SO adapter development with south bound P&P

Prepared by : Isaac, Seshu
SO has the following core projects, the responsibility of the projects are mentioned below:

**Adapters:**
- Provided Interfaces to lower level controllers and other ONAP components
  - Catalog-db-adapter: interfaces to query the service/resource recipe and service catalog info.
  - Request-db-adapter: interfaces to query/update the service request information.
  - Openstack-adaptor: support Create, Instantiate, Terminate/Delete over openstack APIs.
  - Sdnc-adaptor: interfaces to create network resources and interact with other controllers.
  - Vfc-adaptor:
  - Vnfm-adaptor: support Create, Instantiate, Terminate/Delete on SOL003 based VNF client.

**Asdc controller:**
- Receive updated service models from SDCEvent-bus notifications when new models available.
- HTTP retrieval of models (TOSCA) and artifacts (Heat)
- Receive distributions as TOSCA models
- Populate SO Catalog

**Bpmn Infra**
- Sequence orchestration steps for each Resource in the recipe
- Request and configure network resources via SDN-C

**Common**
- Holds the beans and utils common for all the projects.

**Api Handler**
- Provides REST API for northbound clients. Responsible to handle the service and infrastructure level request, like service instantiation.
- Provides model driven recipe selection, using catalog DB.
- Forwards the request to the bpmn recipe selected based on service-model + action (dynamic look up).

**So monitoring**
- Monitor BPMN Workflow execution by providing search criteria
Stage 1:
- SDC Distribute the service archive.
- Sdc controller parse the archive and populate the catalog db.

Stage 2:
- VID or usecase UI send request to BPMN Infra.
- BPMN infra fetch the right recipe from catalog DB and orchestrate the service and resource creation.
- Adapter client will be used to communicate with adapters.
To have a plug & play adapter, the following rule has to be followed during implementation:

- South bound interface must implement based on any standard.
- All those standard must be supported by the adapter.
- All plug & play south bound entities should implement same functionality.
- When service resource is designed, the vendor and node information needs to be added along with the model information.
- The ESR information in AAI also needs to be preloaded, matching the design time parameters.
- When adapter sends the request to south bound nodes, query AAI and use the ESR information to send request.
Create a new module under adapters.
1. Select “New” Option in the pop-up menu.
2. Select “Module” option in the sub menu.

Add Maven support to it.

You can add maven support to the project. This will add the pom file to the project. Later you will just need to add the dependencies.
Create New Adapter

Enter the module name.

1. You will need to enter the module name to be created.
2. Make sure the path is rightly populated before proceeding.

Once successfully created you could see the pom file of the module

1. Make sure that the parent project information is populated correctly.
2. Make sure the artifactid for the new adapter is generated correctly
Once the project is created, need to add required dependencies to the pom file of the new module.

1. Add all the required dependencies. Make sure following dependencies are added:
   1. spring boot dependencies.
   2. Build goals

Tips: You can copy dependencies and pom build configurations from other adapter projects.
Once the module is created successfully,
1. Need to add the module to the adapter project.
2. Go to the the pom file of adapters project.
3. Add the newly created module in the modules tag.

Now the newly created adapter will be part of the adapters project.

When adapters project is compiled the new adapter module will also be compiled and built.
How to make a plug & play adapter

While connecting to the south bound node,
1. Get the node information from AAI ESR information.
2. Parse the ESR information and get the IP and Port.
3. Prepare the end point using the ESR information
4. Fire the request to the end point.

Note:
1. ESR information should be a day zero configuration.
2. The ESR information should match with the service design.
THANKS