

CloudOpera IES API 介绍

华为IES

华为 CloudOpera IES APIs 介绍

分类	API 名称	调用方法	URI
业务目录	查询业务定义清单	GET	/catalog/v1/servicedefs
	查询业务定义详细信息	GET	/catalog/v1/servicedefs/{servicedefId}/details
业务管理	创建业务	POST	/servicemanager/v1/services
	查询业务列表	GET	/servicemanager/v1/services
	查询指定的业务信息	GET	/servicemanager/v1/services/{serviceId}
	修改业务	PUT	/servicemanager/v1/services/{serviceId}
	删除业务	DEL	/servicemanager/v1/services/{serviceId}
CloudVPN 监控	查询指定专线的流速或带宽利用率	GET	/cloudvpnwatch/v1/traffic/connections/{connection-name}/{metric}

API 场景1: 创建&激活CloudVPN业务

- ① 查询已经存在的业务定义清单并获取到“**servicedefid**”
- ② 查询上述业务定义对应的“**template_id**”
- ③ 创建CloudVPN
业务完成业务开通并返回 “**service_id**”
- ④ 确认业务状态和带宽



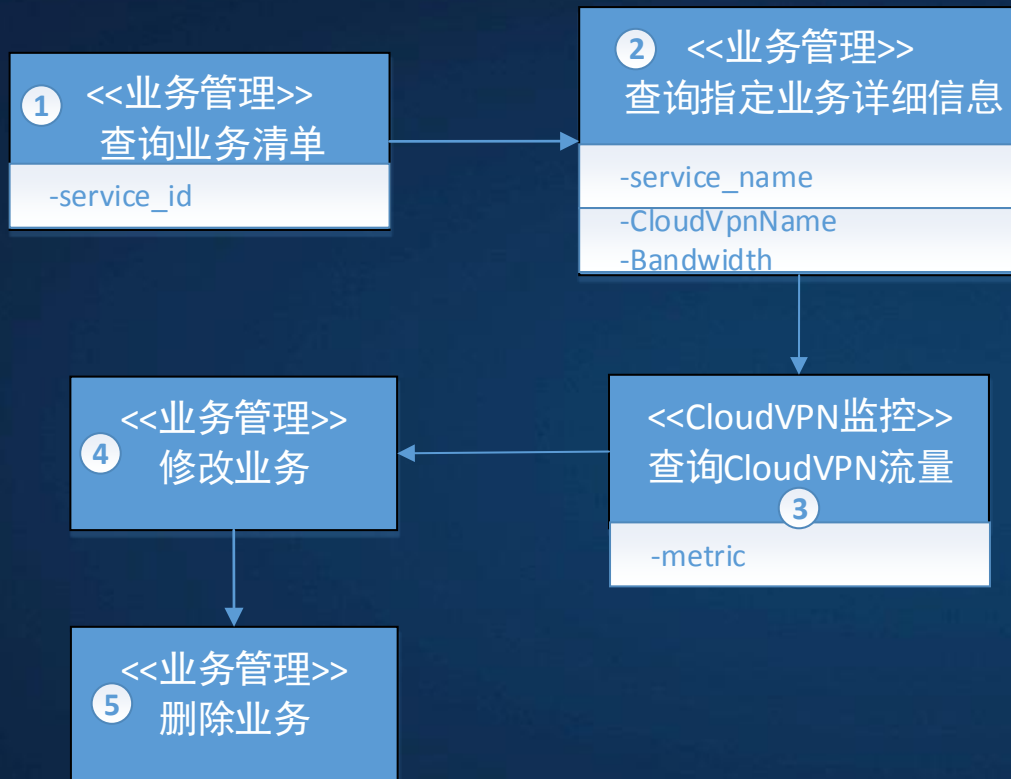
注意：端到端的创建并开通CloudVPN业务会耗时10分钟左右。

API 场景2: 弹性扩展CloudVPN网络



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- ① 查询获得CloudVPN业务对应的 “service_id” ;
- ② 查询上述业务的详细信息，包括：
“CloudVpnName”
“bandwidth”
“service_name” ;
- ③ 监控CloudVPN的流量;
- ④ 修改CloudVPN对应带宽
- ⑤ 删除CloudVPN业务.

查询业务定义清单

GET /servicedefs ServiceCatalog

Summary

Query NS Definitions

Description

Query all the NS definitions available to the current tenant. curl:

```
curl -i -H "Content-Type:application/json" -X GET "https://accessip:port/rest/catalog/v1/servicedefs"
```

Responses

Code	Description	Schema
200	Operation successful	<pre>▼ GetServiceDefinitionRsp { totalNum: ▶ integer pageSize: ▶ integer totalPageNum: ▶ integer currentPage: ▶ integer data: ▶ [] }</pre>
400	Parameter error	
500	Internal error	

查询业务定义清单示例

➤ 请求示例:

GET /rest/catalog/v1/servicedefs HTTP/1.1

Host: 218.4.33.207:17100

X-Auth-Token:

MIIETAYJKoZIhvcNAQcCoIIPTCCBDkCAQExDTAL
BglghkgBZQMEAgEwggKaBgkqhkiG9w0BBwGgg
gKLBIICh3siZXhwaXJlc19hdCI6IjIwMTctMDQtMjV
UMjE6NTE6

Authorization: Bearer 6a8cbc0e-e93c-4684-9a39-
40d085bd657e

Cache-Control: no-cache

Postman-Token: 03ebe5c2-4789-0eef-d8bd-
ab6cc02b2568

✓ 返回当前租户对应的
“servicedefId”。

➤ 响应消息体:

Pretty

Raw

Preview

JSON



```
1 {
2   "currentPage": 0,
3   "data": [
4     {
5       "categories": null,
6       "createdAt": 1493948644546,
7       "creator": "om_team",
8       "description": "IES_TMF_OpenHack_Nice",
9       "domain": "stack",
10      "format": "JSON",
11      "formatVersion": "2017-05-5",
12      "name": "IES_TMF_OpenHack_Nice",
13      "offlineAt": 0,
14      "onlineAt": 0,
15      "publishTenantType": [
16        "om_team",
17        "op_tenant"
18      ],
19      "refCount": 6,
20      "servicedefId": "8c34e27ed6644bbfbce93a41a05cb7ab",
21      "serviceType": "service",
22      "status": "active",
23      "systemDef": false,
24      "tenantId": "db58f937c61141b3a92f28899cbb1555",
25      "version": "v2"
26    },
27  ]
28 }
```

查询业务定义详细信息

GET /catalog/v1/servicedefs/{serviceDefId}/details

Summary

Querying Details of specific NS Definition

Description

Query all the available NS definitions to the current tenant.

curl Sample:

```
curl -i -H "Content-Type:application/json" -X GET "https://accessip:port/rest/catalog/v1/servicedefs/{serviceDefId}/details"
```

✓ 输入 "serviceDefId"

Parameters

Name	Located in	Description	Required	Schema
serviceDefId	path	Service Definition ID	Yes	⇨ string

Responses

Code	Description	Schema
200	The GetServiceDefDetailRsp object is returned.	⇨ GetServiceDefDetailRsp { }
400	Parameter error.	
404	NS definition is not found.	
500	Internal error	

查询业务定义详细信息示例

➤ 请求示例:

GET

/rest/catalog/v1/servicedefs/8c34e27ed6644bbfbce93a41a05cb7ab/details HTTP/1.1

Host: 218.4.33.207:17100

X-Auth-Token:

MIIETAYJKoZIhvcNAQcCoIIPTCCBDkCAQExDTALBglghkgBZ
QMEAqEwggKaBgkqhkiG9w0BBwGgggKLBIICh3siZXhwaXJlc1
9hdCI6IjIwMTctMDQzMjVUMjE6NTE6

Authorization: Bearer 6a8cbc0e-e93c-4684-9a39-

40d085bd657eCache-Control: no-cache

Postman-Token: b5aea431-a2a5-d667-b6ca-7a3f1d4b1b88

✓ servicedefid

✓ 返回 “**template_id**” 和
“**servicedefid**”

➤ 响应消息体:

```
1 {
2   "categories": [],
3   "createdAt": 1493948644546,
4   "creator": "om_team",
5   "description": "IES_TMF_OpenHack_Nice",
6   "domain": "stack",
7   "format": "JSON",
8   "formatVersion": "2017-05-5",
9   "name": "IES_TMF_OpenHack_Nice",
10  "offlineAt": 0,
11  "onlineAt": 0,
12  "pkgFileName": "IES_TMF_OpenHack_Nice_V2_20170505.zip",
13  "publishTenantType": [
14    "om_team",
15    "op_tenant"
16  ],
17  "refCount": 6,
18  "serviceDefId": "8c34e27ed6644bbfbce93a41a05cb7ab",
19  "serviceType": "service",
20  "status": "active",
21  "systemDef": false,
22  "templates": [
23    {
24      "id": "e77fc5e21e1e42c9933ec9574c33a5d8",
25      "name": "IES_TMF_OpenHack_Nice.json",
26      "type": "VTL",
27      "url": "/rest/catalog/v1/servicedefs/8c34e27ed6644bbfbce93a41a05cb7ab/temp
28    }
29  ],
}
```


创建业务

POST /servicemanager/v1/services

Summary

Creating Service Instance

Description

Create and activate a new Service Instance curl Sample:

```
curl -i -H "Content-Type:application/json" -X POST -d "{json}" "https://accessip:port/rest/servicemanager/v1/services"
```

Parameters

Name	Located in	Description	Required	Schema
createServiceRequestBody	body	service definition ID	Yes	<pre>createServiceRequest { service_definition_id: ▶ string template_id: ▶ string name: ▶ string onfailure: ▶ string description: ▶ string parameters: ▶ undefined nsd_script: ▶ undefined }</pre>

- ✓ service_definition_id = servicedefid
- ✓ Template_id
- ✓ Parameters

Responses

Code	Description	Schema
202	When information is returned normally, Location indicates the URI of the creation task. Users can query the URI to obtain the task creation progress.	<pre>createServiceRsp { createServiceResponse: ▶ createServiceResponse { service_id: ▶ string operation_id: ▶ string } }</pre>

创建业务示例

请求示例

```
POST /rest/servicemanager/v1/services HTTP/1.1
Host: 218.4.33.207:17100
X-Auth-Token:
Content-Type: application/json
Authorization: Bearer 6a8cbc0e-e93c-4684-9a39-40d085bd657e
Cache-Control: no-cache
Postman-Token: 616e170f-dc54-51db-493d-f9f3d2f5631d
{
  "onfailure":"rollback",
  "service":{
    "name":"site2dc4_201705071158",
    "description":",
  "service_definition_id":"8c34e27ed6644bbfbce93a41a05cb7ab",
  "template_id":"e77fc5e21e1e42c9933ec9574c33a5d8",
  "parameters":{
    "Site2DCList":[ {
      "VPC_ID":"db79cd8b-91e2-43f8-9791-54b8b2181a70",
      "CloudVpnName":"0S2DC4201705071158",
      "VNI":"2236",
      "CPE_A_Site":"siteDC201705071132",
      "CPE_A_Type":"AR169FGW-L",
      "CPE_A_ESN":"21500102003GG3000704",
      "CPE_A_Position":"siteDC201705071132",
      "CPE_A_POP":"Manager_VPC",
      "Bandwidth":"60000",
      "cidr":"163.113.12.1",
      "cidrBlockSize":"24",
      "action":"create"
    }
  ]
  }
}
```

响应消息体:

```
{
  "service":
  {
    "service_id": "4YFCYXi6TPu8gG1CQ7VocA",
    "operation_id": "31af59f1dc72437cb1c8f7"
  }
}
```

✓ 返回所创建服务的 **"service_id"** .

✓ **"parameters"** 中的变量值可以从 **<IES Environment and Data.xlsx>** 文件中查找到.

✓ **"CloudVpnName"** 和 **"Bandwidth"** 必填.

查询服务列表

GET /servicemanager/v1/services

Summary

Query Service List

Description

Query the service instance list

curl Sample:

```
curl -i -H "Content-Type:application/json" -X GET -d "{json}" "https://accessip:port/rest/servicemanager/v1/services"
```

✓ 返回当前租户的所有服务实例。

Responses

Code	Description	Schema
------	-------------	--------

200	The list of all service instances is returned.	
-----	--	--

```
▼getServiceListRsp {
  services: ▼[
    Indicates the returned List of services
    ▼serviceRsp {
      name: ▶ string
      description: ▶ string
      creator: ▶ string
      service_id: ▶ string
      service_definition_id: ▶ string
      template_id: ▶ string
      active_status: ▶ string
      status: ▶ string
      created_at: ▶ integer
    }
  ]
}
```

查询业务列表示例

➤ 请求示例：

```
GET /rest/servicemanager/v1/services HTTP/1.1
Host: 218.4.33.207:17100
X-Auth-Token:
  MIIETAYJKoZIhvcNAQcCoIIPTCCBDKCAQExDTALBglgh
  kgBZQMEAgEwggKaBgkqhkiG9w0BBwGgggKLBIICh3si
  ZXhwaXJlc19hdCI6IjIwMTctMDQtMjVUMjE6NTE6
Authorization: Bearer 6a8cbc0e-e93c-4684-9a39-
  40d085bd657e
Cache-Control: no-cache
Postman-Token: 5d26c3a6-0e9b-f213-f0dc-66eae9d7bbf7
```

✓ 返回 “**service_id**”。

For the developing scenarios of scaling bandwidth, you can call the API to directly get available service instance; For the E2E service provisioning scenarios, you can get it by calling “Creating Service Instance”

➤ 响应消息体:

Body Cookies Headers (7) Tests

Pretty

Raw

Preview

JSON



```
1 {
2   "services": [
3     {
4       "active_status": "Deactive",
5       "created_at": 1494052819361,
6       "creator": "nbitest_11",
7       "description": "",
8       "name": "s2s_201705061433",
9       "nfv_tag": null,
10      "service_definition_id": "8c34e27ed6644bbfbce93a41a05cb7ab",
11      "service_id": "8h1qoNgCSZmr1D1MyR0Jhg",
12      "status": "Completed",
13      "template_id": "e77fc5e21e1e42c9933ec9574c33a5d8",
14      "tenant_id": null,
15      "tenant_name": null
16    }
17  ]
18 }
```

查询指定业务的详细信息

GET /servicemanager/v1/services/{serviceId}

Summary

Querying Details of specified Service

Description

Query the information of the specified service.

curl Sample:

```
curl -i -H "Content-Type:application/json" -X GET -d '{"json"}' "https://accessip:port/nest/servicemanager/v1/services/4Ucf1477f1eA5j5RjplQ49Q"
```

Parameters

Name	Located in	Description	Required	Schema
serviceId	path	Service Instance ID	Yes	string

Responses

Code	Description	Schema
200	When information is returned normally, it returns the specified business instance information	<pre>getServiceRsp { service: service { name: string description: string creator: string service_id: string service_definition_id: string template_id: string active_status: string status: string created_at: integer parameters: parameters { }</pre>

查询指定业务详细信息示例

➤ 请求示例:

```
GET
/rest/servicemanager/v1/services/8h1qoNgCSZmr1D1MyRO
Jbg HTTP/1.1
Host: 218.4.33.207:17100
X-Auth-Token:
MIIETAYJKoZIhvcNAQcCoIIPTCCBDkCAQExDTALBglghkgB
ZQMEAgEwggKaBgkqhkiG9w0BBwGgggKLBIICh3siZXhwaX
Jlc19hdCI6IjIwMTctMDQtMjVUMjE6NTE6
Authorization: Bearer 6a8cbc0e-e93c-4684-9a39-
40d085bd657e
Cache-Control: no-cache
Postman-Token: 40308738-6117-3f72-a029-fb84e5b2b6e7
```

✓ **service_id**

✓ 返回 **“service_name”**、**“Bandwidth”**
和 **“CloudVpnName”**

如果要修改带宽或者已经修改完，也可以通过
这个API进行检查。

➤ 响应消息体:

```
1 {
2   "service": {
3     "active_status": "Deactive",
4     "created_at": 1494052819361,
5     "creator": "nbitest_11",
6     "description": "",
7     "name": "s2s_201705061433",
8     "nfv_tag": null,
9     "parameters": {
10      "Site2SiteList": [
11        {
12          "Bandwidth": "30000",
13          "CPE_A_ESN": "21500102003GG3000630",
14          "CPE_A_Position": "siteA201705061433",
15          "CPE_A_Site": "siteA201705061433",
16          "CPE_A_Type": "AR169FGW-L",
17          "CPE_Z_ESN": "21500102003GG3000674",
18          "CPE_Z_Position": "siteZ201705061433",
19          "CPE_Z_Site": "siteZ201705061433",
20          "CPE_Z_Type": "AR169FGW-L",
21          "CloudVpnName": "VPNS2S201705061433",
22          "VNI": "1236"
23        }
24      ]
25    },
26    "service_definition_id": "8c34e27ed6644bbfbc93a41a05cb7ab",
27    "service_id": "8h1qoNgCSZmr1D1MyROJbg",
28    "status": "Completed",
29    "template_id": "e77fc5e21e1e42c9933ec9574c33a5d8",
30    "tenant_id": null,
```

修改业务

PUT /servicemanager/v1/services/{serviceId}

ServiceManager

Summary

Modify Service Instance

Description

Modify a created service instance attributions curl Sample:

使用这个API可以修改CloudVPN带宽.

```
curl -i -H "Content-Type:application/json" -X PUT -d "{json}" "https://accessip:port/rest/servicemanager/v1/services/4Ucfi4T7TMeAj5RjpKJ46Q"
```

Parameters

Name	Located in	Description	Required	Schema
serviceId	path	service id	Yes	Object type:"string"
updateServiceRequestBody	body	Indicates the returned information of modified service	Yes	updateServiceRequest { onfailure: string name: string description: string parameters: undefined nsd_script: undefined }

Responses

Code	Description	Schema
202	When information is returned normally, Location indicates the URI of the query task. Users can query the URI to obtain the task execution progress	updateServiceRsp { }

修改业务示例

➤ 请求示例:

```
1 PUT /rest/servicemanager/v1/services/8hiqNgCSZmr1D1MyROJbg HTTP/1.1
2 Host: 218.4.33.207:7100
3 X-Auth-Token: MIIETAYJKoZIhvcNAQcCoIIIEPTCCBDkCAQExDTALBg1ghkgBZQMEAgEwggKaBgkqhkiG9w0BBwGgggKL
  BIICh3siZXhwaXJlc19hdCI6IjIwMTctMDQtMjVUMjE6NTE6
4 Content-Type: application/json
5 Authorization: Bearer 6a8cbc0e-e93c-4684-9a39-40d085bd657e
6 Cache-Control: no-cache
7 Postman-Token: 68981b41-d648-f805-71ec-88010bb2526f
8
9 {
10   "onfailure": "rollback",
11   "service": {
12     "name": "s2s_201705061433", ✓ service_name
13     "description": "",
14     "service_definition_id": "8c34e27ed6644bbfbce93a41a05cb7ab",
15     "template_id": "e77fc5e21e1e42c9933ec9574c33a5d8",
16     "parameters": {
17       "Site2SiteList": [
18         {
19           "Bandwidth": "30000",
20           "CloudVpnName": "VPNS2S201705061433",
21           "action": "update"
22         }
23       ]
24     }
25   }
26 }
```

➤ 响应消息体:

```
1 {
2   "operation_id": "LSmM5cIwTM-qbtG0YrhD4Q"
3 }
```

✓ 输入具体的
“Bandwidth”值，
执行修改CloudVPN
带宽。

删除业务

DELETE /servicemanager/v1/services/{serviceId}

ServiceManager

Summary

Delete Service Instance

Description

Delete a created service instance to free up network resource.

curl Sample:

```
curl -i -H "Content-Type:application/json" -X DELETE -d "{json}" "https://accessip:port/rest/servicemanager/v1/services/4Ucfi4T7TMeAj5RjpkJ46Q"
```

Parameters

Name	Located in	Description	Required	Schema
serviceId	path	Service instance ID	Yes	⇒ string

Responses

Code	Description	Schema
202	When information is returned normally, Location indicates the URI of the query task. Users can query the URI to obtain the task execution progress.	<pre>⇒ deleteServiceRsp { deleteServiceResponse: deleteServiceResponse { operation_id: string } }</pre>

删除业务示例

➤ 请求示例:

```
DELETE
/rest/servicemanager/v1/services/8hiqoNgCSZmrlD1MyROJbg
HTTP/1.1
Host: 218.4.33.207:17100
X-Auth-Token:
  MIIETAYJKoZIhvcNAQcCoIIPTCCBDkCAQExDTALBglghkgBZQ
  MEAgEwggKaBgkqhkiG9w0BBwGgggKLBIICh3siZXhwaXJlc19h
  dCI6IjIwMTctMDQtMjVUMjE6NTE6
Content-Type: application/json
Authorization: Bearer 6a8cbc0e-e93c-4684-9a39-40d085bd657e
Cache-Control: no-cache
Postman-Token: b6040b4a-6ca9-58c2-837d-6f5e7028aa89
```

➤ 响应消息体:

```
{
  "operation_id": "W0x8h0IBQq6GJKmys5i74Q"
}
```

✓ **service_id**

查询指定专线的流速或带宽利用率

GET /cloudvpnwatch/v1/traffic/connections/{connection-name}/{metric}

CloudVPNWatch

Summary

Querying CloudVPN traffic

Description

Query the traffic rate or bandwidth utilization of a specified private line.

Parameters

Name	Located in	Description	Required	Schema
connection-name	path	Indicates the name of a VPN	Yes	⇔ string ✓ CloudVpnName
metric	path	Indicates the traffic rate or bandwidth utilization	Yes	⇔ string
direction	query	Indicates the query direction:inbound outbound	Yes	⇔ string
timedim	query	time dimension	Yes	⇔ string
starttime	query	Indicates the start time (UTC, in second)	Yes	⇔ ▼ integer (int64)
endtime	query	Indicates the end time (UTC, in second)	Yes	⇔ ▼ integer (int64)

Responses

Code	Description	Schema
200	Data obtained successfully	<pre>MetricResponse { Return metrix of traffic rate or bandwidth utilization metric: ResMetricData { } }</pre>

API详解: CloudVPN监控API



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查询指定专线的流速或带宽利用率示例

➤ 请求示例:

GET

```
/rest/cloudvpnwatch/v1/traffic/connections/VPNS2S20  
1705061433/traffic-  
rate?starttime=1493367320&endtime=149505815  
0&timedim=minute&direction=outbound&  
mp;indicator=max HTTP/1.1
```

Host: 218.4.33.207:17100

X-Auth-Token:

```
MIIETAYJKoZIhvcNAQcCoIIPTCCBDkCAQExDTALBglgh  
kgBZQMEAgEwggKaBgkqhkiG9w0BBwGgggKLBIICh3siZ  
XhwaXJlc19hdCI6IjIwMTctMDQtMjVUMjE6NTE6
```

Authorization: Bearer 6a8cbc0e-e93c-4684-9a39-
40d085bd657e

Cache-Control: no-cache

Postman-Token: eca5e1d6-1840-e7e4-bc99-
0f35e4d99ee2

✓ **CloudVpnName**

➤ 响应消息体:

Body Cookies Headers (7) Tests Status: 200 OK

```
Pretty Raw Preview JSON
```

```
1 {  
2   "metric": {  
3     "datas": [  
4       {  
5         "time": 1494061140,  
6         "value": "22.826666666666667760560160971294862974900752305984497070312500000"  
7       },  
8       {  
9         "time": 1494060540,  
10        "value": "2791180.14666666680042486485026353992822123473160900175571441650390625"  
11      },  
12      {  
13        "time": 1494059940,  
14        "value": "90.38666666666666709981526467432288995951239485293626785278320312500"  
15      },  
16      {  
17        "time": 1494060600,  
18        "value": "35.4266666666666683643740348719219923623313661664724349975585937500"  
19      },  
20      {  
21        "time": 1494060000,  
22        "value": "104.22666666666666716613894733134415560016350354999303817749023437500"  
23      },  
24      {  
25        "time": 1494060660,  
26        "value": "1158060.85333333338882961984633856999948875454720109701156616210937500"  
27      },  
28    ]  
29  }  
30 }
```

如何试用华为CloudOpera IES的API呢。



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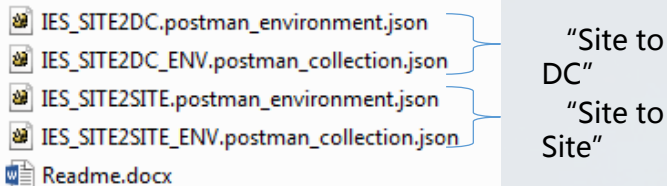
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知识分享平台

推荐使用POSTMAN试用CloudOpera IES所提供的API



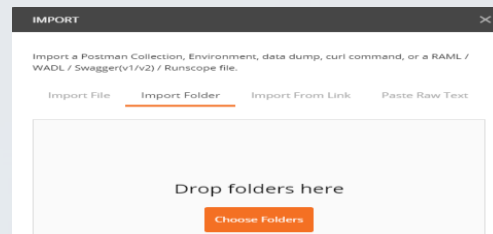
步骤1: 安装Postman并解压样例集文件

- 解压<Huawei CloudOpera IES OpenAPIs Collection.rar> 到本地目录 “Huawei CloudOpera IES OpenAPIs Collection”，其中含有4个json文件

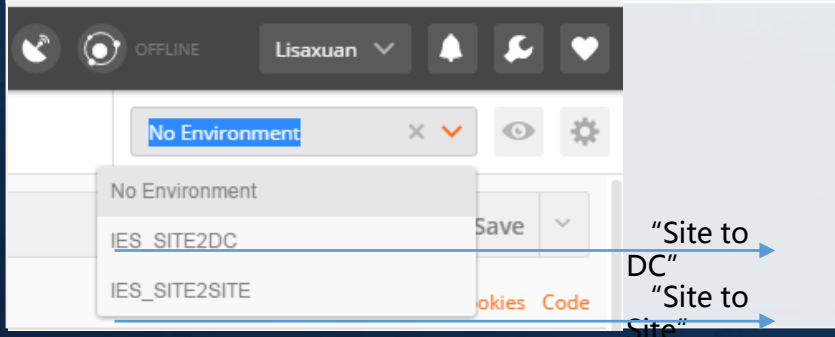


步骤2: 打开Postman并导入样例集

- Choose the collection folder of “Huawei CloudOpera IES OpenAPIs Collection” to import all.

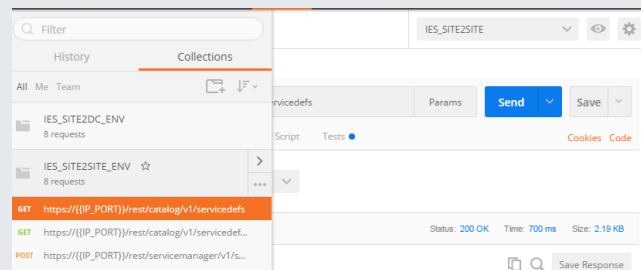


步骤3: 选择并编辑对应环境变量的值



步骤4: 在左树中选择API执行测试

- Select an API and then click “Send” to test



预置数据介绍

User	IES Tenant name	IES Tenant Token	CloudVPNServiceID	ServiceName	CloudVpnName	Recommended scenarios
User 1	nbitest_11	MIETAYJKoZihvcNAQcCoIIEPTC CBDkCAQExDOTALBgIghkqBZQM EAgEwggKaBgkqhkiG9w0BBwGg ggKLBIICh3siZXhwaXJlc19hdCl6lj iwMTctMDQtMjVUMjE6NTE6	Site2Site	8higoNgCSZms2s_20170506 rID1MyROJbg 1433	VPNS2S2017050 61433	Support "Create & activate CloudVPN service" and "Elastically scale CloudVPN network " scenarios
User 2~User 4	nbitest_12	MjguMTM1IiwiaXNzdWVhcnVzZm9kZ oiMjAxNy0wNC0yNFQyMT01MT oyOC4xMzUiLCJtZXRob2RzJjpud WxsLCJ1c2VyIjpw7ImkljoiMzgz4Nz UilCJuYW11IjoiZnVqaWFu	Site2DC	9LbuAd11Qe- cuGnVONz6q w 5071132	site2dc_20170 0S2DC20170507 1132	Support "Elastically scale CloudVPN network " scenarios
User 5~User 7	nbitest_13	ZmVuZy9lCjwcm9qdWVhcnVzZm9kZ mlkIjoIZ2xvYmFsiwibmFtZSI6IjR lZmF1bHQgRG9tYWUuIn0sImRvb WFpbil6bnVsbCwib2RvbWFpbil6 eyJpZCI6IjAilCJuYW11I	Site2DC	FLAUUc8NT0qsite2dc3_2017 N-mNTM_lcfw 05081840	0S2DC32017050 81840	Support "Elastically scale CloudVPN network " scenarios
User 8~User 11	nbitest_14	IjoiRGVmYXVsdCBEb21haW4ifSw iZW1haWwiOm51bGwsiInRlbGV waG9uZSI6bnVsbCwiiY2F0YXVxvZ yl6bnVsbCwicm9sZXMiOiIt7Imklj oiNTg1NiIsIm5hbWUiOiJn	Site2DC	L8YNdmm4Rg site2dc4_2017 -SJCmnicUQA 05071158	0S2DC42017050 92039	Support "Elastically scale CloudVPN network " scenarios
User12~U ser15	nbitest_15	YXRld2F5LmFwaXMucGF0Y2hPc GvyYXRpb24ifSx7ImkljoiNTg4M ylsIm5hbWUiOiJnYXRld2F5LmFw aXMucGF0Y2hPcG9zdE9wZXJhdGlvb iaWQioi1ODg0IiwibmFt	Site2DC	FbqROiHgSyG site2dc5_2017 hZpzJPXH_BA 05071256	0S2DC52017050 71256	Support "Elastically scale CloudVPN network " scenarios
User 16	nbitest_16	ZSI6ImdhdGV3YXkuYXBpcy5kZ WxldGVpcG9yYXRpb24ifSx7Imkl joiNTg4NSIsIm5hbWUiOiJnYXRl d2F5LmFwaXMucGF0Y2V0T3BlcmF0a W9uIn0seyJpZCI6IjU4ODYi	Site2DC	BkLfgSbKQXy site2dc6_2017 br0kkj8MQTQ 05071300	0S2DC62017050 71300	Support "Create & activate CloudVPN service" and "Elastically scale CloudVPN network " scenarios

THANKS

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<https://projects.tmforum.org/wiki/display/API/Huawei+APIs+For+Nice>

附加材料

API Reference



CloudOpera IES
API Reference For

Postman collection



Huawei
era IES OpenAPIs C

Environment and Preset data



Huawei
era IES Environmer

Demo(Sample with Java/Js)



华为开发者汇 Huawei Developers Gathering

是由华为开发者社区发起的面向华为开发者进行技术交流的园地，通过线上和线下的技术沙龙、Workshop、黑客马拉松、开发者大赛等活动，让大家一起学习最新技术发展和行业趋势、了解华为技术和开放能力、促进 ISV 开发者之间的交流。



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HDG 2017 我们将走的更远，希望汇聚更多开发者，一同话技术、写代码、搞项目。



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