



HPE NFV Director

vCenter Resource Modeling Guide

Release 4.1

Second Edition

Notices

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Preface

About this guide

This document explains the procedure to prepare and install a vCenter scenario. Once this is configured, NFVD will be ready to operate and activate into a vCenter server.

Audience

This document is any stakeholder requiring to perform vCenter activations using the NFV Director. Pre requisite is to have knowledge of NFV Director concepts, and an understanding of the NFV Director resource model.

Document history

Table 1: Document history

Edition	Date	Description
1.0	July 18th, 2016	First edition.

Chapter 1

Introduction

The aim of this document is to provide

- Overview of vCenter.
- How to model a vCenter scenario.

1.1 Overview of vCenter

vCenter is a platform that its composed of several ESX server, so NFVD will treat it like an hypervisor than can manage several servers, BUT that is not a VIM: it has not images, no networks, subnetworks and so on.

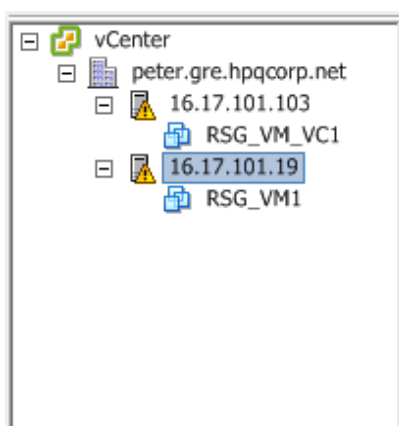


Figure 1: vCenter Datacenter with two ESX.

So, because of this, we have to take into consideration that several changes will be made in the resource modeling: some artifacts will disappear in this scenario (VIM, AUTHENTICATION:OPENSTACK, REGION:OPENSTACK and AVAILABILITY_ZONE) and there will be some new relationship (DATACENTER with HYPERVISOR). That's the main goal of this document and what we are going to explain in the next chapter.

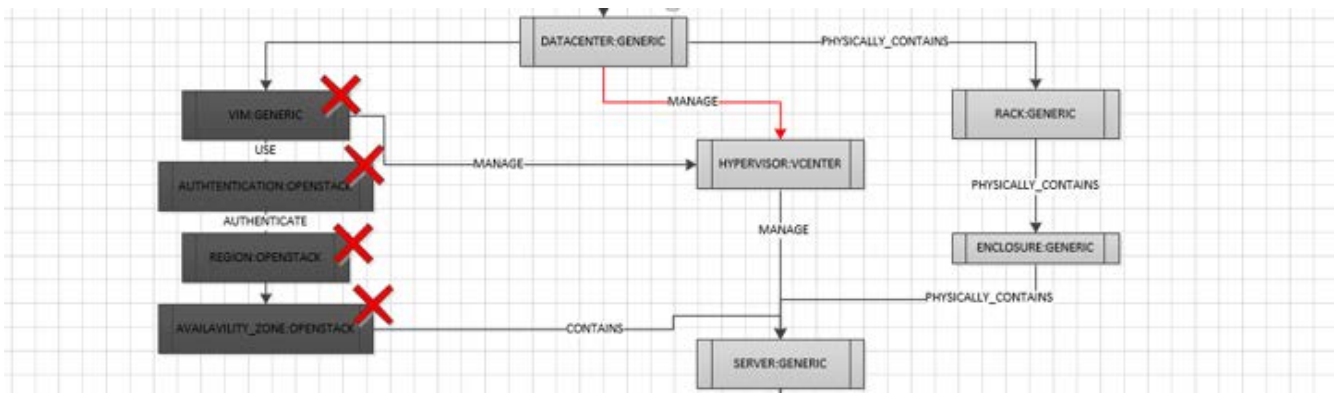


Figure 2: vCenter resource model changes.

For the discovery of resources from a VIM, the VIM and its AUTHENTICATION details must be already present in the NFV Director system.

Thus, VIM and AUTHENTICATION are manually provided as input.

Default values are populated into NFV Director for the following artifacts

Chapter 2 vCenter Integration

2.1 Prerequisites

vCenter Integration with NFV Director is optional. This would be required in case a vCenter server has to be used.

Right now Discovery is not supporter for vCenter, so vCenter Topology has to be attached manually.

Below section explains the procedure to be followed to integrate vCenter with NFV Director.

2.2 Modeling vCenter with NFV Director

2.2.1 Create the vCenter Resource manually



Attachment files 'Resource_VCenter.nfvd' and 'RP_VCenter.xml' contain an example of a resource pool for vCenter.

In the Resource_VCenter.xml, edit the following attributes:

- HYPERVISOR:VCENTER > GENERAL > Host

Value	Example
<vcenter_url>	16.17.101.18

- HYPERVISOR:VCENTER > CREDENTIALS > Host

Value	Example
<vcenter_connection_url>	https://16.17.101.18/sdk

- HYPERVISOR:VCENTER > CREDENTIALS > Login
- HYPERVISOR:VCENTER > CREDENTIALS > Password
- SERVER:GENERIC > GENERAL > hostname
 - This value is the name of the ESX that VCenter displays, it can be either an IP or a DNS name:

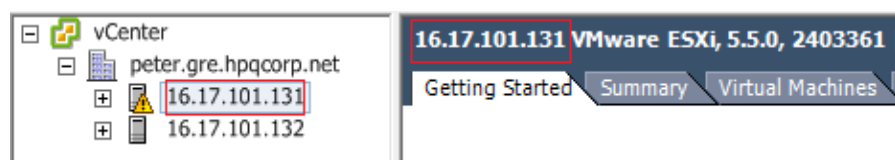


Figure 3: ESX Server named as and IP.

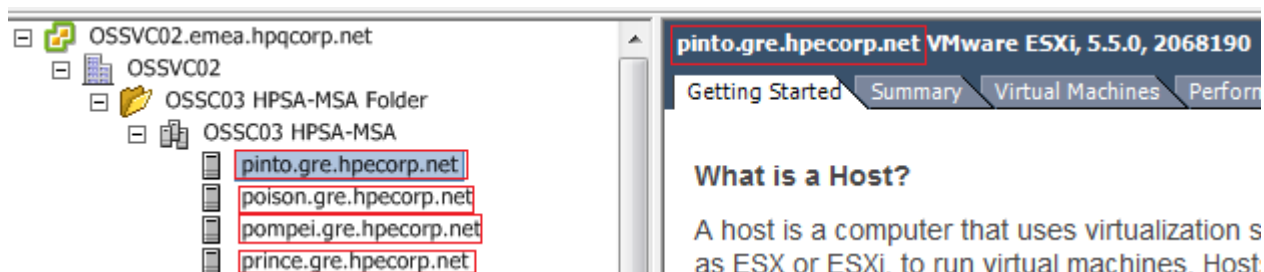


Figure 4: ESX Servers named as a DNS Name.

Value	Example
<ESX_url>	16.17.101.131
	pinto.gre.hpecorp.net

- PORT:GENERIC > INFO > Dedicated_To

Value “VIRTUALIZATION” for all ports that we could use to virtualization. “OTHERS” for the rest.

Although it’s not involved in the Resource pool, for a vCenter activation we have to know that a VLAN must be specified (for a not vCenter Resource pool based is optional):

- NETWORK:GENERIC > PROVIDER > segmentation_id

Below is the pictorial representation of vCenter Resource pool based:

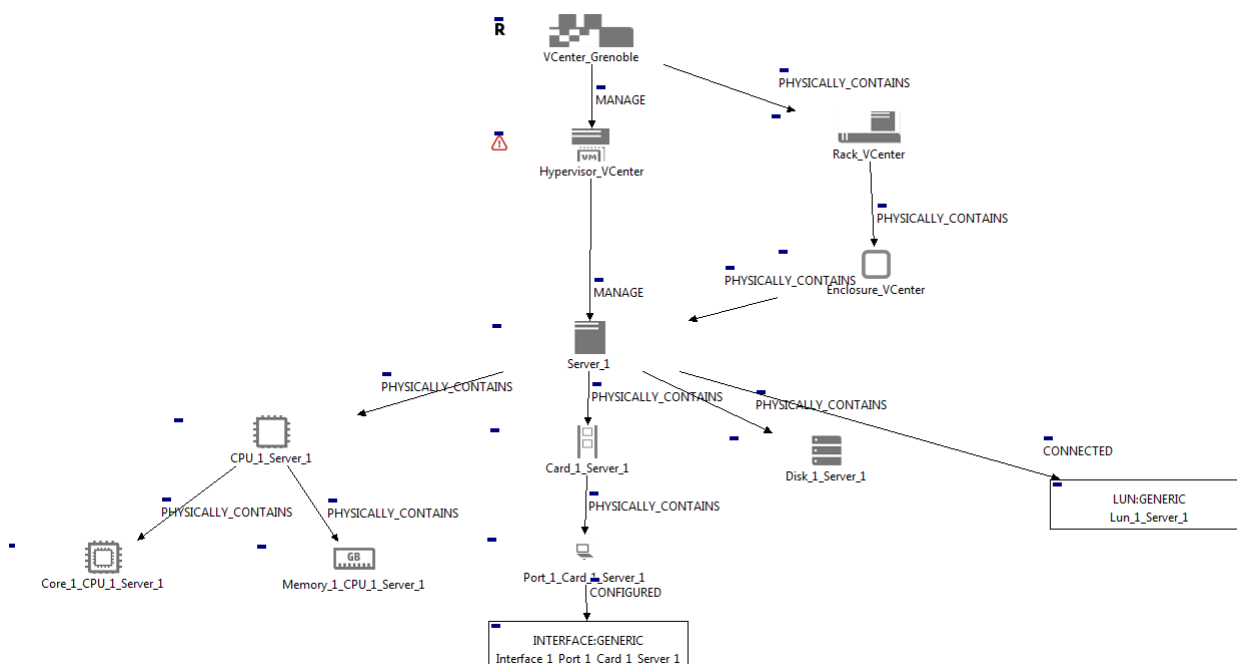
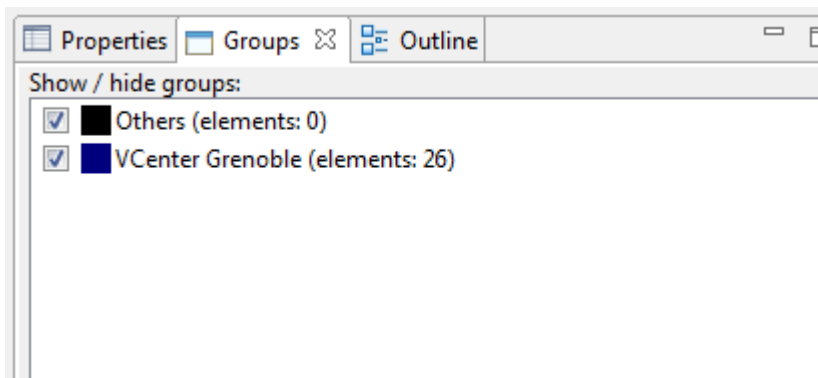


Figure 5: vCenter Resource pool pictorial representation

Keep in mind that all of the artifacts and relationships contained in the Resource Pool must be in the same tree (group), so the group other must be empty (this is no artifact or relationships attached to it).



Although it's not involved in the Resource pool, for a vCenter activation we have to know that a VLAN must be specified (for a not vCenter Resource pool based is optional).

2.2.2 Upload vCenter resource (Manual “Data Load”)



IMPORTANT: For all Rest operations add the below headers:

Content-Type: application/xml

X-Auth-Token: 3778fe88-e71d-4004-86bc-3188f7fd450b.

- 1 Open Resource_VCenter with NFVD Resource Modeler tool.
- 2 Export artifact and relationship instances xml separately.
- 3 Provide ip for the FF HOST used.
- 4 Launch “discovery” start method.

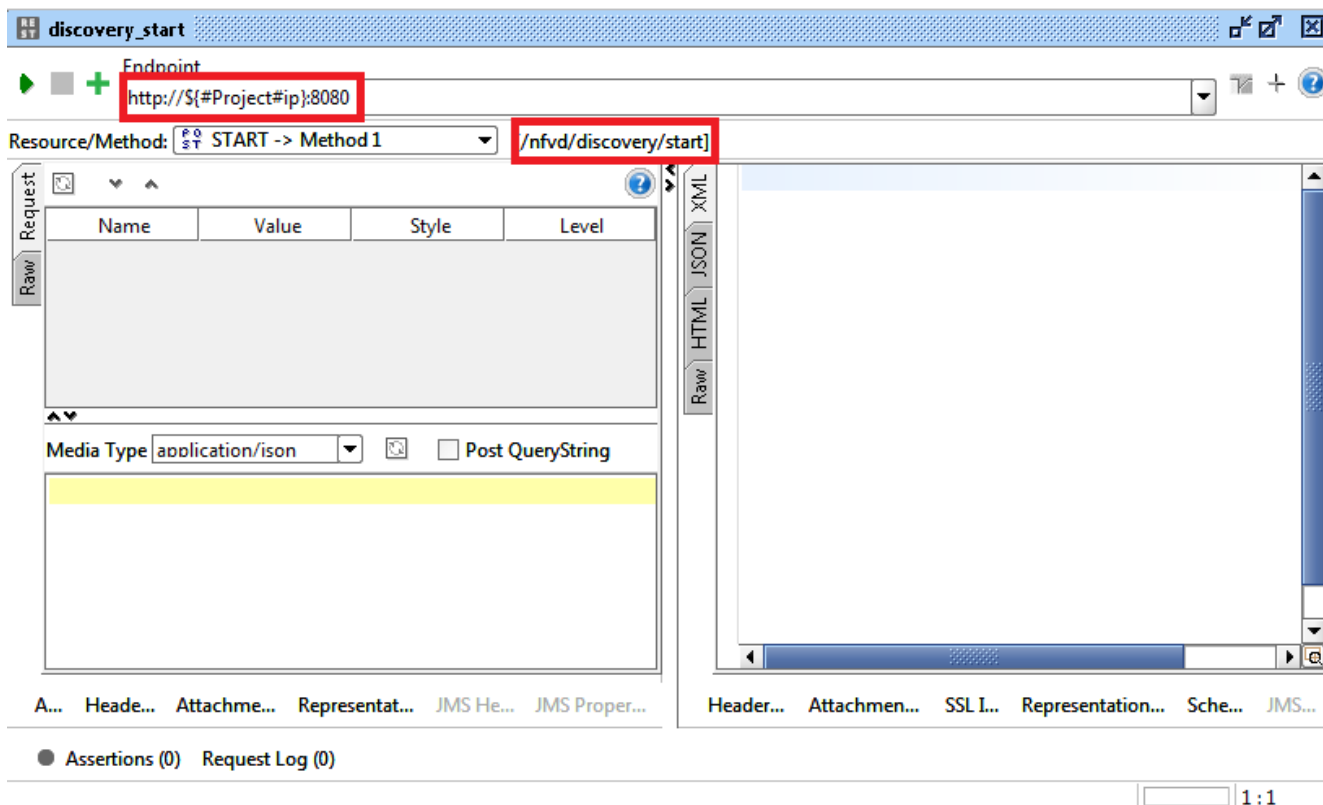


Figure 6: Discovery start method.

- Copy the content of the artifact instances xml exported file to the body of the operation upload dc artifact

The method used is detailed in <http://localhost:8080->NFVD->DISCOVERY->{id}->artifact->upload->Method 1->discovery u a>, SoapUI testing project, and the path of the request will be /nfvd/discovery/{id}/artifact/upload.

- Fill the id of the request with the id of the HYPERVISOR:VCENTER artifact (Field value id marked in the figure).

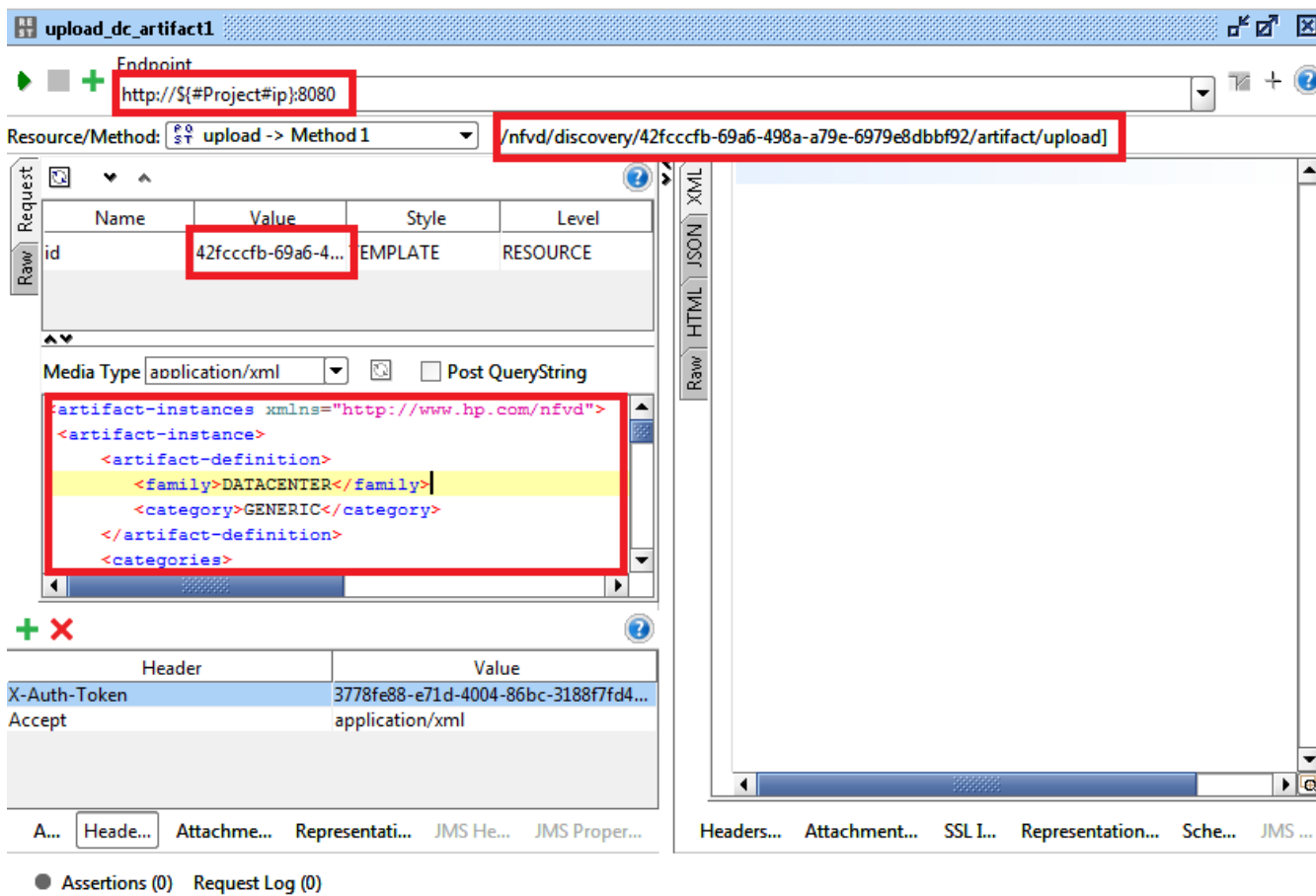


Figure 7: Uploading DC artifacts of a vCenter Resource pool.

- Copy the content of the relationship instances xml exported file to the body of the operation upload dc relationship

The method used is detailed in <http://localhost:8080->NFVD->DISCOVERY->{id}->relationship->upload->Method 1->discovery u r>, SoapUI testing project, and the path of the request will be `/nfvd/discovery/{id}/relationship/upload`.

- Fill the id of the request with the id of the DATACENTER:GENERIC artifact (Field value id marked in the figure).

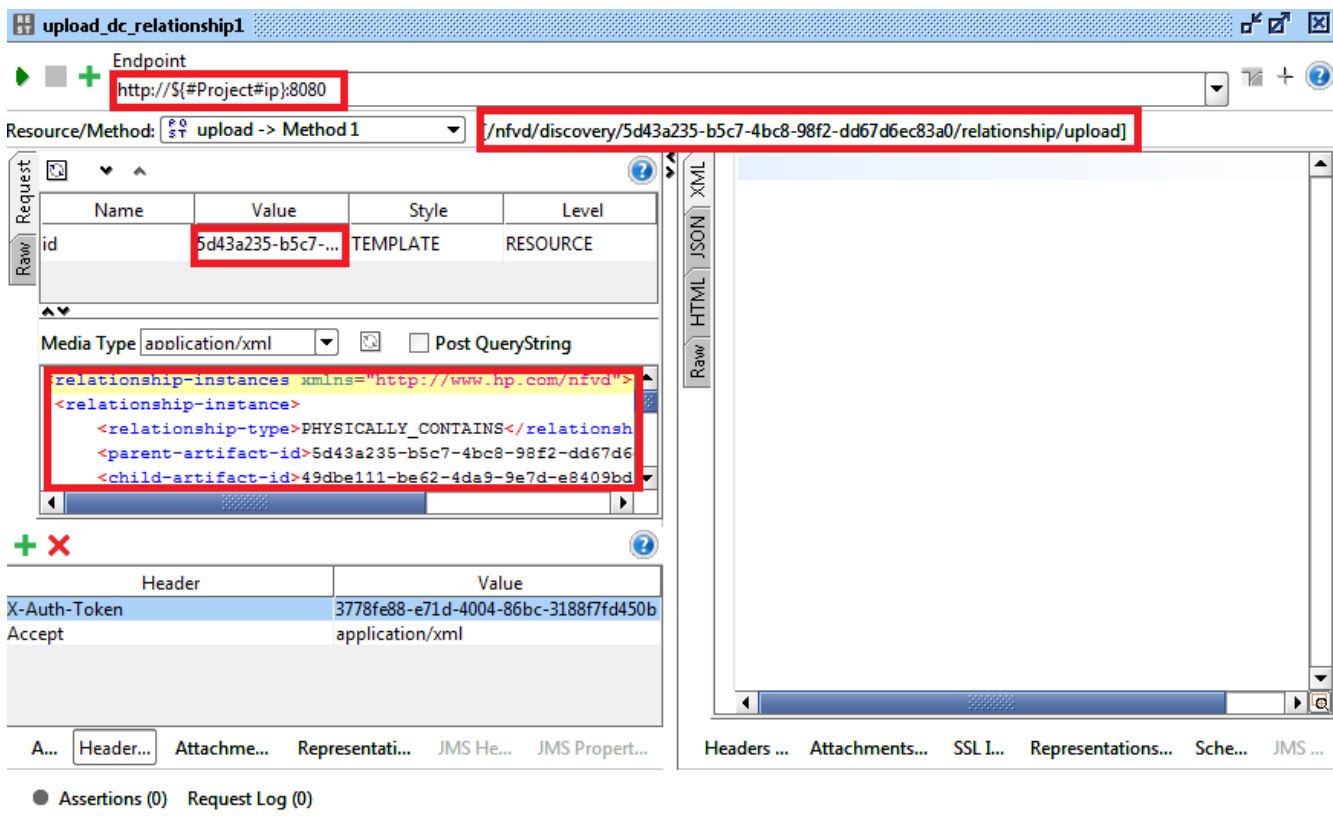


Figure 8: Uploading DC relationships of a vCenter Resource pool.

9 Launch discovery stop method.

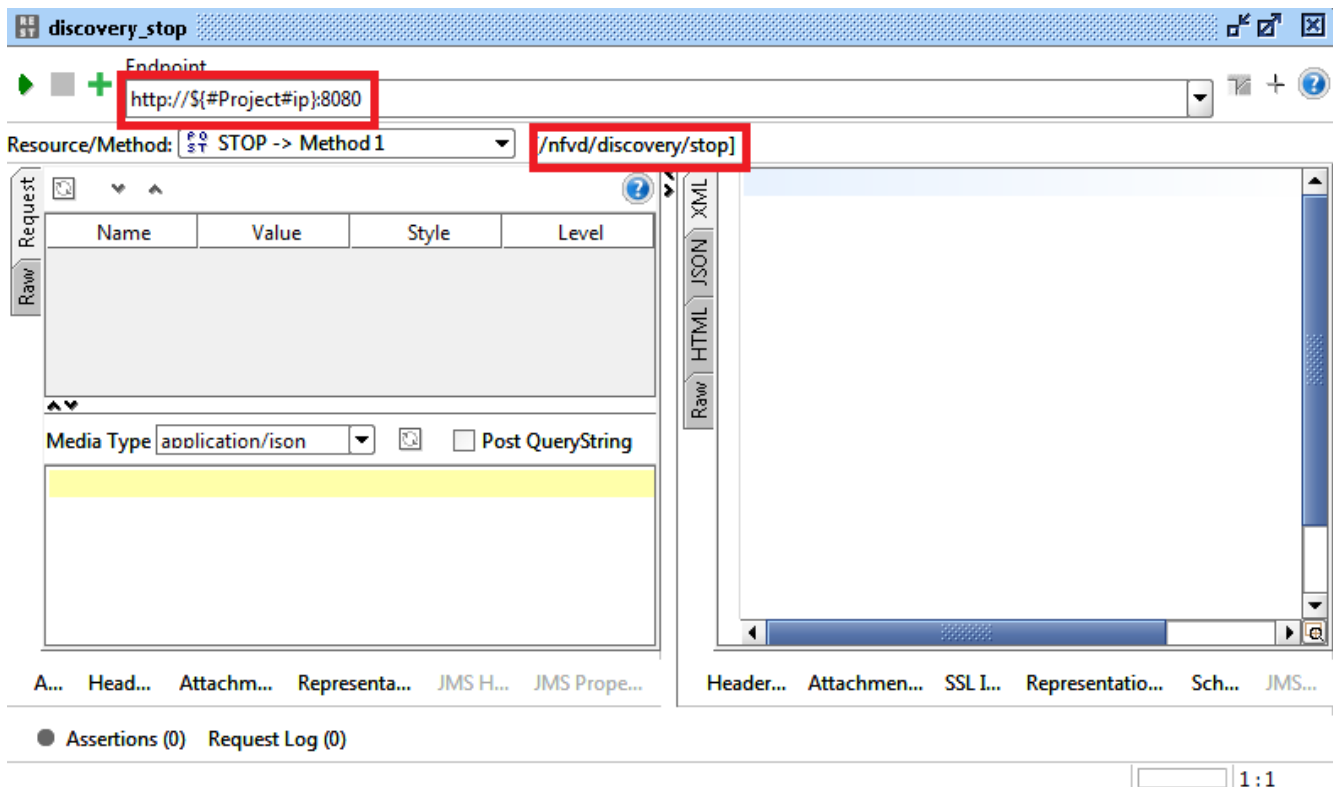


Figure 9: Discovery stop method.

2.2.3 Image management in vCenter

For vCenter scenario, the IMAGE:GENERIC provisioned must have some particular attribute filled:

- IMAGE:GENERIC > INFO > DiskFormat

<image_format>

vmrk
