vRealize Automation and Storage Policy Based Management Framework Integration Installation and Configuration Guide

Deliverables:

- This Documentation
- vCenter Orchestrator workflow package

Terminology:

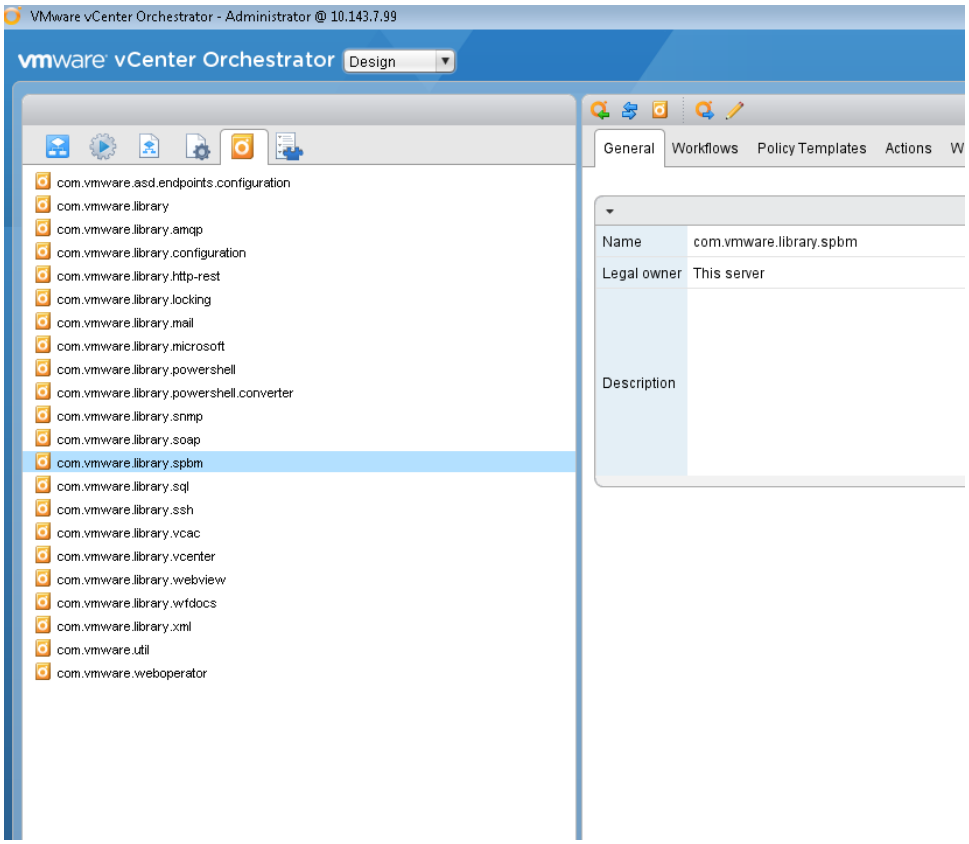
- vCAC: vRealize Automation (vCloud Automation Center)
- vCO: vCenter Orchestrator

Pre-requisite:

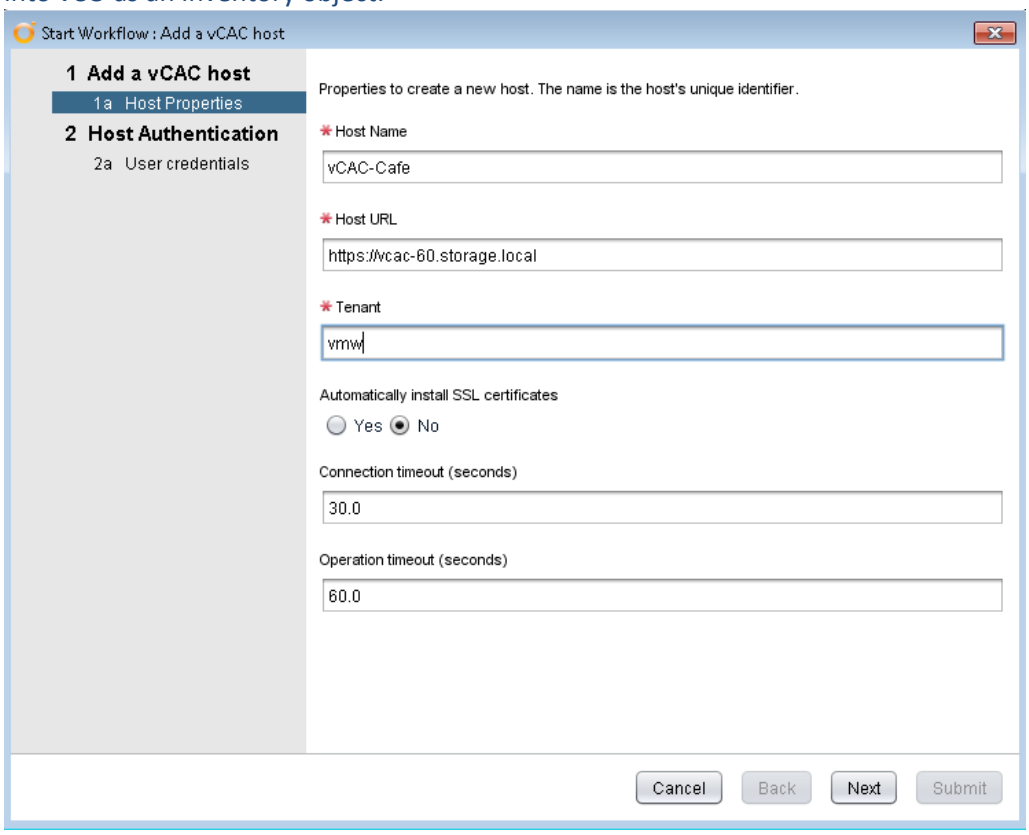
1. Have vCAC 6.0 installed
2. Have IAAS Server Installed
3. Have vCO 5.5 installed(if use standalone vCO server)
4. Have vCAC Tenant configured
5. Have vCO Plug-in for vCAC 6.0.1 installed
   (https://my.vmware.com/web/vmware/details?downloadGroup=VCO_VCAC_PLUGIN_601&productId=353)
6. Have vCO Plug-In for VMware vSphere 5.5.2 installed
   (https://communities.vmware.com/servlet/JiveServlet/download/25307-9-124990/o11nplugin-vsphere.vmoapp.zip)
7. Have vCO Plug-In for HTTP-REST 1.02 installed
   (https://my.vmware.com/group/vmware/details?downloadGroup=VCO_REST_PLUGIN_102&productId=285)
8. License:
   a. vCAC Advanced license

Solution Installation and configuration procedures:

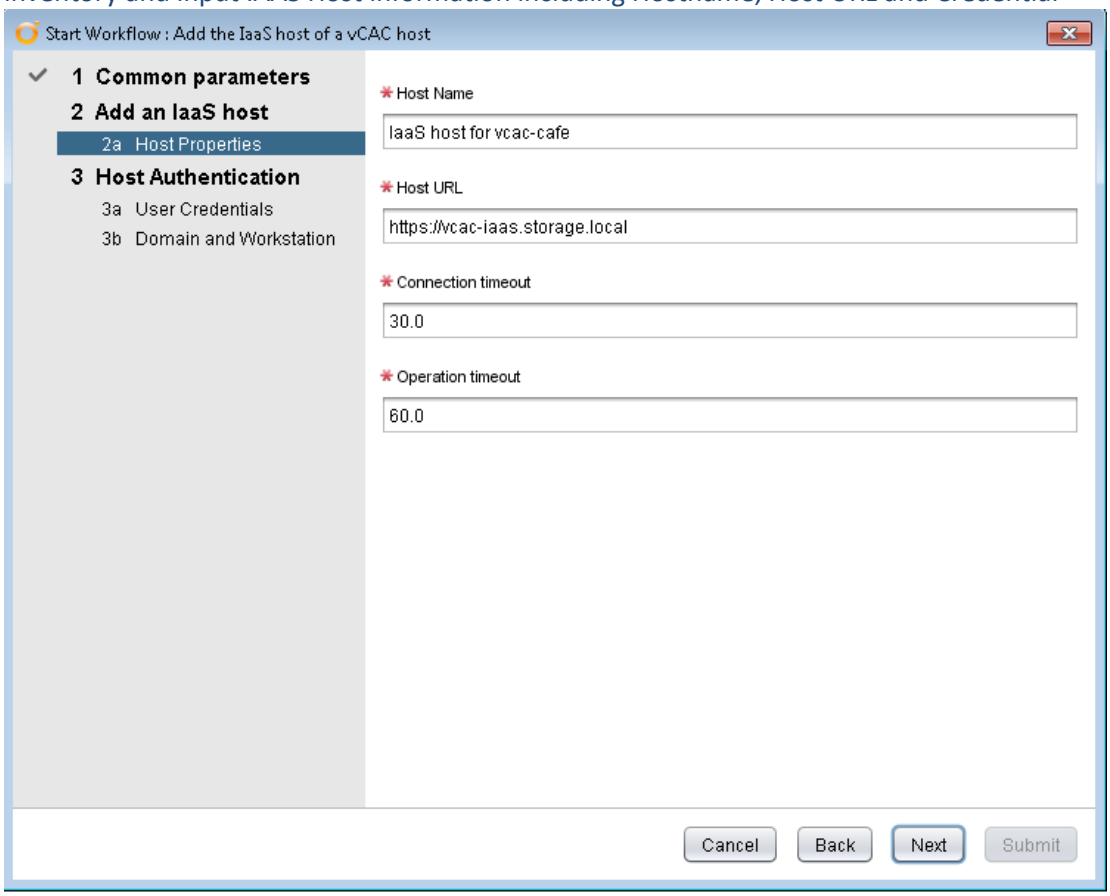
1. Connect to vCO client, go to **Design** -> **Packages**
   a. Import com.vmware.library.spbm package



b. Go back to Workflows, and expand workflow folder: **Library** -> **vCloud Automation Center** -> **Configuration** and run **Add a vCAC host**, input vCAC Host Name, Host URL and Tenant Name, then go **Next**, Choose **Shared Session** and input Tenant Service Architect's Credential to add vCAC host into vCO as an inventory object.

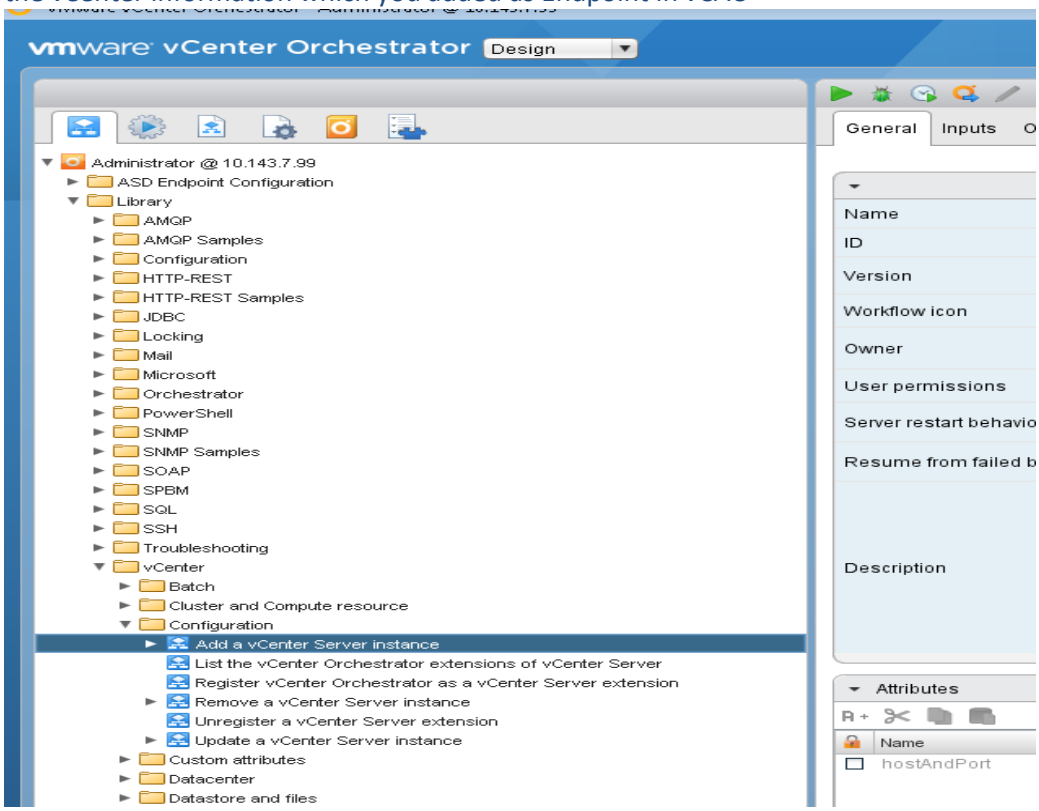


c. Run **Add the IaaS host of a vCAC host** in the same directory, get the vCAC Server just added into inventory and input IAAS Host information including Hostname, Host URL and Credential

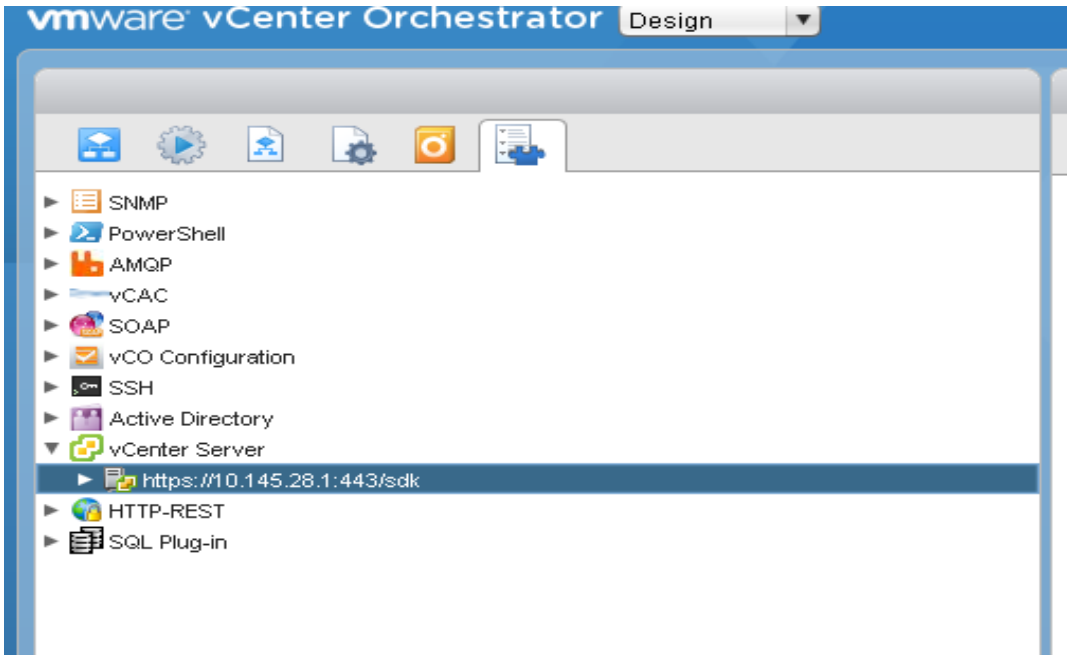


after running successfully , you can find the IAAS Server Entity has been added to the object inventory.

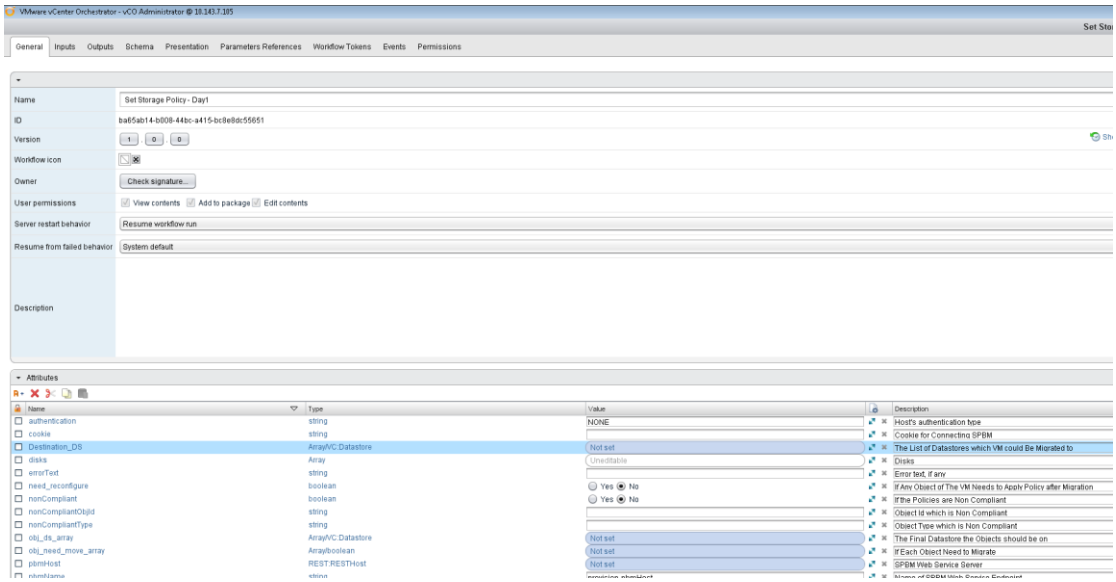
d. Find at **Library** -> **vCenter** -> **Configuration** -> **Add a vCenter Server instance** and run workflow with the vCenter information which you added as Endpoint in vCAC



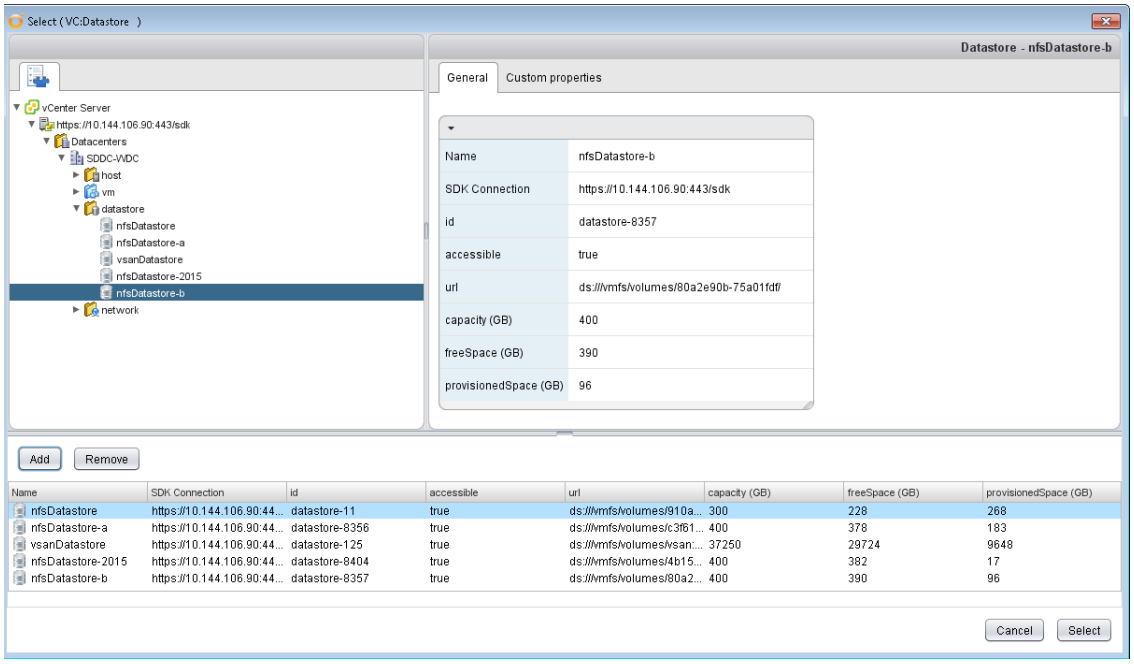
After running successfully, you will find the vCenter Server Entity has been added to the object inventory



e. Navigate to **Library** -> **SPBM** -> **Set Storage Policy When Provisioning** -> **Set Storage Policy - Day1**, right click on that workflow, and Choose **Edit**, and find Attribute **Destination_DS** in the Attributes list under **General** tab.

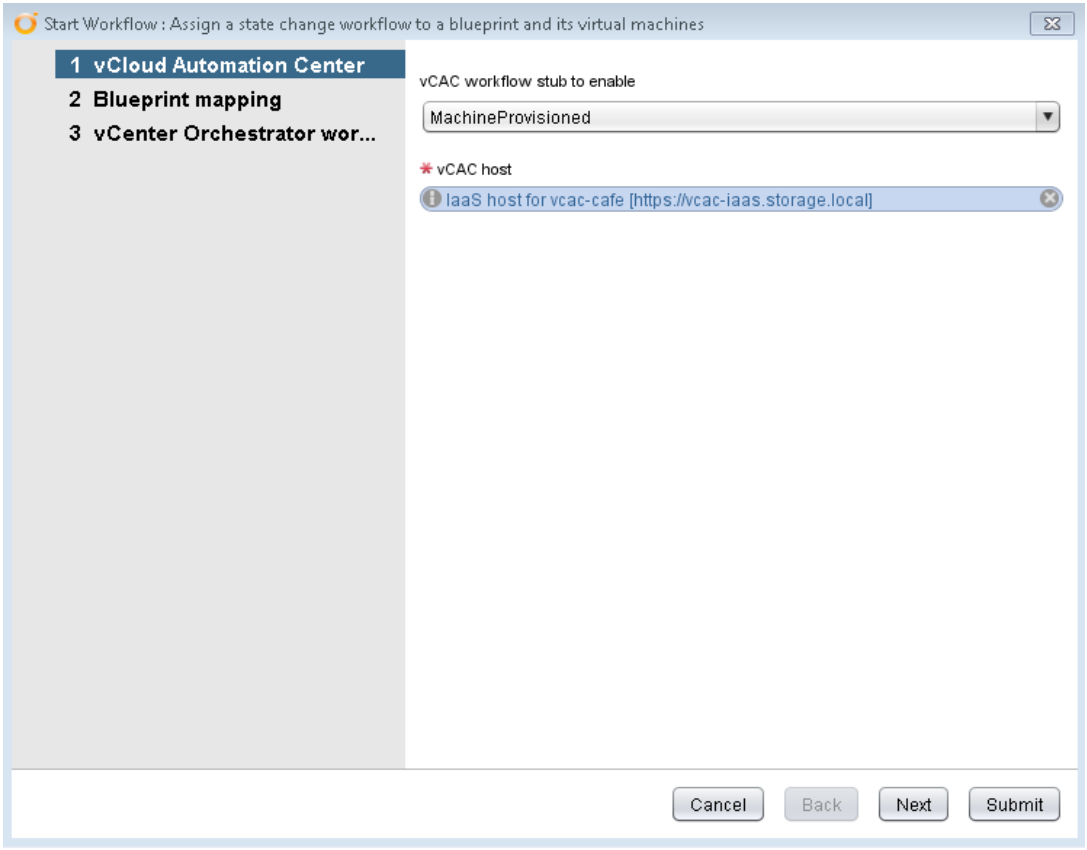


Click on **NOT SET**, click on **Insert Value** in the new opening window, and expand the vCenter instance you just added: **vCenter Server** -> **YOUR_VC_SDK** -> **Datacenters** -> **YOUR_DC_NAME** -> **datatores**, select the datastores that user could migrate their VM to, in the example, all the datastores have been selected.

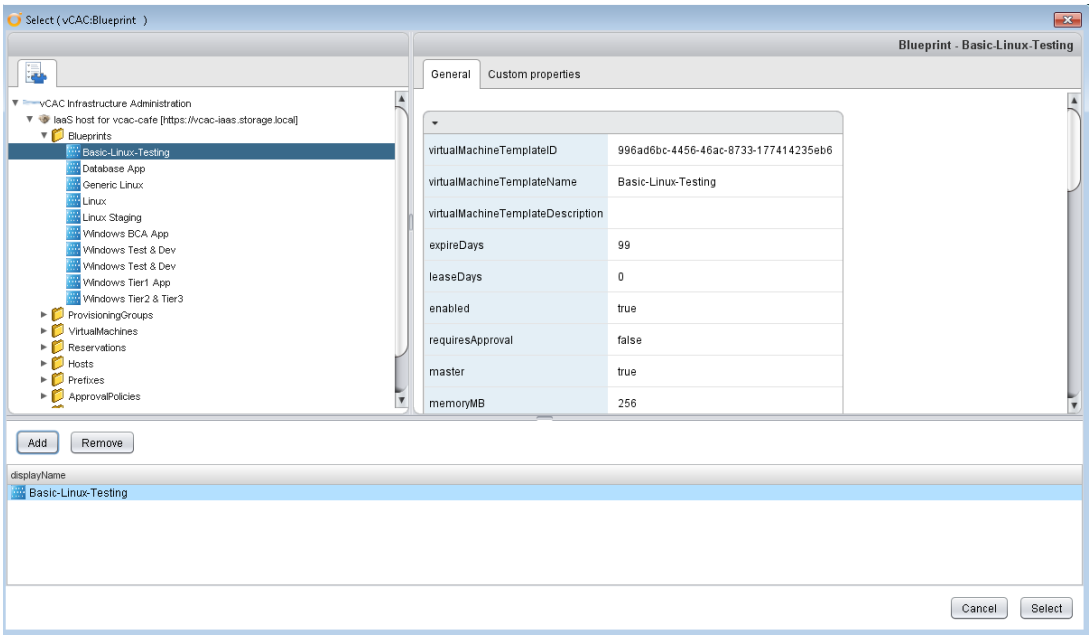


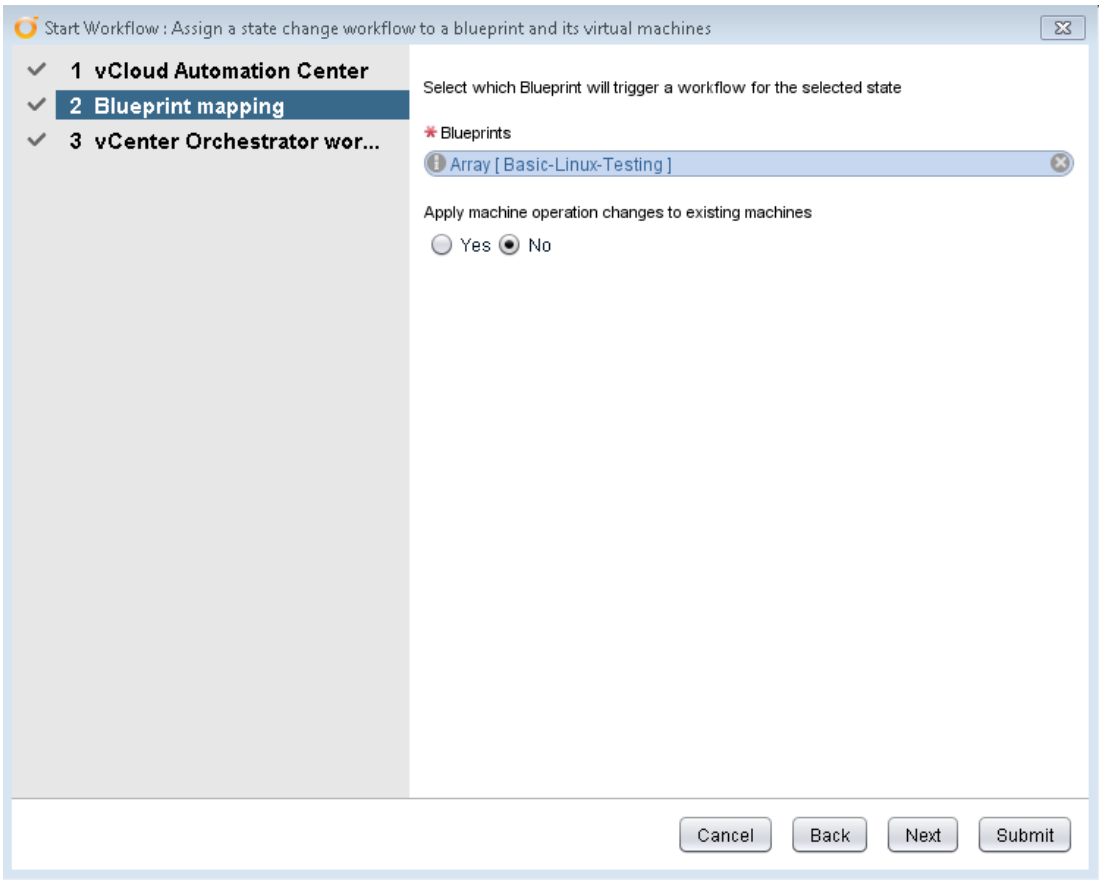
Save and close this workflow.

f. Navigate to **Library** -> **vCloud Automation Center** -> **Infrastructure Administration** -> **Extensibility** -> **Assign a state change workflow to a blueprint and its virtual machine** and run workflow.
   i. Select **MachineProvisioned** for vCAC workflow stub to enable
   ii. Select the IaaS server you just added for vCAC host

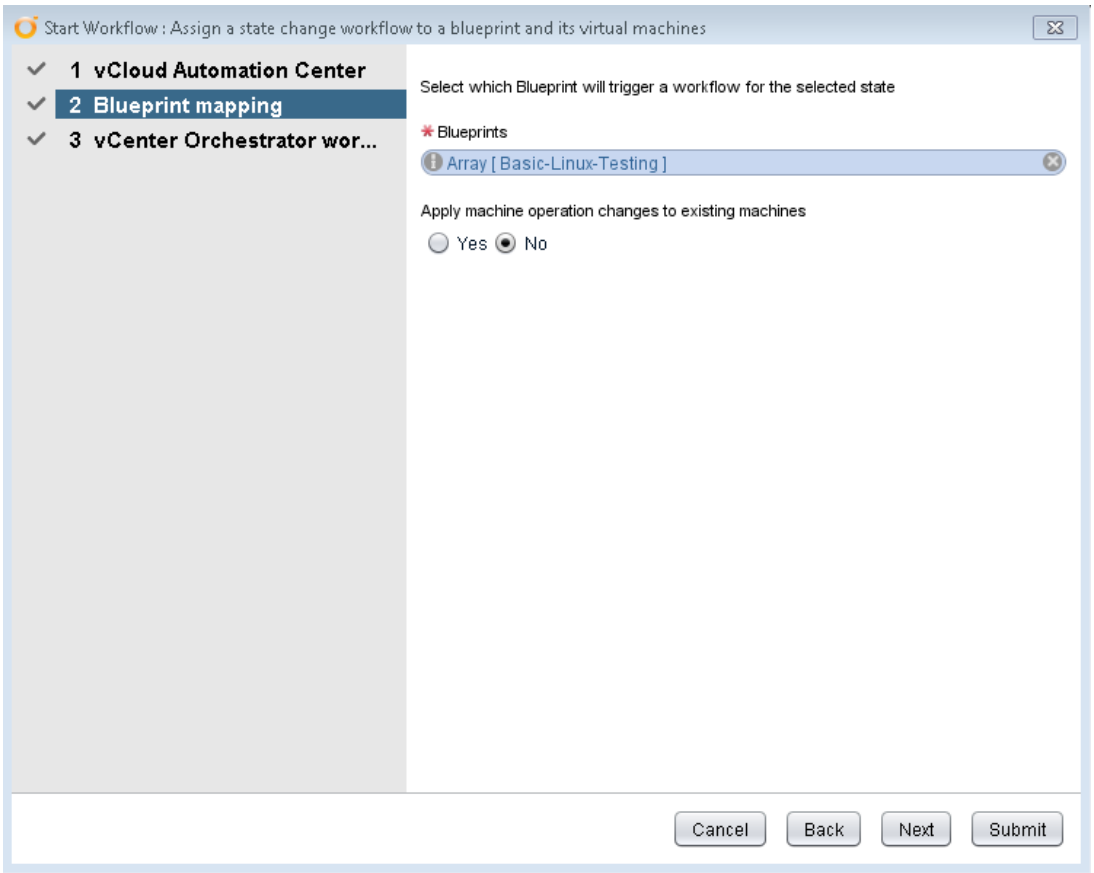


iii. Click **Next**, select the blueprints of IaaS server that would enable user to apply storage policy on VM Home or disks when provisioning, here we only select the blueprint “Basic-Linux-Testing” as an example.





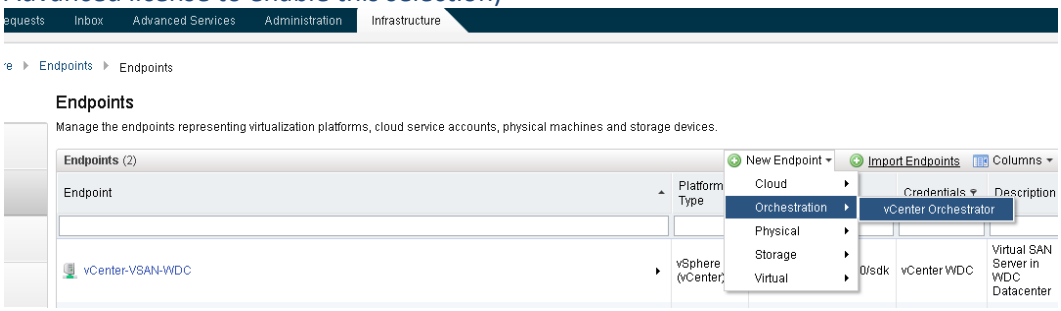
iv. Click **Next**, select workflow **Set Storage Policy – Day1** for **End user workflow to run** and **Submit**.



2. Connect to vCAC Server as Service Architect

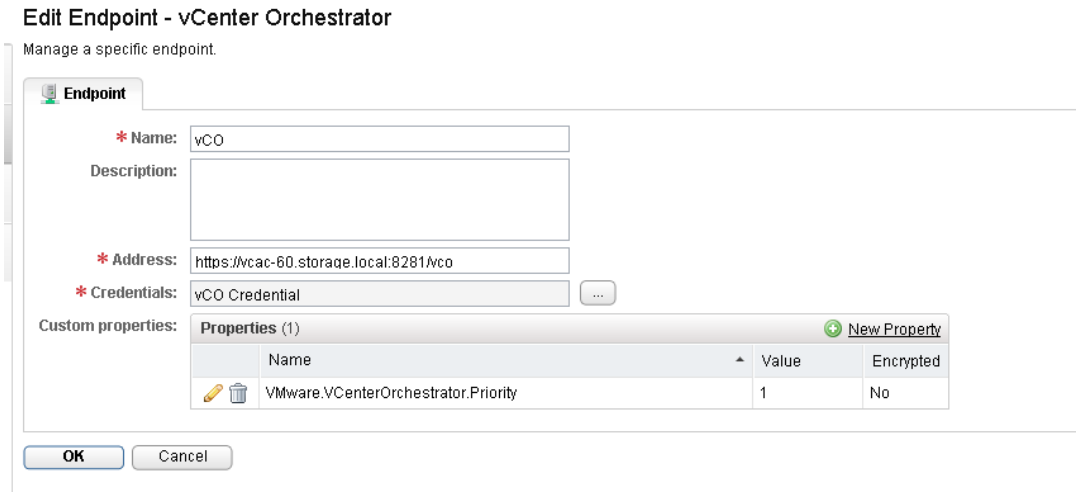
Enable Storage Policy when Provisioning VM.

a. Navigate to **Infrastructure** -> **Endpoints** -> **Endpoints**, create vCO endpoint(you have to have vCAC Advanced license to enable this selection)

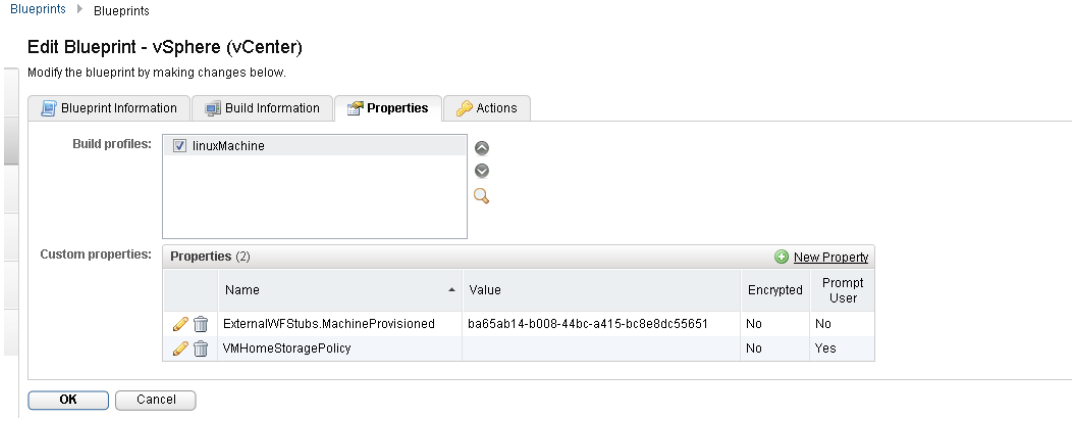


b. Put name, address (https://YOUR_VCO_IP:8281/vco), and add credential information for it.

c. Add the property "VMware.VCenterOrchestrator.Priority" and set the **Value** to 1, then click **OK**.

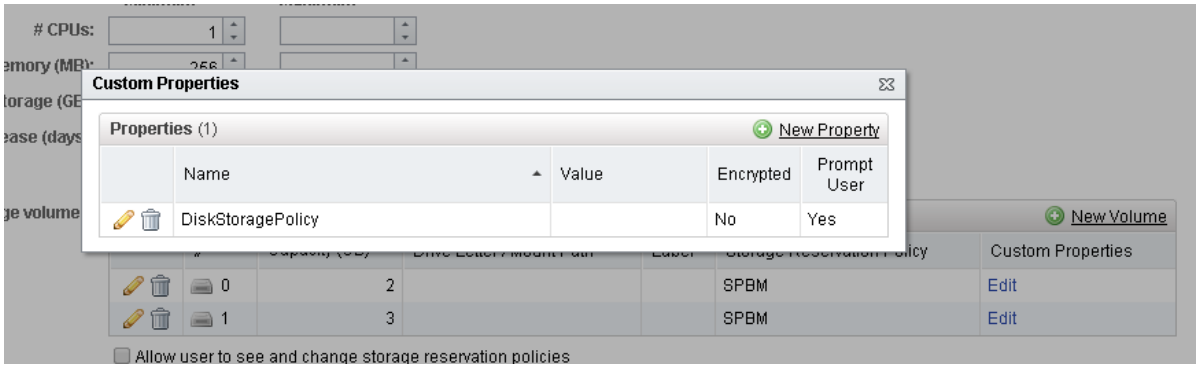


d. Navigate to **Infrastructure** -> **Blueprints** -> **Blueprints** , open the Blueprint you just used when running vCO workflow **Assign a state change workflow to a blueprint and its virtual machine**. Add Property "VMHomeStoragePolicy" to your IAAS blueprint and set **Prompt User** to **Yes**

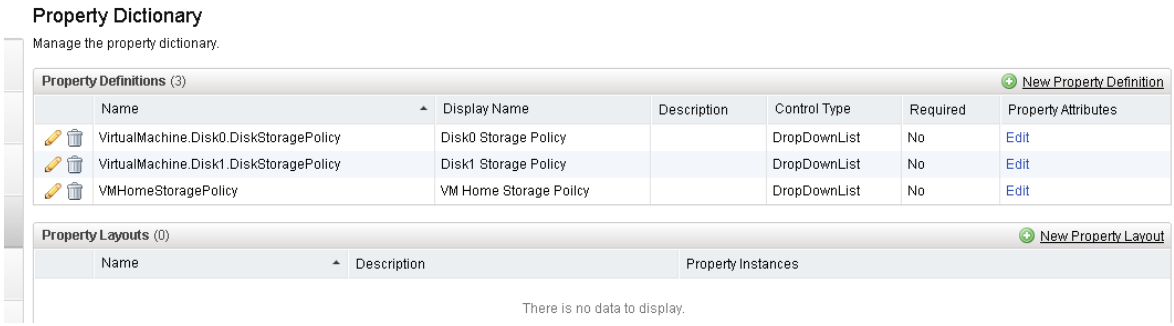


And you will find the property "ExternalWFStubs.MachineProvisioned" which is generated by running workflow **Assign a state change workflow to a blueprint and its virtual machine** in vCO

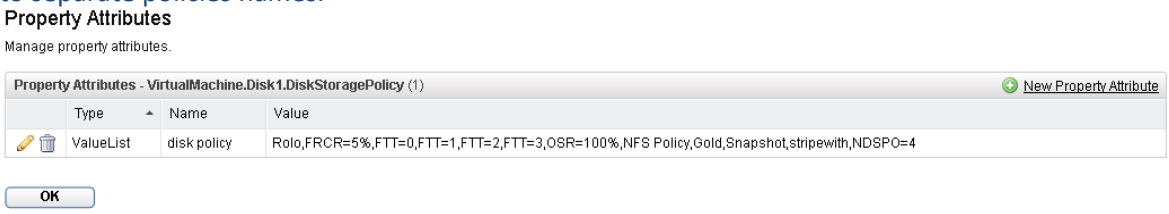
e. Also, you may want to set "DiskStoragePolicy" to each volume's property and set the **Prompt User** to **Yes** to enable the feature of applying the storage policy to disks when provisioning a VM.



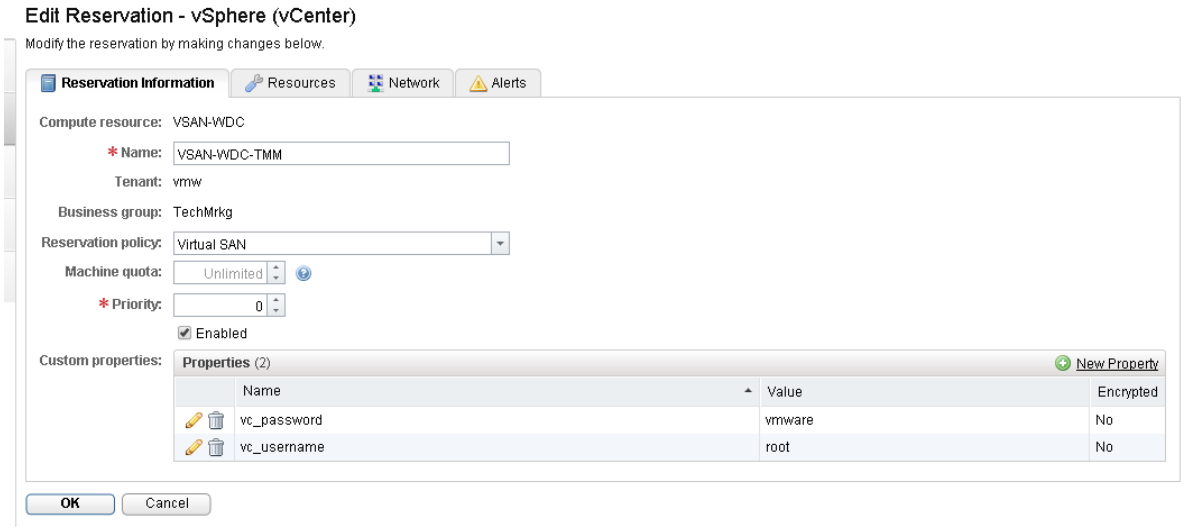
f. Navigate to **Infrastructure** -> **Blueprints** -> **Property Dictionary**, and add property definitions "VMHomeStoragePolicy" and "VirtualMachine.Disk***N***.DiskStoragePolicy" (***N*** is the number of Disk, start from 0) in property dictionary, set the **Control Type** to **DropDownList**.



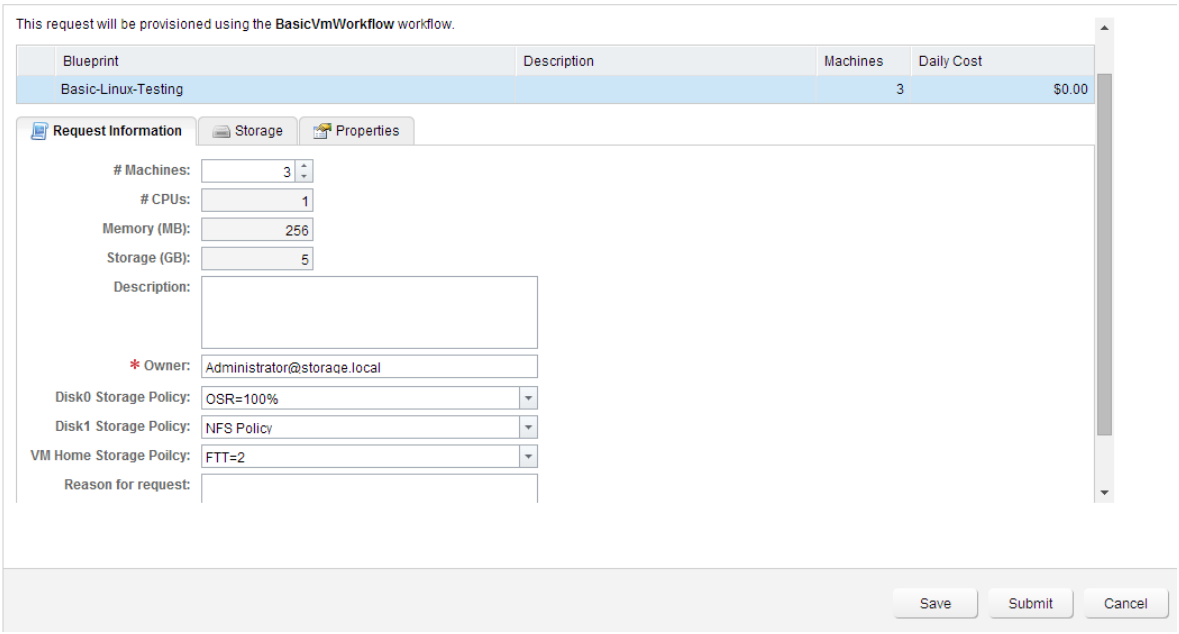
Within each property, put all the Storage policies names you got from vSphere into **ValueList**, use "**,**" to separate policies names.



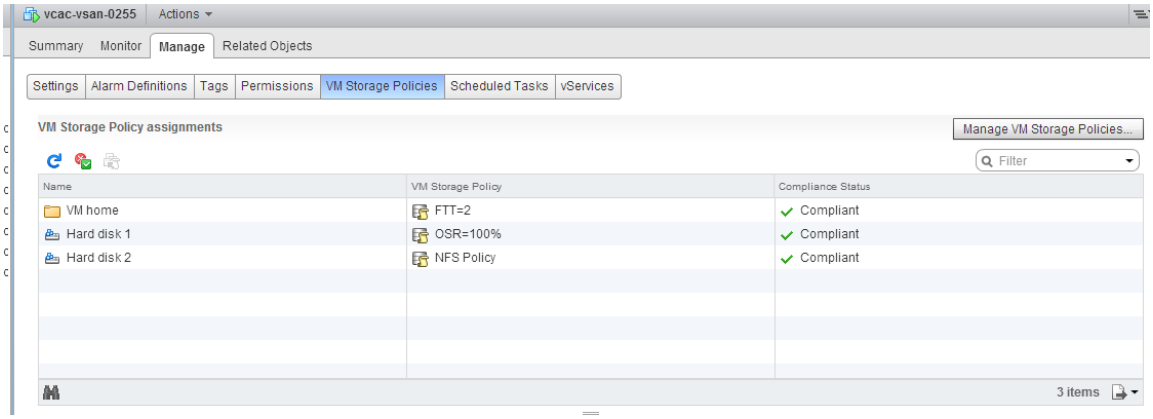
g. Navigate to **Infrastructure** -> **Reservations** -> **Reservations**, select the reservation being used for the Blueprints which have been used when running vCO workflow **Assign a state change workflow to a blueprint and its virtual machine**, add two properties: "vc_username" and "vc_password", then input the vCenter credential information for the **Value**.(**If you are using SSO to login into vCenter, please use DOMAIN.NAME\USERNAME as username format**)



h. We are good to go. Let's connect as tenant end-user, request VM, I'm provisioning 3 VMs, with VM Home, Disk0 and Disk1 policies applied.



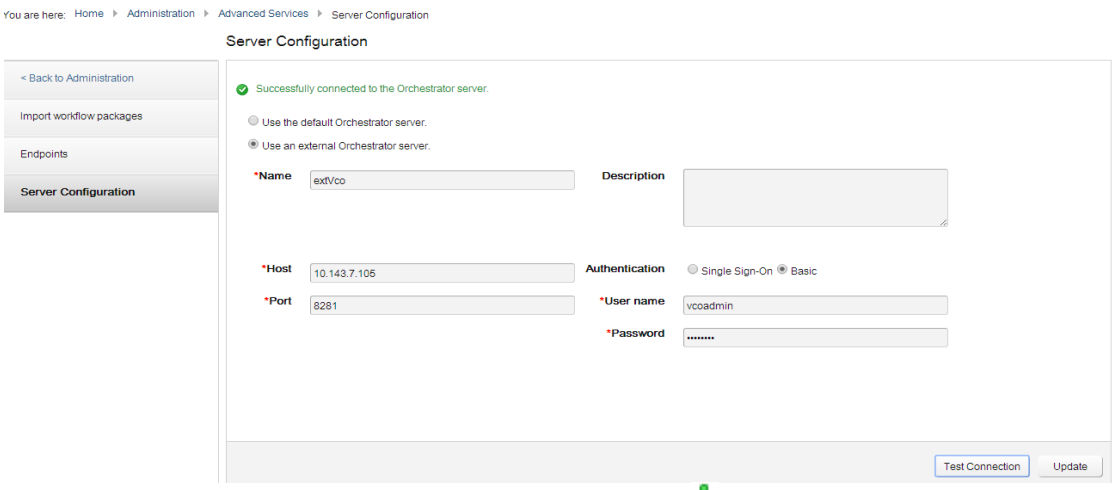
In a few minutes, VMs have been created and policies have been applied. VM Home and Disk0 have applied vSAN Policies and stay on vSAN datastore, Disk1 has applied NFS Policy and been migrated to NFS datastore.



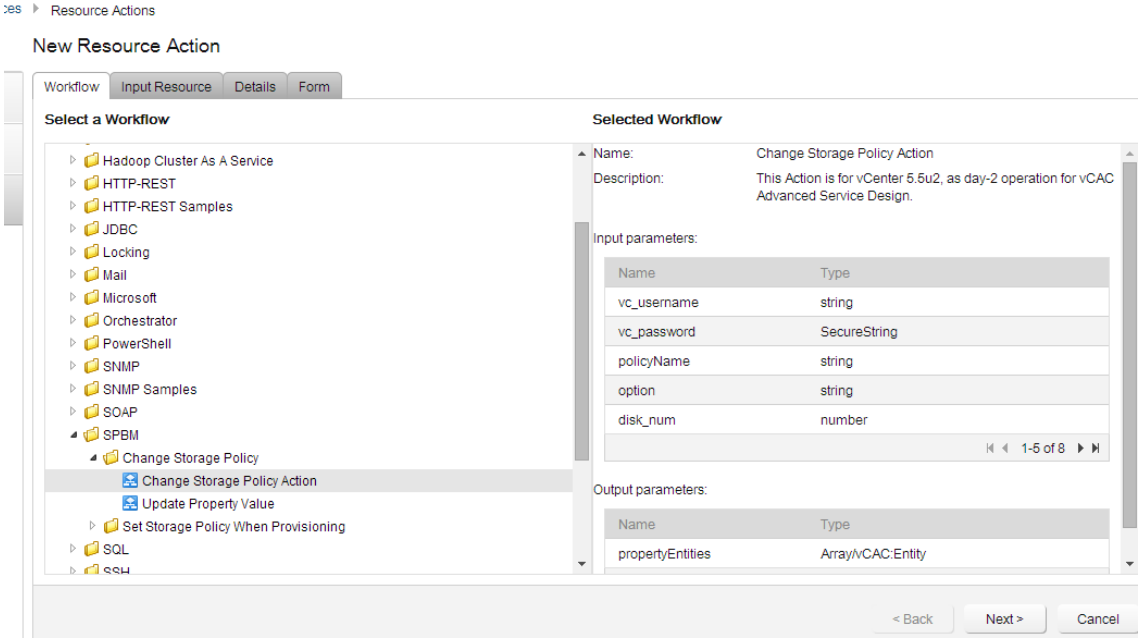
Enable Change Storage Policy Day-2 Operation

i. Connect vCAC as Tenant Service Architect

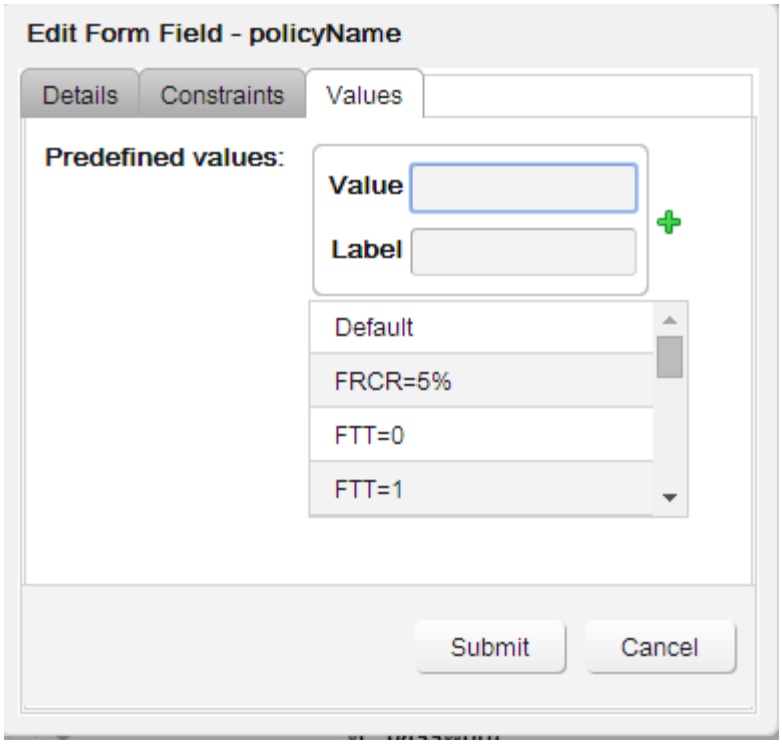
j. Navigate to **Administration -> Advanced Services -> Server Configuration**, check **Use an external Orchestrator server**, input the vCO information, and click **Update**.
Note: if you are using embedded vCO service, please ignore this step.



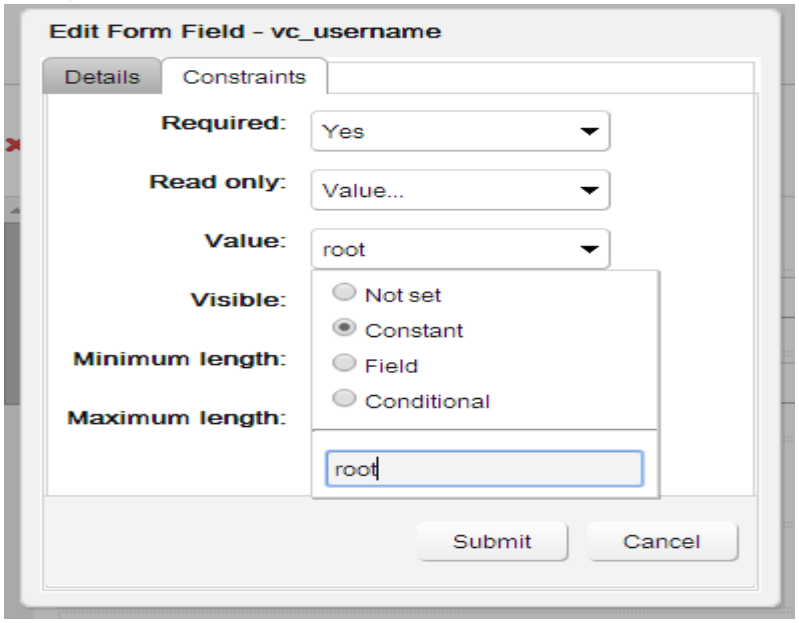
k. Navigate to **Advanced Services -> Resource Actions**, click ✚to add an action. Go to **Library -> SPBM -> Change Storage Policy** and select **Change Storage Policy Action**



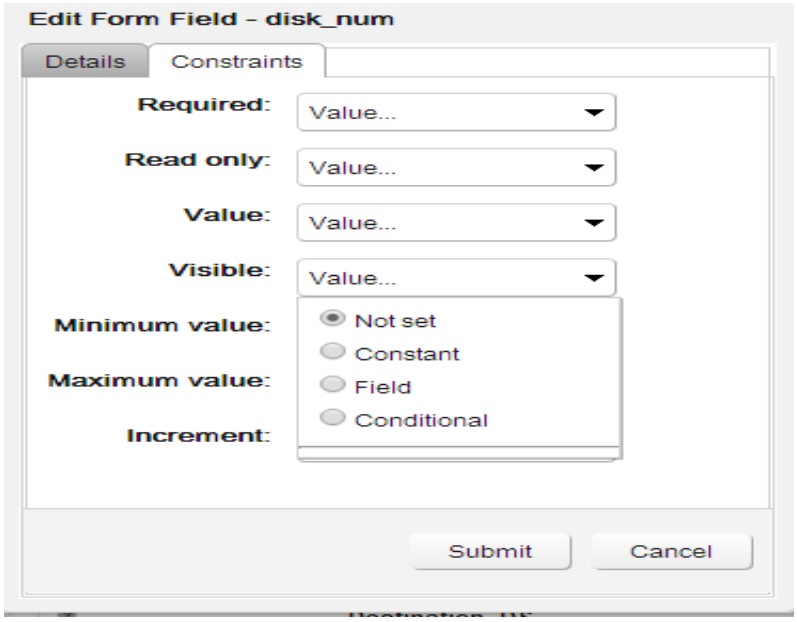
1. Select **IAAS VC VirtualMachine** for Resource type, and select **testVM** for Input Parameter, on the form page, edit **policyName**, input Policy Name in **Value** and click ✚ to insert values, and click **Submit**.(**For Default vSAN policy, DO NOT input anything, just input "Default" for Label then click** ✚).



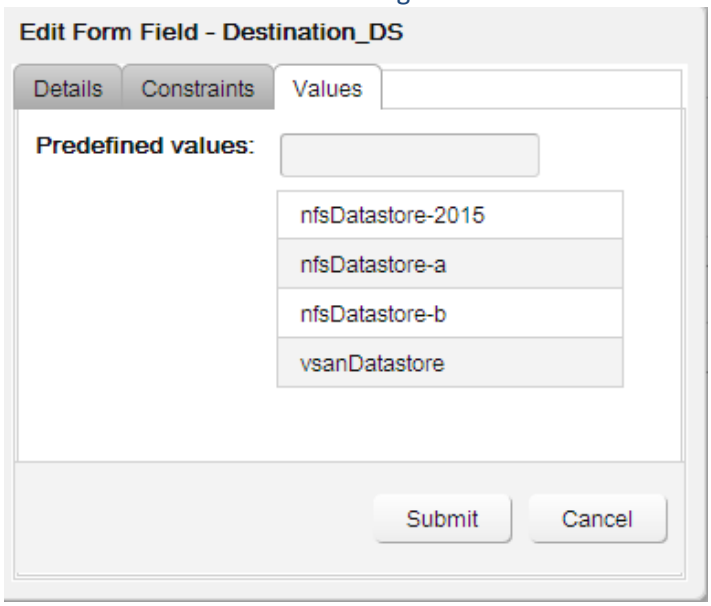
2. Edit **vc_username** and **vc_password**, click **Constraints** set **Value** to **Constant** and input the **Value**, and make sure **Visible** has been set to **No**.



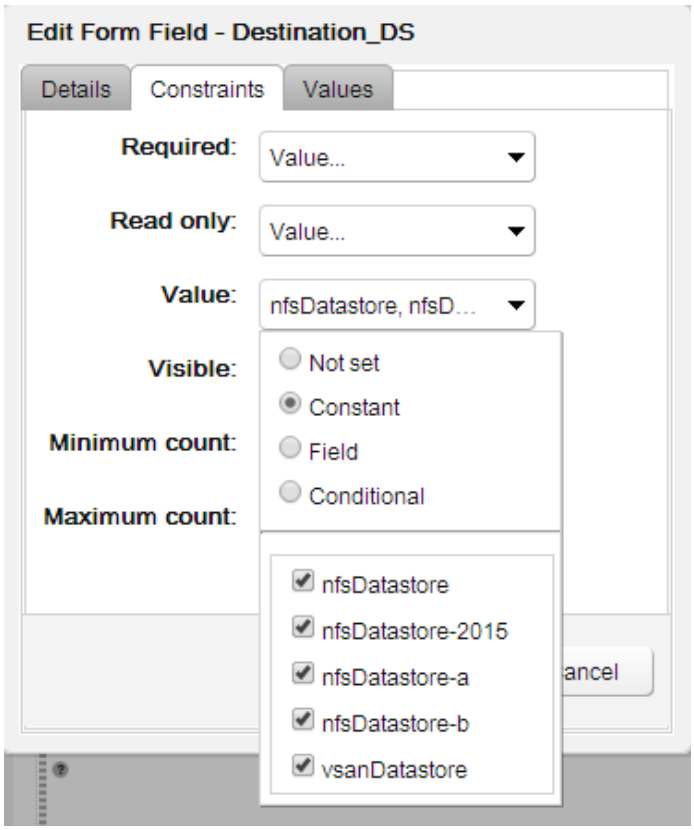
3. Edit **disk_num** and set **Visible** to **Not set**



4. Edit **Destination_DS**, select **Value** tab, input the datastore name you want to add into the datastore list which user could migrate their VM to.

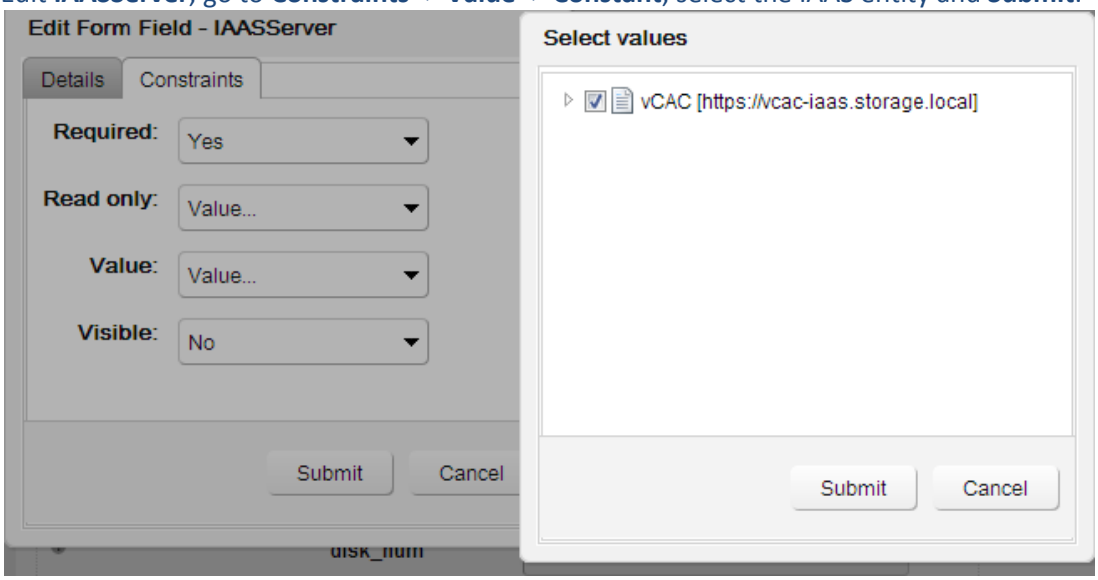


5. After the datastore list is ready, switch to **Constraints** tab, set **Value** to **constants**, and check all the datastores.



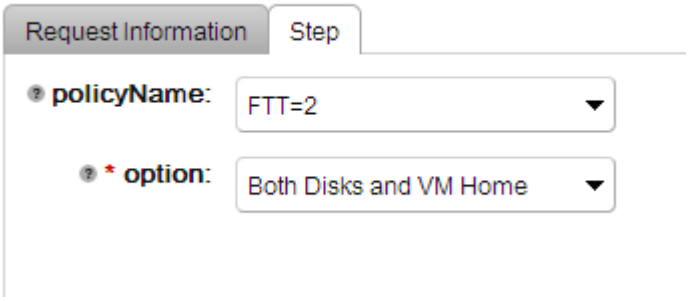
Make sure **Visible** has been set to **No**.

6. Edit **IAASServer**, go to **Constraints** -> **Value** -> **Constant**, select the IAAS entity and **Submit**.



7. After submitting the action, publish it and add it to entitlement.

8. Now we are ready for policy change as an end-user, right click on the VM you want to change policy, choose the policy you want to apply as well as the option



9. In a minute, the policy has been applied and Disks have been migrated to vSAN datastore.