

# Tutorial: VoLTEExample : Using SLI-API for Prototyping

## Create the SLI-API input model

Here is a simplistic model of the attributes that might be needed as input to the VOLTE-API:volte-wan-activate REST API call from SO to SDNC. The module-name and rpc-name must match the Directed Graph you will be creating in the next section. The parameters section contains the parameters that you would expect to get in from SO.

This is not a complete list but should give you a framework for prototyping.

Save this as a text file so you can copy/paste it into the SDNC apidoc swagger interface in step 3. For now the parameter names will be the variables we use in the Directed Graph in step 2.

```
{
  "input": {
    "module-name": "VOLTE-API",
    "rpc-name": "volte-wan-activate",
    "mode": "sync",
    "sli-parameter": [
      {
        "parameter-name": "volte-wan-activate.dca-wanip",
        "string-value": "10.1.20.2"
      },
      {
        "parameter-name": "volte-wan-activate.dcz-wanip",
        "string-value": "10.2.20.2"
      },
      {
        "parameter-name": "volte-wan-activate.wan_vni",
        "string-value": "101"
      },
      {
        "parameter-name": "volte-wan-activate.route_target",
        "string-value": "6020:201"
      },
      {
        "parameter-name": "volte-wan-activate.route_distinguisher",
        "string-value": "6020:101"
      }
    ]
  }
}
```

## Create the Directed Graph

Go to the dbuilder application on port 3000 of the SDNC (<http://10.0.7.1:3000/#>) login with dguser/test123

Create a new tab by clicking on the "+" symbol on the right hand side if you don't have a blank pane already.

Here is a getting started json string

```

{"id":"40983a09.90a524","type":"dgstart","name":"DGSTART","outputs":1,"x":111,"y":81,"z":"30ac5fe5.ab4d2","wires":[["1c91b4f1.e45473"]],{"id":"1c91b4f1.e45473","type":"service-logic","name":"VOLTE-API 0.0.1-DEMO","module":"VOLTE-API","version":"0.0.1-DEMO","comments":"","xml":"<service-logic xmlns='http://www.onap.org/sdnc/svclogic' xmlns:xsi='http://www.w3.org/2001/XMLSchema-instance' xsi:schemaLocation='http://www.onap.org/sdnc/svclogic ./svclogic.xsd' module='VOLTE-API' version='0.0.1-DEMO'>","outputs":1,"x":317.1666564941406,"y":106.16667175292969,"z":"30ac5fe5.ab4d2","wires":[["a28ec6bd.3832d8"]],{"id":"a28ec6bd.3832d8","type":"method","name":"method volte-wan-activate","xml":"<method rpc='volte-wan-activate' mode='sync'>\n","comments":"","outputs":1,"x":181.16668701171875,"y":170.16665649414062,"z":"30ac5fe5.ab4d2","wires":[["e53e6cd.afc3f1"]],{"id":"e53e6cd.afc3f1","type":"block","name":"block : atomic","xml":"<block atomic='true'>","atomic":"true","outputs":1,"x":389,"y":258,"z":"30ac5fe5.ab4d2","wires":[["cdda8e3.1218f","9794fca5.9de488","cd5f5503.b9f128","19f372e1.31b345","8ff8c47.cd19b38"]],{"id":"cdda8e3.1218f","type":"set","name":"set: order-status = Active","xml":"<set>\n\n<parameter name='service-data.oper-status.order-status' value='Active'>\n","comments":"","x":611,"y":370,"z":"30ac5fe5.ab4d2","wires":[],{"id":"19f372e1.31b345","type":"returnSuccess","name":"return success","xml":"<return status='success'>\n\n<parameter name='error-code' value='200' />\n\n<parameter name='error-message' value=''\n'service-data.dcz-wanip=' + $service-data.dcz-wanip'\n","comments":"","x":583,"y":557,"z":"30ac5fe5.ab4d2","wires":[],{"id":"9794fca5.9de488","type":"set","name":"set: service-data = input","xml":"<set>\n\n<parameter name='service-data.' value='volte-wan-activate.' />","comments":"","x":610.8888854980469,"y":471.388916015625,"z":"30ac5fe5.ab4d2","wires":[],{"id":"cd5f5503.b9f128","type":"set","name":"Set final indicator to Y","xml":"<set>\n\n<parameter name='ack-final' value='Y'\n/>","comments":"","x":605.2063369750977,"y":515.1031608581543,"z":"30ac5fe5.ab4d2","wires":[],{"id":"8ff8c47.cd19b38","type":"record","name":"record","xml":"<record plugin='org.onap.ccsdk.sli.core.sli.recording.FileRecorder'>\n\n<parameter name='file' value='/opt/opendaylight/current/data/log/svclogic.log'/>\n\n<parameter name='field1' value='__TIMESTAMP__'/>\n\n<parameter name='field2' value='volte-wan-activate'/>\n\n<parameter name='field3' value=''\n$volte-wan-activate.dca-wanip'\n/>\n\n<parameter name='field4' value=''\n$volte-wan-activate.dcz-wanip'\n/>\n\n<parameter name='field5' value=''\n$volte-wan-activate.route_target'\n/>\n\n<parameter name='field6' value=''\n$volte-wan-activate.route_distinguisher'\n/>","comments":"","outputs":1,"x":559,"y":301,"z":"30ac5fe5.ab4d2","wires":[[]]}

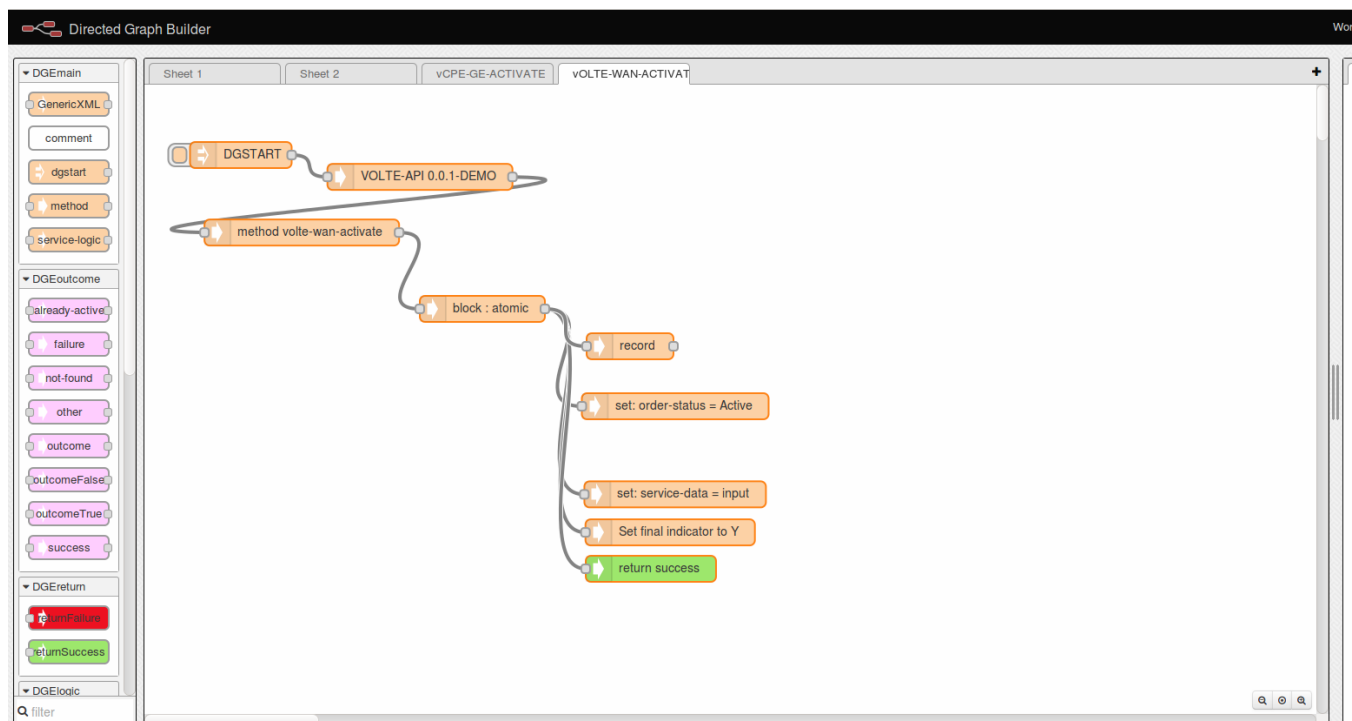
```

Copy it to your clipboard

On dgbuilder page, select the menu on the right hand side (the three stack horizontal bars ) and select "import" and "clipboard"

Paste the json string into the dialog box

Move the resulting DG around the pane.



Node	Comment
DGSTART	Standard starting node for any DG
Module	This matches our YANG Model name VOLTE-API
Method	The RPC that will be used by the northbound system to call SDNC
BLOCK	wrap these nodes into a succes/fail transaction with "atomic" one branch at a time execute
RECORD	Save some data to a file. Click on the node to see the fields that are being saved
SET	Set the order status to Active

SET service data to input	In a real application we copy input to the md-sal tree via this type of node. Doing it late in the tree lets us know what existing already in md-sal to distinguish an update from a new.
SET final indicator	Set the response on success. A real DG has error legs we are worrying about in this example
RETURN : Success	HTTP 200 return of success

Save the DG using the big red button in the upper right corner

Click on the DGStart node and upload the XML

XML Generated

```

<service-logic
  xmlns='http://www.openecomp.org/sdnc/svclogic'
  xmlns:xsi='http://www.w3.org/2001/XMLSchema-instance' xsi:schemaLocation='http://www.openecomp.org/sdnc/svclogic'
  <method rpc='volte-wan-activate' mode='sync'>
    <block atomic='true'>
      <record plugin='org.openecomp.sdnc.sli.recording.FileRecorder'>
        <parameter name='file' value='/opt/opendaylight/current/data/log/svclogic.log' />
        <parameter name='field1' value='__TIMESTAMP__' />
        <parameter name='field2' value='volte-wan-activate' />
        <parameter name='field3' value='`$volte-wan-activate.dca-wanip`' />
        <parameter name='field4' value='`$volte-wan-activate.dcz-wanip`' />
        <parameter name='field5' value='`$volte-wan-activate.route_target`' />
        <parameter name='field6' value='`$volte-wan-activate.route_discripter`' />
      </record>
      <set>
        <parameter name='service-data.oper-status.order-status' value='Active' />
      </set>
      <set>
        <parameter name='service-data.' value='vnf-topology-operation-input.' />
      </set>
      <set>
        <parameter name='ack-final' value='Y' />
      </set>
      <return status='success'>
        <parameter name='error-code' value='200' />
      </return>
    </block>
  </method>
</service-logic>

```

XML size:0.0014 MB  
Number of Lines:29

Validate XML Email Flow Upload XML View DG List Download XML Download JSON Close

Note: you may need to point your dgbuilder at port 32768 running dbguilder outside of the SDNC VM.

Configuration

DB Host IP: 10.0.7.1

DB Port: 32768

DB Name: sdnctl

DB UserName: \*\*\*\*\* ☒ Hide

DB Password: \*\*\*\*\* ☒ Hide

Git Local Repository Path

☐ Perform Git Pull in Local Git Repository prior to import

Save Cancel

Click on the "Activate" link in the DG list to Activate the DG

Graph Builder

Service Logic Administration Module=VOLTE-API and RPC=volte-wan-activate

Module	RPC	Version	Mode	Active	Activate/Deactivate	Display DG	XML	Delete
VOLTE-API	volte-wan-activate	0.0.1-DEMO	sync	N	Activate	Display	XML	Delete

Confirm Activate

Module	RPC	Version
VOLTE-API	volte-wan-activate	0.0.1-DEMO

Are you sure you want to Activate this DG ?

Activate Cancel

Adib Rastegarnia  
Re: [onos-discuss] onos-core-serializer BU  
And thanks for your help.  
On Wednesday, April 19, 2017 at 1:27 PM, Adib Ras

Your DG is now read for testing.

Use the SLI-API to test the DG and any Adapter nodes

1. Go to the swagger ui on the SDNC controller at [http://<sdnc\\_ip>:8282/apidoc/explorer/index.html](http://<sdnc_ip>:8282/apidoc/explorer/index.html)
2. Select the SLI-API to open up its methods
3. Select the "/operations/SLI-API:execute-graph"
4. Paste the json string from the first step into the box

Model | Model Schema

(execute-graph)output {  
}

Response Content Type:

Parameters

Parameter	Value	Description
(execute-graph)input	<pre>{   "input": {     "module-name": "VOLTE-API",     "rpc-name": "volte-wan-activate",     "mode": "sync",     "sli-parameter": [       {         "parameter-name": "volte-wan-activate.dca-wanip",         "string-value": "10.1.20.2"       },       {         "parameter-name": "volte-wan-activate.dcz-wanip",         "string-value": "10.2.20.2"       },       {         "parameter-name": "volte-wan-activate.wan_vni",         "string-value": "101"       },       {         "parameter-name": "volte-wan-activate.route_target",         "string-value": "6020:201 6020:101"       }     ]   } }</pre>	

Parameter content type:

[Try it out!](#) [Hide Response](#)

1. Click on "Try It out!"
2. You should see a 200 ok response and any data returned by the Directed Graph
3. Log into SDNC and check the svclogic.log and see the results.

```
|2017-07-19T17:30:33:779+00:00|volte-wan-activate|10.1.20.2|10.2.20.2|6020:201|6020:101|
```

Lets continue this tutorial by Adding the capability to update the local controllers with a REST API call node.

[Tutorial: VoLTE Example: Adding REST Node](#)

#### Next Steps

1. You can add additional parameters to the input JSON and create input for other operations like Data Center Gateway config
2. ~~You can add a REST API CALL Node to call a 3rd party controller~~
3. You can create and load a 3rd party controller feature bundle and add a configure or execute node to call that adapter
4. You can add an AAI node to update AAI
5. You can repeat this process for other Directed Graph like Deactivate