HUGEPAGE INTEGRATION TEST CASES

Trademarks

Notes, Cautions, and Warnings

A **Note** indicates important information that helps you make better use of your system.

A **Caution** indicates potential damage to hardware or loss of data if instructions are not followed.

A **Warning** indicates a potential for property damage, personal injury, or death.

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1.Purpose

The purpose of this document is to explain various test cases that are executed for testing of deployment time enablement of Hugepages with JetStream 5.0.

2.Description

A Positive Test Cases checks, whether the application behaves as expected with the positive input and does what it is supposed to do. Positive Test Cases is performed on valid data as input. On the other hand, Negative Test Cases checks, whether the application behaves as expected with negative input and performed on invalid data as input.

3.Parameters

Following configuration options are applicable to hugepages.py script.

- enable_hugepages
- flavor_name
- hpgsize
- hpgnum

The test cases for each parameter are described below

3.1.enable_hupages

This is a boolean value.

3.1.1. Positive Test Cases

No.	Input	Expected Outcomes	Test Status	Test Result
1	enable_hugepages variable is set to true .	The JetStream script should run and deploy the hugepages on all the compute nodes.	Done	Pass
2	enable_hugepages variable is set to TRUE .	The JetStream script should run and deploy the hugepages on all the compute nodes.	Done	Pass
3	enable_hugepages is set to True.	The JetStream script should run and deploy the hugepages on all the compute nodes.	Done	Pass
4	enable_hugepages variable is set to false	The JetStream script shouldn't deploy the hugepages .	Done	Pass
5	enable_hugepages variable is set to FALSE.	The JetStream script shouldn't deploy the hugepages.	Done	Pass
6	Enable_hugepages variable is set to False	The JetStream script shouldn't deploy the hugepages.	Done	Pass

3.1.2 Negative Test Cases

No.	Input	Expected Outcomes	Test Status	Test Result
1	enable_hugepages variable is set to some alphabet value .	The JetStream script shouldn't deploy the hugepages.	Done	Pass
2	enable_hugepages variable is set to some integer value.	The JetStream script shouldn't deploy the hugepages.	Done	Pass
3	No input	The JetStream script shouldn't deploy the hugepages.	Done	Pass

3.2.flavor_name

This test case verifies that the "flavor_name" option only takes the flavor names supported by the script. The valid values for flavor_name are alphanumeric values, ". ", "_" and "-" .

3.2.1 Positive Test Cases

No.	Input	Expected Outcomes	Test Status	Test Result
1	NewFlavor	Valid value so flavor should be created with given name and hugepages should be deployed.	Done	Pass
2	flavor_for_nfv	Valid value so flavor should be created with given name and hugepages should be deployed.	Done	Pass
3	nfv_250_1	Valid value so flavor should be created with given name and hugepages should be deployed.	Done	Pass
4	m1.flavor_2	Valid value so flavor should be created with given name and hugepages should be deployed.	Done	Pass
5	flavor-nfv	Valid value so flavor should be created with given name and hugepages should be deployed.	Done	Pass
6	-1	Valid value so flavor should be created with given name and hugepages should be deployed.	Done	Pass
7	-	Valid value so flavor should be created with given name and hugepages should be deployed.	Done	Pass

3.2.2 Negative Test Cases

No.	Input	Expected Outcomes	Test Status	Test Result
1	#!4_new_flavor	Invalid value, so script should throw an error and exit	Done	Pass
2	flavor@nfv123	Invalid value, so script should throw an error and exit	Done	Pass
3	special flavor`	Invalid value, so script should throw an error and exit	Done	Pass
4	Default Openstack flavor	Invalid value, so script should throw an error and exit	Done	Pass
5	No input	Invalid value, so script should throw an error and exit	Done	Pass

3.3.hpgsize

hpgsize is the size of Hugepages to be assigned to compute nodes. The valid values for hugeages are "2MB" and "1GB". Any other values are not allowed and script should throw an exception.

3.3.1. Positive Test Cases

No.	Input	Expected Outcomes	Test Status	Test Result
1	2MB	Valid value, so script should use this size for creation of hugepages.	Done	Pass
2	1GB	Valid value, so script should use this size for creation of hugepages.	Done	Pass

3.3.2. Negative Test Cases

No.	Input	Expected Outcomes	Test Status	Test Result
1	2MB	Invalid value, so script should throw an error and exit	Done	Pass
2	1GB	Invalid value, so script should throw an error and exit	Done	Pass
3	Abc	Invalid value, so script should throw an error and exit	Done	Pass
4	2048	Invalid value, so script should throw an error and exit	Done	Pass
5	-1	Invalid value, so script should throw an error and exit	Done	Pass
6	0	Invalid value, so script should throw an error and exit	Done	Pass

3.4.hpgnum

hpgnum is the number of hugepages to be created on compute nodes. Only positive integer values are allowed for this parameter. Moreover, it has one-to-one correspondence with hpgsize. For hpgsize of 2MB, hpgnum allows 49152, and for 1GB hpgsize, 96 is the only valid value.

3.4.1. Positive Test Cases

No.	Input	Expected Outcomes	Test Status	Test Result
1	Hpgsize = 2MB, hpgnum=49152	Valid value so script should create hugepages	Done	Pass
2	Hpgsize = 1GB, hpgnum=96	Valid value so script should create hugepages	Done	Pass

No.	Input	Expected Outcomes	Test Status	Test Result
3	Hpgsize = 2MB and hpgnum not given.	Invalid value, so script should throw an error and exit	Done	Pass
4	Hpgsize = 1GB and hpgnum not given.	Invalid value, so script should throw an error and exit	Done	Pass

3.4.2. Negative Test Cases

No.	Input	Expected Outcomes	Test Status	Test Result
1	Abc.	Invalid value, so script should throw an error and exit.	Done	Pass
2	-1	Invalid value, so script should throw an error and exit.	Done	Pass
3	0	Invalid value, so script should throw an error and exit.	Done	Pass
4	12GB	Invalid value, so script should throw an error and exit.	Done	Pass
5	Hpgsize = 1GB, hpgnum=16	Invalid value for the hpgnum, so script should throw an error and exit.	Done	Pass
6	Hpgsize = 2MB, hpgnum=4	Invalid value for the hpgnum, so script should throw an error and exit.	Done	Pass

4.Functional Test

No.	Test Case	Expected Outcomes	Test Status	Test Result
1	Deployment of JetStream without enabling hugepages and NUMA variables.	JetStream deployment should be successful.	Done	Pass
2	Deployment of JetStream with enabling hugepages variable only.	JetStream deployment should be successful along with hugepages deployment.	Done	Pass
3	Deployment of JetStream with enabling both hugepages and NUMA variables	JetStream deployment should be successful along with hugepages and NUMA deployment.	Done	Pass
4	Deployment of JetStream along with hugepages and not specifying the value for the flavor_name in the .ini file.	The script should exit with an error.	Done	Pass
5	Deployment of JetStream along with hugepages and not specifying the values for the hpgsize and hpgnum in the .ini file.	The script should exit with an error.	Done	Pass
6	Creation of a test instance in Overcloud with Hugepages flavor	An instance should be created without any error	Done	Pass
7	Reduction of Hugepages number in one of the compute nodes after creation of Hugepages test instance HugePages_Free should be less than Hugepages_Total Done Pass	HugePages_Free should be less than Hugepages_Total	Done	Pass
8	Run Jetstream script with enable_hugepages set to true and run_sanity set to true in the settings file	Sanity Test should pass	Done	Pass