名称",  "state": "状态",  "hwAddr": "硬件地址",  "portNo": "端口号",  "config": "端口配置bitmap",  "currentFeature": "Current features",  "advertisedFeatrues": "Features being advertised by the port",  "supportedFeatures": "Features supported by the port",  "peerFeatures": "Features advertised by peer"  }  ],  "openflow": "OpenFlow版本号",  "connectedSince": "连接建立时间"  }  ],  "retCode": "返回码",  "retMsg": "返回消息"  } |

## 查询所有交换机属性

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/dcf/get/all/switchinfo/json |
| 请求方式 | GET |
| 请求报文 | N/A |
| 响应报文 | {  "nodeProperties":[  {  "node":{  "id":"交换机Datapath ID",  "type":"OF"  },  "properties":{  "tables":{  "value":"table个数"  },  "description":{  "value":""  },  "actions":{  "value":""  },  "macAddress":{  "value":"交换机mac地址"  },  "capabilities":{  "value":""  },  "timeStamp":{  "value":"",  "name":""  },  "buffers":{  "value":"buffer个数"  }  }  }  ],  "retCode": "返回码",  "retMsg": "返回消息"  } |

## 查询指定交换机属性

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/dcf/get/switchinfo/json/{dpid} |
| 请求方式 | GET |
| 请求报文 | N/A |
| 响应报文 | {  "nodeConnectorProperties":[  {  "nodeconnector":{  "node":{  "id":"交换机Datapath ID",  "type":"OF"  },  "id":"2",  "type":"OF"  },  "properties":{  "state":{  "value":""  },  "config":{  "value":""  },  "name":{  "value":""  }  }  }  ],  "retCode": "返回码",  "retMsg": "返回消息"  } |

## 查询交换机列表

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/dcf/debug/sw |
| 请求方式 | GET |
| 请求报文 | N/A |
| 响应报文 | {  "sw list": [{  "IP": "192.168.53.64",  "VlanId": "900"  }, {  "IP": "192.168.53.63",  "VlanId": "901"  }],  {  "retCode": "返回码",  "retMsg": "返回消息"  }  } |

# 拓扑管理

## 交换机拓扑查询

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/gn/topo/links/json |
| 请求方式 | GET |
| 请求报文 | N/A |
| 响应报文 | {  "linkTopo": [  {  "srcDPID": "源交换机DPID",  "neighbors": [  {  "srcPort": "源交换机端口",  "dstDPID": "目的交换机DPID",  "dstPort": "目的交换机端口"  }  ]  }  ] ,  "retCode": "返回码",  "retMsg": "返回消息"  } |

## 主机拓扑查询

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/gn/topo/hosts/json |
| 请求方式 | GET |
| 请求报文 | N/A |
| 响应报文 | {  "hostTopo": [  {  "srcDPID": "源端DPID",  "ports": [  {  "portNo": "端口号",  "hosts": [  {  "hwAddr": "MAC地址",  "ipv4Addr": "IPv4地址",  "ipv6Addr": "IPv6地址"  }  ]  }  ],  "total": "总用户数"  }  ] ,  "retCode": "返回码",  "retMsg": "返回消息"  } |

# 路径管理

## 查询路径信息

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/dcf/debug/path |
| 请求方式 | GET |
| 请求报文 | N/A |
| 响应报文 | {  "path\_list": [{  "dst\_sw": "ip:192.168.53.64, dpid: 75361037315306, num: 1",  "path": [{  "src\_sw": "src ip:192.168.53.64, dpid: 75361037315306",  "dst\_sw": "dst ip:192.168.53.64, dpid: 75361037315306",  "node\_list": [{  "node": "ip:192.168.53.64, dpid:75361037315306, port:0"  }]  }]  }, {  "dst\_sw": "ip:192.168.53.63, dpid: 262751597348672, num: 1",  "path": [{  "src\_sw": "src ip:192.168.53.63, dpid: 262751597348672",  "dst\_sw": "dst ip:192.168.53.63, dpid: 262751597348672",  "node\_list": [{  "node": "ip:192.168.53.63, dpid:262751597348672, port:0"  }]  }]  }, {  "dst\_sw": "ip:192.168.53.65, dpid: 75361037323056, num: 1",  "path": [{  "src\_sw": "src ip:192.168.53.65, dpid: 75361037323056",  "dst\_sw": "dst ip:192.168.53.65, dpid: 75361037323056",  "node\_list": [{  "node": "ip:192.168.53.65, dpid:75361037323056, port:0"  }]  }]  }, {  "dst\_sw": "ip:192.168.53.66, dpid: 75361037315334, num: 1",  "path": [{  "src\_sw": "src ip:192.168.53.66, dpid: 75361037315334",  "dst\_sw": "dst ip:192.168.53.66, dpid: 75361037315334",  "node\_list": [{  "node": "ip:192.168.53.66, dpid:75361037315334, port:0"  }]  }]  }],  {  "retCode": "返回码",  "retMsg": "返回消息"  }  } |

# Meter表管理

参数取值说明：

|  |  |  |
| --- | --- | --- |
| **参数** | **参数说明** | **取值说明** |
| Flags | 限速类型 | Kbps、Kbps、Burst、Stats |
| Type | 限速方式 | Drop、Dscp |
|  |  |  |
|  |  |  |
|  |  |  |

## 查询所有Meter表

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/gn/meters/json |
| 请求方式 | GET |
| 请求报文 | {  } |
| 响应报文 | {  "switchMeters": [  {  "DPID": "交换机DPID",  "meters": [  {  "meterId": "计量表ID",  "flags": "限速类型",  "type": "限速方式",  "precLevel": "优先级",  "rate": "限速速率",  "burstSize": "突发值"  }  ]  }  ] ,  "retCode": "返回码",  "retMsg": "返回消息"  } |

## 删除所有Meter表

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/gn/meters/json |
| 请求方式 | GET |
| 请求报文 | {  "DPID": "交换机DPID"  } |
| 响应报文 | {,  "retCode": "返回码",  "retMsg": "返回消息"  } |

## 新增Meter表

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/gn/meter/json |
| 请求方式 | POST |
| 请求报文 | {  "DPID": "交换机DPID",  "meterId": "计量表ID",  "flags": "限速类型",  "type": "限速方式",  "precLevel": "优先级",  "rate": "限速速率",  "burstSize": "突发值"  } |
| 响应报文 | {,  "retCode": "返回码",  "retMsg": "返回消息"  } |

## 修改Meter表

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/gn/meter/json |
| 请求方式 | PUT |
| 请求报文 | {  {  "DPID": "交换机DPID",  "meterEntries": [  {  "meterId": "计量表ID",  "flags": "限速类型",  "type": "限速方式",  "precLevel": "优先级",  "rate": "限速速率",  "burstSize": "突发值"  }  ]  }  } |
| 响应报文 | {,  "retCode": "返回码",  "retMsg": "返回消息"  } |

## 删除Meter表

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/gn/meter/json |
| 请求方式 | DELETE |
| 请求报文 | {  "DPID": "交换机DPID",  "meterId": "计量表ID"  } |
| 响应报文 | {,  "retCode": "返回码",  "retMsg": "返回消息"  } |

# Group表管理

参数取值说明：

|  |  |  |
| --- | --- | --- |
| **参数** | **参数说明** | **取值说明** |
| type | Group类型 | All, Select, Indirect, FF |
| ethType | 以太网类型 | ARP, IPV4, IPV6, MPLS, VLAN, |
| ipProto | IP协议类型 | TCP, UDP, ICMP |
| arpOp | ARP协议类型 | Request, Reply |
|  |  |  |

## 查询所有Group表

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/gn/groups/json |
| 请求方式 | GET |
| 请求报文 | {  } |
| 响应报文 | {  "switchGroups": [  {  "DPID": "交换机DPID",  "groups": [  {  "type": "组表类型",  "groupId": "组表ID",  "buckets": [  {  "weight": "权重",  "watchPort": "监控端口",  "watchGroup": "监控组",  "actions": {  "output": "转出端口",  "pushVlan": "加VLAN标签",  "popVlan": "去VLAN标签",  "pushMpls": "加MPLS标签",  "popMpls": "去MPLS标签",  "group": "Group表ID",  "setField": {  "inport": "入口",  "ethDst": "以太网目的MAC",  "ethSrc": "以太网源MAC",  "ethType": "以太网类型",  "vlanId": "VLAN ID",  "vlanPcp": "VLAN优先级",  "ipDscp": "DSCP",  "ipEcn": "ECN",  "ipProto": "IP协议类型",  "ipv4Src": "ipv4源IP",  "ipv4Dst": "ipv4目的IP",  "tcpSrc": "TCP源端口",  "tcpDst": "TCP目的端口",  "udpSrc": "UDP源端口",  "udpDst": "UDP目的端口",  "arpOp": "ARP协议类型",  "arpSpa": "ARP发送方IP",  "arpTpa": "ARP发送方MAC",  "arpSha": "ARP目的IP",  "arpTha": "ARP目的MAC",  "mplsLabel": "MPLS标签"  }  }  }  ]  }  ]  }  ] ,  "retCode": "返回码",  "retMsg": "返回消息"  } |

## 删除所有Group表

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/gn/ groups /json |
| 请求方式 | DELETE |
| 请求报文 | {  "DPID": "交换机DPID"  } |
| 响应报文 | {,  "retCode": "返回码",  "retMsg": "返回消息"  } |

## 新增Group表

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/gn/group/json |
| 请求方式 | POST |
| 请求报文 | {  "DPID": "交换机DPID",  "type": "组表类型",  "groupId": "组表ID",  "buckets": [  {  "weight": "权重",  "watchPort": "监控端口",  "watchGroup": "监控组",  "actions": {  "output": "转出端口",  "pushVlan": "加VLAN标签",  "popVlan": "去VLAN标签",  "pushMpls": "加MPLS标签",  "popMpls": "去MPLS标签",  "group": "Group表ID",  "setField": {  "inport": "入口",  "ethDst": "以太网目的MAC",  "ethSrc": "以太网源MAC",  "ethType": "以太网类型",  "vlanId": "VLAN ID",  "vlanPcp": "VLAN优先级",  "ipDscp": "DSCP",  "ipEcn": "ECN",  "ipProto": "IP协议类型",  "ipv4Src": "ipv4源IP",  "ipv4Dst": "ipv4目的IP",  "tcpSrc": "TCP源端口",  "tcpDst": "TCP目的端口",  "udpSrc": "UDP源端口",  "udpDst": "UDP目的端口",  "arpOp": "ARP协议类型",  "arpSpa": "ARP发送方IP",  "arpTpa": "ARP发送方MAC",  "arpSha": "ARP目的IP",  "arpTha": "ARP目的MAC",  "mplsLabel": "MPLS标签"  }  }  }  ]  } |
| 响应报文 | {,  "retCode": "返回码",  "retMsg": "返回消息"  } |

## 修改Group表

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/gn/group/json |
| 请求方式 | PUT |
| 请求报文 | {  "DPID": "交换机DPID",  "type": "组表类型",  "groupId": "组表ID",  "buckets": [  {  "weight": "权重",  "watchPort": "监控端口",  "watchGroup": "监控组",  "actions": {  "output": "转出端口",  "pushVlan": "加VLAN标签",  "popVlan": "去VLAN标签",  "pushMpls": "加MPLS标签",  "popMpls": "去MPLS标签",  "group": "Group表ID",  "setField": {  "inport": "入口",  "ethDst": "以太网目的MAC",  "ethSrc": "以太网源MAC",  "ethType": "以太网类型",  "vlanId": "VLAN ID",  "vlanPcp": "VLAN优先级",  "ipDscp": "DSCP",  "ipEcn": "ECN",  "ipProto": "IP协议类型",  "ipv4Src": "ipv4源IP",  "ipv4Dst": "ipv4目的IP",  "tcpSrc": "TCP源端口",  "tcpDst": "TCP目的端口",  "udpSrc": "UDP源端口",  "udpDst": "UDP目的端口",  "arpOp": "ARP协议类型",  "arpSpa": "ARP发送方IP",  "arpTpa": "ARP发送方MAC",  "arpSha": "ARP目的IP",  "arpTha": "ARP目的MAC",  "mplsLabel": "MPLS标签"  }  }  }  ]  } |
| 响应报文 | {  "retCode": "返回码",  "retMsg": "返回消息"  } |

## 删除Group表

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/gn/group/json |
| 请求方式 | DELETE |
| 请求报文 | {  "DPID": "交换机DPID",  "groupId": "组表ID"  } |
| 响应报文 | {  "retCode": "返回码",  "retMsg": "返回消息"  } |

# Flow表管理

参数取值说明：

|  |  |  |
| --- | --- | --- |
| **参数** | **参数说明** | **取值说明** |
| type | Group类型 | All, Select, Indirect, FF |
| ethType | 以太网类型 | ARP, IPV4, IPV6, MPLS, VLAN, |
| ipProto | IP协议类型 | TCP, UDP, ICMP |
| arpOp | ARP协议类型 | Request, Reply |
|  |  |  |

## 查询所有流表

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/gn/flows/all/json |
| 请求方式 | GET |
| 请求报文 | {  } |
| 响应报文 | {  " switchFlowEntries ": [  {  "DPID": "交换机Datapath ID",  "flowEntries": [  {  "uuid": "流表唯一标识",  "creater": "创建者",  "createTime": "创建时间",  "tableId": "表号[Default: 0]",  "idleTimeout": "空闲超时时间[Default: 200]",  "hardTimeout": "硬性超时时间[Default: 200]",  "priority": "优先级",  "match": {  "inport": "入口",  "ethDst": "以太网目的MAC",  "ethSrc": "以太网源MAC",  "ethType": "以太网类型",  "vlanId": "VLAN ID",  "vlanPcp": "VLAN优先级",  "ipDscp": "DSCP",  "ipEcn": "ECN",  "ipProto": "IP协议类型",  "ipv4Src": "ipv4源IP",  "ipv4Dst": "ipv4目的IP",  "tcpSrc": "TCP源端口",  "tcpDst": "TCP目的端口",  "udpSrc": "UDP源端口",  "udpDst": "UDP目的端口",  "arpOp": "ARP协议类型",  "arpSpa": "ARP发送方IP",  "arpTpa": " ARP目的IP",  "arpSha": " ARP发送方MAC ",  "arpTha": "ARP目的MAC",  "mplsLabel": "MPLS标签"  },  "instruction": {  "applyAction": {  "output": "转出端口",  "pushVlan": "加VLAN标签",  "popVlan": "去VLAN标签",  "pushMpls": "加MPLS标签",  "popMpls": "去MPLS标签",  "group": "Group表ID",  "setField": {  "inport": "入口",  "ethDst": "以太网目的MAC",  "ethSrc": "以太网源MAC",  "ethType": "以太网类型",  "vlanId": "VLAN ID",  "vlanPcp": "VLAN优先级",  "ipDscp": "DSCP",  "ipEcn": "ECN",  "ipProto": "IP协议类型",  "ipv4Src": "ipv4源IP",  "ipv4Dst": "ipv4目的IP",  "tcpSrc": "TCP源端口",  "tcpDst": "TCP目的端口",  "udpSrc": "UDP源端口",  "udpDst": "UDP目的端口",  "arpOp": "ARP协议类型",  "arpSpa": "ARP发送方IP",  "arpTpa": "ARP发送方MAC",  "arpSha": "ARP目的IP",  "arpTha": "ARP目的MAC",  "mplsLabel": "MPLS标签"  }  },  "writeAction": {  "output": "转出端口",  "pushVlan": "加VLAN标签",  "popVlan": "去VLAN标签",  "pushMpls": "加MPLS标签",  "popMpls": "去MPLS标签",  "group": "Group表ID",  "setField": {  "inport": "入口",  "ethDst": "以太网目的MAC",  "ethSrc": "以太网源MAC",  "ethType": "以太网类型",  "vlanId": "VLAN ID",  "vlanPcp": "VLAN优先级",  "ipDscp": "DSCP",  "ipEcn": "ECN",  "ipProto": "IP协议类型",  "ipv4Src": "ipv4源IP",  "ipv4Dst": "ipv4目的IP",  "tcpSrc": "TCP源端口",  "tcpDst": "TCP目的端口",  "udpSrc": "UDP源端口",  "udpDst": "UDP目的端口",  "arpOp": "ARP协议类型",  "arpSpa": "ARP发送方IP",  "arpTpa": "ARP发送方MAC",  "arpSha": "ARP目的IP",  "arpTha": "ARP目的MAC",  "mplsLabel": "MPLS标签"  }  },  "clearAction": "表示清空所有Action[无需赋值]",  "gotoTable": "table ID",  "meter": "计量表ID"  }  }  ]  }  ]  "retCode": "返回码",  "retMsg": "返回消息"  } |

## 删除所有流表

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/gn/flows/all/json |
| 请求方式 | DELETE |
| 请求报文 | {  "DPID": "交换机Datapath ID"  } |
| 响应报文 | {  "retCode": "返回码",  "retMsg": "返回消息"  } |

## 新增流表

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/gn/flow/json |
| 请求方式 | POST |
| 请求报文 | {  "DPID": "交换机Datapath ID",  "tableId": "表号[Default: 0]",  "idleTimeout": "空闲超时时间[Default: 200]",  "hardTimeout": "硬性超时时间[Default: 200]",  "priority": "优先级",  "match": {  "inport": "入口",  "ethDst": "以太网目的MAC",  "ethSrc": "以太网源MAC",  "ethType": "以太网类型",  "vlanId": "VLAN ID",  "vlanPcp": "VLAN优先级",  "ipDscp": "DSCP",  "ipEcn": "ECN",  "ipProto": "IP协议类型",  "ipv4Src": "ipv4源IP",  "ipv4Dst": "ipv4目的IP",  "tcpSrc": "TCP源端口",  "tcpDst": "TCP目的端口",  "udpSrc": "UDP源端口",  "udpDst": "UDP目的端口",  "arpOp": "ARP协议类型",  "arpSpa": "ARP发送方IP",  "arpTpa": "ARP发送方MAC",  "arpSha": "ARP目的IP",  "arpTha": "ARP目的MAC",  "mplsLabel": "MPLS标签"  },  "instruction": {  "applyAction": {  "output": "转出端口",  "pushVlan": "加VLAN标签",  "popVlan": "去VLAN标签",  "pushMpls": "加MPLS标签",  "popMpls": "去MPLS标签",  "group": "Group表ID",  "setField": {  "inport": "入口",  "ethDst": "以太网目的MAC",  "ethSrc": "以太网源MAC",  "ethType": "以太网类型",  "vlanId": "VLAN ID",  "vlanPcp": "VLAN优先级",  "ipDscp": "DSCP",  "ipEcn": "ECN",  "ipProto": "IP协议类型",  "ipv4Src": "ipv4源IP",  "ipv4Dst": "ipv4目的IP",  "tcpSrc": "TCP源端口",  "tcpDst": "TCP目的端口",  "udpSrc": "UDP源端口",  "udpDst": "UDP目的端口",  "arpOp": "ARP协议类型",  "arpSpa": "ARP发送方IP",  "arpTpa": "ARP发送方MAC",  "arpSha": "ARP目的IP",  "arpTha": "ARP目的MAC",  "mplsLabel": "MPLS标签"  }  },  "writeAction": {  "output": "转出端口",  "pushVlan": "加VLAN标签",  "popVlan": "去VLAN标签",  "pushMpls": "加MPLS标签",  "popMpls": "去MPLS标签",  "group": "Group表ID",  "setField": {  "inport": "入口",  "ethDst": "以太网目的MAC",  "ethSrc": "以太网源MAC",  "ethType": "以太网类型",  "vlanId": "VLAN ID",  "vlanPcp": "VLAN优先级",  "ipDscp": "DSCP",  "ipEcn": "ECN",  "ipProto": "IP协议类型",  "ipv4Src": "ipv4源IP",  "ipv4Dst": "ipv4目的IP",  "tcpSrc": "TCP源端口",  "tcpDst": "TCP目的端口",  "udpSrc": "UDP源端口",  "udpDst": "UDP目的端口",  "arpOp": "ARP协议类型",  "arpSpa": "ARP发送方IP",  "arpTpa": "ARP发送方MAC",  "arpSha": "ARP目的IP",  "arpTha": "ARP目的MAC",  "mplsLabel": "MPLS标签"  }  },  "clearAction": "表示清空所有Action[无需赋值]",  "gotoTable": "table ID",  "meter": "计量表ID"  }  } |
| 响应报文 | {  "retCode": "返回码",  "retMsg": "返回消息"  } |

## 修改流表

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/gn/flow/json |
| 请求方式 | PUT |
| 请求报文 | {  "DPID": "交换机Datapath ID",  "uuid": "流表唯一标识",  "instruction": {  "applyAction": {  "output": "转出端口",  "pushVlan": "加VLAN标签",  "popVlan": "去VLAN标签",  "pushMpls": "加MPLS标签",  "popMpls": "去MPLS标签",  "group": "Group表ID",  "setField": {  "inport": "入口",  "ethDst": "以太网目的MAC",  "ethSrc": "以太网源MAC",  "ethType": "以太网类型",  "vlanId": "VLAN ID",  "vlanPcp": "VLAN优先级",  "ipDscp": "DSCP",  "ipEcn": "ECN",  "ipProto": "IP协议类型",  "ipv4Src": "ipv4源IP",  "ipv4Dst": "ipv4目的IP",  "tcpSrc": "TCP源端口",  "tcpDst": "TCP目的端口",  "udpSrc": "UDP源端口",  "udpDst": "UDP目的端口",  "arpOp": "ARP协议类型",  "arpSpa": "ARP发送方IP",  "arpTpa": "ARP发送方MAC",  "arpSha": "ARP目的IP",  "arpTha": "ARP目的MAC",  "mplsLabel": "MPLS标签"  }  },  "writeAction": {  "output": "转出端口",  "pushVlan": "加VLAN标签",  "popVlan": "去VLAN标签",  "pushMpls": "加MPLS标签",  "popMpls": "去MPLS标签",  "group": "Group表ID",  "setField": {  "inport": "入口",  "ethDst": "以太网目的MAC",  "ethSrc": "以太网源MAC",  "ethType": "以太网类型",  "vlanId": "VLAN ID",  "vlanPcp": "VLAN优先级",  "ipDscp": "DSCP",  "ipEcn": "ECN",  "ipProto": "IP协议类型",  "ipv4Src": "ipv4源IP",  "ipv4Dst": "ipv4目的IP",  "tcpSrc": "TCP源端口",  "tcpDst": "TCP目的端口",  "udpSrc": "UDP源端口",  "udpDst": "UDP目的端口",  "arpOp": "ARP协议类型",  "arpSpa": "ARP发送方IP",  "arpTpa": "ARP发送方MAC",  "arpSha": "ARP目的IP",  "arpTha": "ARP目的MAC",  "mplsLabel": "MPLS标签"  }  },  "clearAction": "表示清空所有Action[无需赋值]",  "gotoTable": "table ID",  "meter": "计量表ID"  }  } |
| 响应报文 | {  "retCode": "返回码",  "retMsg": "返回消息"  } |

## 删除流表

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/gn/flow/json |
| 请求方式 | DELETE |
| 请求报文 | {  "DPID": "交换机Datapath ID",  "uuid": "流表唯一标识"  } |
| 响应报文 | {  "retCode": "返回码",  "retMsg": "返回消息"  } |

## 新增命名流表

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/dcf/put/flowentries/json |
| 请求方式 | PUT |
| 请求报文 | {  "flowConfig":{  "installInHw":"true", //是否安装该流表项  "name":"flow1", //流表项名称，唯一  "node":{  "id":"00:00:00:00:00:00:01:91", //交换机DPID  "type":"OF" //交换机类型OpenFlow  },  "tableId":"0", //流表序号，表示安装到哪个流表  "priority":"123", //优先级  "idleTimeout":"0", //idle time  "hardTimeout":"0", //hard time  "match":{ //match支持协议中所有字段  "inPort":"1",  "vlanVid":"2",  "ethType":"2048",  "ipv4Src":"192.168.1.122",  "ethDst":"b2:8f:09:fa:e2:ab"  },  "instructions":[ //instruction数组  {  "type":"1", //OFPIT\_GOTO\_TABLE, table\_id=2  "value":"2"  },  {  "type":"4", //OFPIT\_APPLY\_ACTIONS  "actions":[ //action数组  {  "type":"0", //OFPAT\_OUTPUT，port=3  "value":"3"  }  ]  }  ]  }  }  当Instruction为OFPIT\_WRITE\_METADATA时：  "instructions":[  {  "type":"2", //OFPIT\_WRITE\_METADATA  "value":"2", //metadata  "metadataMask":"16" //metadata\_mask  }  ]  当action为OFPAT\_SET\_FIELD时：  "actions":[  {  "type":"25", //OFPAT\_SET\_FIELD  "field":{ //field与match结构相同  "vlanVid":"7"  }  }  ]  *注：*  *1、match支持协议所有字段，名称如下：*  *inPort,inPhyPort,metadata,ethDst,ethSrc,ethType,vlanVid,vlanPcp,ipDscp,ipEcn,ipProto,ipv4Src,ipv4Dst,tcpSrc,tcpDst,udpSrc,udpDst,sctpSrc,sctpDst,icmpv4Type,icmpv4Code,arpOp,arpSpa,arpTpa,arpSha,arpTha,ipv6Src,ipv6Dst,ipv6Flabel,icmpv6Type,icmpv6Code,ipv6NdTarget,ipv6NdSll,ipv6NdTll,mplsLabel,mplsTc,mplsBos,pbbIsid,tunnelId,ipv6Exthdr*  *2、instruction和action中的type与协议中一致，请参考协议* |
| 响应报文 | {  "flowConfig":{  "installInHw":"true",  "name":"flow1",  "node":{  "id":"00:00:00:00:00:00:01:91",  "type":"OF"  },  "tableId":"0",  "priority":"123",  "idleTimeout":"0",  "hardTimeout":"0",    "match":{  "inPort":"1"  },    "instructions":[  {  "type":"1",  "value":"2"  }  ]  },  "retCode": "返回码",  "retMsg": "返回消息"  } |

## 删除命名流表

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/dcf/del/flowentries/json/{dpid}/flowname |
| 请求方式 | GET |
| 请求报文 | N/A |
| 响应报文 | {,  "retCode": "返回码",  "retMsg": "返回消息"  }  *注：使用上一个接口（/dcf/put/flowentries/json）下发流表并且返回成功之后，如交换机中安装该流表时失败或需要删除时，使用本接口删除对应流表* |

## 查询指定交换机流表

|  |  |
| --- | --- |
| URI | http:// SdnCenterhost:8080/sdn\_center/dcf/flowtable |
| 请求方式 | GET |
| 请求报文 | 参数：  ip：控制器IP  port：控制器端口，默认：8081  dpid：交换机ID，例如：00:00:00:00:00:00:00:01 |
| 响应报文 | {  "switchFlowEntries": [  {  "DPID": "00:00:00:00:00:00:01:91",  "flowEntries": [  {  "tableId": "2",  "idleTimeout": "0",  "hardTimeout": "0",  "priority": "20",  "durationSec": "23",  "byteCount": "0",  "packetCount": "0",  "match": {  "vlanVid": 6  },  "instructions": {}  },  {  "tableId": "2",  "idleTimeout": "0",  "hardTimeout": "0",  "priority": "20",  "durationSec": "23",  "byteCount": "0",  "packetCount": "0",  "match": {  "vlanVid": 12  },  "instructions": {}  }  ]  }  ],  "retCode": "返回码",  "retMsg": "返回消息"  } |

## 查询所有交换机流表

|  |  |
| --- | --- |
| URI | http:// SdnCenterhost:8080/sdn\_center/dcf/all/flowtable |
| 请求方式 | GET |
| 请求报文 | 参数：  ip：控制器IP  port：控制器端口，默认：8081 |
| 响应报文 | {  "switchFlowEntries": [  {  "DPID": "00:00:00:00:00:00:01:91",  "flowEntries": [  {  "tableId": "2",  "idleTimeout": "0",  "hardTimeout": "0",  "priority": "20",  "durationSec": "23",  "byteCount": "0",  "packetCount": "0",  "match": {  "vlanVid": 6  },  "instructions": {}  }  ]  },  {  "DPID": "00:00:00:00:00:00:01:92",  "flowEntries": [  {  "tableId": "1",  "idleTimeout": "0",  "hardTimeout": "0",  "priority": "20",  "durationSec": "23",  "byteCount": "0",  "packetCount": "0",  "match": {  "vlanVid": 7  },  "instructions": {}  }  ]  }  ],  "retCode": "返回码",  "retMsg": "返回消息"  } |

# L3子网管理

## 查询L3虚拟子网

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/gn/subnet/json |
| 请求方式 | GET |
| 请求报文 | N/A |
| 响应报文 | {  "subnets": [  {  "name": "子网名称",  "subnet": "子网IP/子网掩码"  }  ]  "retCode": "返回码",  "retMsg": "返回消息"  } |

## 新增L3虚拟子网

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/gn/subnet/json |
| 请求方式 | POST |
| 请求报文 | {  "name": "子网名称",  "subnet": "子网IP/子网掩码"  } |
| 响应报文 | {  "retCode": "返回码",  "retMsg": "返回消息"  } |

## 删除L3虚拟子网

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/gn/subnet/json |
| 请求方式 | DELETE |
| 请求报文 | {  "name": "子网名称",  "subnet": "子网IP/子网掩码"  } |
| 响应报文 | {  "retCode": "返回码",  "retMsg": "返回消息"  } |

# 租户管理

## 查询租户

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/gn/tenant/json |
| 请求方式 | GET |
| 请求报文 | {  } |
| 响应报文 | {  "tenants": [  {  "tenantId": "租户ID",  "tenantName": "租户名称"  }  ],  "retCode": "返回码",  "retMsg": "返回消息"  } |

## 新增租户

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/gn/tenant/json |
| 请求方式 | POST |
| 请求报文 | {  "tenantName": "租户名称"  } |
| 响应报文 | {  "retCode": "返回码",  "retMsg": "返回消息"  } |

## 删除租户

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/gn/tenant/json |
| 请求方式 | DELETE |
| 请求报文 | {  "tenantId": "租户ID"  } |
| 响应报文 | {  "retCode": "返回码",  "retMsg": "返回消息"  } |

## 查询租户成员

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/gn/tenant/member/json |
| 请求方式 | GET |
| 请求报文 | {  "tenantId": "租户ID"  }  GET方式拼接到URL后面：?tenant-id=租户ID |
| 响应报文 | {  "tenantId": "租户ID",  "tenantName": "租户名称",  "members": [  {  "mac": "成员MAC地址"  }  ],  "retCode": "返回码",  "retMsg": "返回消息"  } |

## 新增租户成员

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/gn/tenant/member/json |
| 请求方式 | POST |
| 请求报文 | {  "tenantId": "租户ID",  "mac": "租户成员MAC"  } |
| 响应报文 | {  "retCode": "返回码",  "retMsg": "返回消息"  } |

## 删除租户成员

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/gn/tenant/member/json |
| 请求方式 | DELETE |
| 请求报文 | {  "tenantId": "租户ID",  "mac": "租户成员MAC"  } |
| 响应报文 | {  "retCode": "返回码",  "retMsg": "返回消息"  } |

# SFabric相关接口

## 启动SFabric

启动SFabric功能模块以及相关线程，初始化SFabric。启动Topo自适应，根据Topo变化自动更新SFabric。同时，L2功能失效。

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/gn/fabric/setup/json |
| 请求方式 | POST |
| 请求报文 | {  } |
| 响应报文 | {  "retCode": "返回码",  "retMsg": "返回消息"  } |

## 根据传输DPID来启动部分交换机SFabric

根据指定的交换机的DPID，来启动SFabric功能模块以及相关线程，初始化SFabric。启动Topo自适应，根据Topo变化自动更新SFabric。DPID不在列表中的交换机，不会分配SFabric标记，只能做为中间交换机使用。同时，L2功能失效。

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/gn/fabric/setupparts/json |
| 请求方式 | POST |
| 请求报文 | {  "dpidList":"3,4,6,7" //逗号分隔dpid  } |
| 响应报文 | {  "retCode": "返回码",  "retMsg": "返回消息"  } |

## 关闭SFabric

关闭SFabric功能模块以及相关线程，清理所有与SFabric功能相关的数据

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/gn/fabric/delete/json |
| 请求方式 | DELETE |
| 请求报文 | {  } |
| 响应报文 | {  "retCode": "返回码",  "retMsg": "返回消息"  } |

## 获取SFabric建立后的路径

获取源和目的两个交换机之间的SFabric路径

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/gn/fabric/getpath/json |
| 请求方式 | POST |
| 请求报文 | {  "srcDPID":"3", //源交换机节点的DPID  "dstDPID":"7" //目的交换机节点的DPID  } |
| 响应报文 | {  "path":  [  {  "DPID": "00:00:00:00:00:00:00:03",  "Port": 3  },  {  "DPID": "00:00:00:00:00:00:00:02",  "Port": 3  },  {  "DPID": "00:00:00:00:00:00:00:01",  "Port": 2  },  {  "DPID": "00:00:00:00:00:00:00:05",  "Port": 2  },  {  "DPID": "00:00:00:00:00:00:00:07",  "Port": 0  }  ],  "retCode": 0,  "retMsg": "操作成功"  } |

# 集群管理

## 集群列表查询

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/gn/cluster/query/json |
| 请求方式 | GET |
| 请求报文 | N/A |
| 响应报文 | {  "clusterInfo": [  {  "ctlIP": "172.16.3.100",  "ctlID": 100,  "role": 0  },  {  "ctlIP": "172.16.3.200",  "ctlID": 200,  "role": 1  }  ],  "retCode": "返回码",  "retMsg": "返回消息"  } |

## 集群启停设置

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/gn/cluster/startstop/json |
| 请求方式 | POST |
| 请求报文 | {  "startstop": 0  } |
| 响应报文 | {  "retCode": "返回码",  "retMsg": "返回消息"  } |

# 控制器管理

## 控制器角色设置

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/gn/controller/set/role/json |
| 请求方式 | POST |
| 请求报文 | {  "ctlIP": "172.16.3.100",  "ctlID": 100,  "role": 0  } |
| 响应报文 | {  "retCode": "返回码",  "retMsg": "返回消息"  } |

## 控制器添加

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/gn/controller/add/json |
| 请求方式 | POST |
| 请求报文 | {  "ctlIP": "172.16.3.100",  “ctlPort”:8000  } |
| 响应报文 | {  "retCode": "返回码",  "retMsg": "返回消息"  } |

## 控制器删除

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/gn/controller/delete/json |
| 请求方式 | POST |
| 请求报文 | {  "ctlIP": "172.16.3.100",  “ctlPort”:8000  } |
| 响应报文 | {  "retCode": "返回码",  "retMsg": "返回消息"  } |

# 主机管理

## 获取所有主机信息

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/dcf/debug/host |
| 请求方式 | GET |
| 请求报文 | N/A |
| 响应报文 | {  "host list": [{  "Type": "Host",  "SwIP": "192.168.53.66",  "IPv4": "100.0.0.128",  "Mac": "fa:16:3e:ed:f6:38",  "port": "42",  "subnet id": "1bb37da5-369b-4bda-88cb-de7238ea6488"  }, {  "Type": "floatingip",  "IPv4": "192.168.53.36",  "Mac": "fa:16:3e:98:f8:4d",  "port": "0",  "subnet id": "b69c5911-5820-482c-afd4-c187d7b105bf"  }, {  "Type": "Host",  "SwIP": "192.168.53.65",  "IPv4": "100.0.0.130",  "Mac": "fa:16:3e:dc:95:14",  "port": "15",  "subnet id": "1bb37da5-369b-4bda-88cb-de7238ea6488"  }, {  "Type": "Host",  "SwIP": "192.168.53.66",  "IPv4": "100.0.0.132",  "Mac": "fa:16:3e:b0:e1:b3",  "port": "44",  "subnet id": "1bb37da5-369b-4bda-88cb-de7238ea6488"  }],  {  "retCode": "返回码",  "retMsg": "返回消息"  }  } |

# OpenStack管理

## 查询安全组主机信息

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/dcf/debug/security/host |
| 请求方式 | GET |
| 请求报文 | N/A |
| 响应报文 | {  "host security": [{  "ip": "100.0.0.128",  "rule id": "f28f99b0-d63b-4b3f-9207-90fc564defcf"  }, {  "ip": "100.0.0.128",  "rule id": "cc1c8b9c-677f-4b25-91d9-3ead84131294"  }, {  "ip": "100.0.0.128",  "rule id": "15d2a6ed-b053-43bb-9a66-aff37b0a8bf5"  }],  {  "retCode": "返回码",  "retMsg": "返回消息"  }  } |
|  |  |

## 清除安全组主机信息

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/dcf/debug/security/clear |
| 请求方式 | POST |
| 请求报文 | {} |
| 响应报文 | {  "retCode": "返回码",  "retMsg": "返回消息"  } |
|  |  |

## 重新加载安全组主机信息

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/dcf/debug/security/reload |
| 请求方式 | POST |
| 请求报文 | {} |
| 响应报文 | {  "retCode": "返回码",  "retMsg": "返回消息"  } |

## 查询安全组信息

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/dcf/debugcurity/group |
| 请求方式 | GET |
| 请求报文 | N/A |
| 响应报文 | {  "security groups": [  {  "group id": "d4794615-80de-4ba8-a12e-486a0b2779c0",  "rule": [  {  "rule id": "d3effd45-43e7-4a10-9f0a-d20b20252576"  },  {  "rule id": "c14a83dd-b9eb-4620-8872-1756123ee0a8"  },  {  "rule id": "74891380-97f3-4bef-9e5c-fae71bd7fdc7"  },  {  "rule id": "700f7400-a60b-411b-a82e-05a10a4e41d1"  },  {  "rule id": "5f8ca487-2b00-43af-8374-9a0d1cb668a1"  },  {  "rule id": "3d0fde38-5b97-42b5-8944-b8bdd8ee3851"  }  ]  },  {  "group id": "51285423-ba97-42af-93b5-3321adacac9c",  "rule": [  {  "rule id": "f28f99b0-d63b-4b3f-9207-90fc564defcf"  },  {  "rule id": "cc1c8b9c-677f-4b25-91d9-3ead84131294"  },  {  "rule id": "15d2a6ed-b053-43bb-9a66-aff37b0a8bf5"  }  ]  }  ],  "retCode": 0,  "retMsg": "操作成功"  } |

## 查询负载均衡池

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/dcf/debug/loadbalance/pool |
| 请求方式 | GET |
| 请求报文 | N/A |
| 响应报文 | {  "pool\_list": [  {  "pool\_id": "e237e2a2-554d-40e9-a4d4-c7f39430061a",  "pool\_ip": "100.0.0.210",  "flow installed": "0",  "status": "1",  "member": [  {  "member\_id": "db56538c-4696-4518-953d-28c47bbd242b",  "member\_ip": "100.0.0.132",  "connect": "0",  "flow installed": "0",  "status": "Inactive"  }  ]  },  {  "pool\_id": "5742fb97-4fab-408f-8341-319ec093c971",  "pool\_ip": "0.0.0.0",  "flow installed": "0",  "status": "1",  "member": []  },  {  "pool\_id": "571fb1c9-0ee5-44f9-ae7b-d489ca3f19cd",  "pool\_ip": "0.0.0.0",  "flow installed": "0",  "status": "1",  "member": [  {  "member\_id": "09c63d0b-1a16-422e-b0d8-c87859592e94",  "member\_ip": "100.0.0.131",  "connect": "0",  "flow installed": "0",  "status": "Inactive"  }  ]  },  {  "pool\_id": "46ca71c4-5fee-4f43-a6c1-ef0050bb2a21",  "pool\_ip": "100.0.0.204",  "flow installed": "0",  "status": "1",  "member": [  {  "member\_id": "de7649c2-6903-405b-a460-adf38a88d63e",  "member\_ip": "100.0.0.132",  "connect": "0",  "flow installed": "0",  "status": "Inactive"  },  {  "member\_id": "c35a4e95-7537-462b-b8bb-4333e9492dae",  "member\_ip": "100.0.0.123",  "connect": "0",  "flow installed": "0",  "status": "Inactive"  },  ]  },  {  "pool\_id": "0c9a820e-3c91-407b-bb89-3bb91dc088d7",  "pool\_ip": "0.0.0.0",  "flow installed": "0",  "status": "1",  "member": []  }  ],  "retCode": 0,  "retMsg": "操作成功"  } |

## 查询负载均衡成员

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/dcf/debug/loadbalance/member |
| 请求方式 | GET |
| 请求报文 | N/A |
| 响应报文 | {  "member\_list": [  {  "member\_id": "de7649c2-6903-405b-a460-adf38a88d63e",  "member\_ip": "100.0.0.132",  "status": "Inactive",  "ips": [],  "flow installed": "0"  },  {  "member\_id": "db56538c-4696-4518-953d-28c47bbd242b",  "member\_ip": "100.0.0.132",  "status": "Inactive",  "ips": [],  "flow installed": "0"  },  {  "member\_id": "c35a4e95-7537-462b-b8bb-4333e9492dae",  "member\_ip": "100.0.0.123",  "status": "Inactive",  "ips": [],  "flow installed": "0"  },  ],  "retCode": 0,  "retMsg": "操作成功"  } |

## 查询负载均衡监控

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/dcf/debug/loadbalance/listener |
| 请求方式 | GET |
| 请求报文 | N/A |
| 响应报文 | {  "listener\_list": [  {  "listener\_id": "19d5e1b2-6f0e-4381-85fa-eaf630490067",  "listener\_type": "TCP",  "check frequency": "5 second",  "overtime": "5 second",  "retry": "1 times",  "check status": "3 times",  "member": [  {  "member id": "09c63d0b-1a16-422e-b0d8-c87859592e94",  "member\_ip": "100.0.0.131",  "init time": "1463624078",  "request": "25 times",  "seq id": "281",  "wait status": "Wait for responce",  "status": "Inactive"  },  {  "member id": "db56538c-4696-4518-953d-28c47bbd242b",  "member\_ip": "100.0.0.132",  "init time": "1463624078",  "request": "25 times",  "seq id": "281",  "wait status": "Wait for responce",  "status": "Inactive"  },  ]  },  {  "listener\_id": "159df985-72a2-4189-94b0-c1d029a63992",  "listener\_type": "PING",  "check frequency": "5 second",  "overtime": "5 second",  "retry": "5 times",  "check status": "3 times",  "member": [  {  "member id": "09c63d0b-1a16-422e-b0d8-c87859592e94",  "member\_ip": "100.0.0.131",  "init time": "1463624078",  "request": "0 times",  "seq id": "281",  "wait status": "Receive responce",  "ping status": "Active"  },  {  "member id": "b72173aa-6027-4200-b000-6724a596decc",  "member\_ip": "100.0.0.124",  "init time": "1463622660",  "request": "25 times",  "seq id": "281",  "wait status": "Wait for responce",  "ping status": "Inactive"  },  ]  }  ],  "retCode": 0,  "retMsg": "操作成功"  } |

## 新增负载均衡池成员

|  |  |
| --- | --- |
| URI | http://SdnCenterhost:8080/sdn\_center/dcf/lbaas |
| 请求方式 | POST |
| 请求报文 | 参数：（如端口不设置，采用默认值）  openstack\_ip：X.X.X.X  nova\_port：8774  neutron\_port：9696  keystone\_port：35357  controller\_ip：X.X.X.X  controller\_port：8081  {      "hosts": [          {              "imageRef": "41a68860-5c3c-4b0d-b689-cd0453e5fa2f", //镜像ID              "flavorRef": "d3bf1820-f842-45c5-81d5-563cc4631a3b", //flavor ID              "poolId":"85fd4080-7a70-4c47-9819-0d8f6050adbc", //负载均衡池ID              "protocolPort": "80", //协议端口              "weight": "1", //权重，0~256，值越大所占权重越大              "count": "1", //新增个数              "networkId":"1d3a2d31-e802-4e33-b059-33c14f5a999d", //网络ID，只存在唯一一个网络时可不填              "subnetId":"32f02926-45d0-48e4-bbbc-0283a4a2d0f2" //子网ID，可选          }      ]  }  *注：如果POST请求的BODY为“TEST” ,则系统自动查询生成一个BODY，该功能仅用作测试* |
| 响应报文 | {  "status":0, //0 成功；1 失败  "data":[  {  "ip":"200.0.0.207" //添加成功的主机的IP  },  {  "ip":"200.0.0.208"  },  {  "ip":"200.0.0.204"  }  ]  } |

## 删除负载均衡池成员

|  |  |
| --- | --- |
| URI | http://SdnCenterhost:8080/sdn\_center/dcf/lbaas/{pool\_id}/{count} |
| 请求方式 | GET |
| 请求报文 | 参数：（如端口不设置，采用默认值）  openstack\_ip：X.X.X.X  neutron\_port：9696  keystone\_port：35357  controller\_ip：X.X.X.X  controller\_port：8081 |
| 响应报文 | {  "status":0, //0 成功；1 失败  "data":[  {  "ip":"200.0.0.207" //删除成功的主机的IP  },  {  "ip":"200.0.0.208"  },  {  "ip":"200.0.0.204"  }  ]  } |

## 查询网络信息

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/dcf/debug/network |
| 请求方式 | GET |
| 请求报文 | N/A |
| 响应报文 | {  "network list": [  {  "network id": "ec020455-3968-4404-a95a-76d176a33538",  "tenant id": "130715da9d9440a8883e5bec7c9640a2",  "shared": "0",  "subnet num": "1",  "check flag": "3"  },  {  "network id": "0d6ec20b-ed95-4083-aa58-a076da4d78c8",  "tenant id": "130715da9d9440a8883e5bec7c9640a2",  "shared": "0",  "subnet num": "1",  "check flag": "3"  },  {  "network id": "c94b097b-e334-42c5-8415-bfbba73804f6",  "tenant id": "130715da9d9440a8883e5bec7c9640a2",  "shared": "0",  "subnet num": "1",  "check flag": "3"  },  {  "network id": "b786c35c-736b-4d76-83ea-1062255619fd",  "tenant id": "130715da9d9440a8883e5bec7c9640a2",  "shared": "0",  "subnet num": "1",  "check flag": "3"  },  {  "network id": "8c76dfee-3b05-47a4-8894-f8b3ca9ed2fc",  "tenant id": "130715da9d9440a8883e5bec7c9640a2",  "shared": "0",  "subnet num": "1",  "check flag": "3"  }  ],  "retCode": 0,  "retMsg": "操作成功"  } |

## 查询子网信息

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/dcf/debug/subnet |
| 请求方式 | GET |
| 请求报文 | N/A |
| 响应报文 | {  "subnet list": [  {  "network id": "ec020455-3968-4404-a95a-76d176a33538",  "subnet id": "5dd8b142-3dd1-4108-8546-f6c390c3982d",  "tenant id": "130715da9d9440a8883e5bec7c9640a2",  "gateway ip": "120.0.0.1",  "start ip": "120.0.0.2",  "end ip": "120.0.0.254",  "cidr": "120.0.0.0/24",  "port num": "0",  "external": "0",  "check flag": "3"  },  {  "network id": "0d6ec20b-ed95-4083-aa58-a076da4d78c8",  "subnet id": "0c4cbcde-00c8-4aaa-9420-39106c993c34",  "tenant id": "130715da9d9440a8883e5bec7c9640a2",  "gateway ip": "200.0.0.1",  "start ip": "200.0.0.2",  "end ip": "200.0.0.254",  "cidr": "200.0.0.0/24",  "port num": "1",  "external": "0",  "check flag": "3"  },  {  "network id": "c94b097b-e334-42c5-8415-bfbba73804f6",  "subnet id": "4a04db5a-7a29-40a5-a67c-e5df68338c1e",  "tenant id": "130715da9d9440a8883e5bec7c9640a2",  "gateway ip": "150.0.0.49",  "start ip": "150.0.0.50",  "end ip": "150.0.0.52",  "cidr": "150.0.0.32/27",  "port num": "1",  "external": "0",  "check flag": "3"  },  {  "network id": "b786c35c-736b-4d76-83ea-1062255619fd",  "subnet id": "b69c5911-5820-482c-afd4-c187d7b105bf",  "tenant id": "130715da9d9440a8883e5bec7c9640a2",  "gateway ip": "192.168.53.1",  "start ip": "192.168.53.35",  "end ip": "192.168.53.40",  "cidr": "192.168.53.0/24",  "port num": "4",  "external": "1",  "check flag": "3"  },  {  "network id": "8c76dfee-3b05-47a4-8894-f8b3ca9ed2fc",  "subnet id": "1bb37da5-369b-4bda-88cb-de7238ea6488",  "tenant id": "130715da9d9440a8883e5bec7c9640a2",  "gateway ip": "100.0.0.1",  "start ip": "100.0.0.2",  "end ip": "100.0.0.254",  "cidr": "100.0.0.0/24",  "port num": "8",  "external": "0",  "check flag": "3"  }  ],  "retCode": 0,  "retMsg": "操作成功"  } |

## 查询外部端口信息

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/dcf/debug/external |
| 请求方式 | GET |
| 请求报文 | N/A |
| 响应报文 | {  "external config list": [  {  "external\_dpid": "8f:0e:48:6e:73:01:02:7a",  "external\_port": "7",  "network\_id": "b786c35c-736b-4d76-83ea-1062255619fd",  "external\_gateway\_ip": "192.168.53.1",  "external\_gateway\_mac": "4c:1f:cc:1d:0c:f3",  "external\_out\_interface\_ip": "192.168.53.35",  "external\_out\_interface\_mac": "fa:16:3e:9e:46:6a",  "id": "0",  "status": "Active"  }  ],  "retCode": 0,  "retMsg": "操作成功"  } |

## 查询浮动IP

|  |  |
| --- | --- |
| URI | http://Controllerhost:8081/dcf/debug/floatingip |
| 请求方式 | GET |
| 请求报文 | N/A |
| 响应报文 | {  "floating ip list": [  {  "floating ip": "192.168.53.37",  "fixed ip": "100.0.0.130",  "port id": "786e2c9c-d579-41e4-b2ec-e842cd091567",  "router id": "718ce3f9-108e-4fe8-9e60-b7238b2a88d6",  "check flag": "3",  "flow installed": "0"  },  {  "floating ip": "192.168.53.36",  "fixed ip": "100.0.0.204",  "port id": "3e8c8047-d25b-4f0f-a78b-fcc02e8e8ec3",  "router id": "718ce3f9-108e-4fe8-9e60-b7238b2a88d6",  "check flag": "3",  "flow installed": "0"  },  {  "floating ip": "192.168.53.38",  "fixed ip": "0.0.0.0",  "port id": "",  "router id": "",  "check flag": "3",  "flow installed": "0"  }  ],  "retCode": 0,  "retMsg": "操作成功"  } |