



Reliance Jio

Infocomm Limited

RJIL IDC

Standard Operating Procedure

KDUMP crash management

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1	10 August 2016	SOP for KDUMP Crash	Joel	Babu jayaraj	Manish Dhote

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1 Purpose

- 2 Whenever the kernel is crashed, It is good to know the reason behind the crash.
- 3 This document provides an overview and technical knowledge on whether KDUMP is installed, running, etc. Also the requirement is to place the crash file not from the original directory as /var/crash.

Req in taiga: <http://idctaiga.rjil.ril.com/project/nssankara-compute/us/522>.

4 Scope

Scope is to validate whether Kdump is installed? Kdump is configured? Kdump is operational? along with that it place the crash file in the specific folder

4.1 Intended Audience

SOP is prepared for OPS team.

4.2 Supported Hardware/Software

This utility requires python 2.4 environment to trigger the automated script.

5 Definitions / Abbreviations

RJIL	-	Reliance Jio Infocomm Limited
SOP	-	Standard Operating Procedure
HPSA	-	HP Server Automation

6 Responsibilities

6.1 IDC Tools & Automation Team

- a) OPS team are responsible for executing the script in HPSA
- b) For preparing & updating this document.

7 Work process/procedures

- a) The script will be present in HPSA
- b) Run the python scripts and execute for all the VM associated with it.

7.1 Prerequisites

Python 2.4 with following packages available in the script execution environment sys, os, process

7.2 Script flow

Scripts:

kdump-validator.py

kdump-config.py

Step by step flow:

kdump-validator.py

- a) When kdump is not installed and no space of greater than 10G

It will show the hostname, Not installed, Not Configured, Not Operational, Space compliant

Test: (run “yum remove kexec-tools” to uninstall and run the program)

```
[root@JMNGD1BWN130V201 kdump]# yum remove kexec-tools
Loaded plugins: product-id, security, subscription-manager
This system is not registered to Red Hat Subscription Management. You can use s
Setting up Remove Process
Resolving Dependencies
--> Running transaction check
--> Package kexec-tools.x86_64 0:2.0.0-280.el6 will be erased
--> Finished Dependency Resolution

Dependencies Resolved

=====
Package                               Arch                               Version
=====
Removing:
kexec-tools                           x86_64                             2.0.0-280.el6
=====

Transaction Summary
=====
Remove      1 Package(s)

Installed size: 865 k
Is this ok [y/N]: y
Downloading Packages:
Running rpm_check_debug
Running Transaction Test
Transaction Test Succeeded
Running Transaction
  Erasing      : kexec-tools-2.0.0-280.el6.x86_64
warning: /etc/kdump.conf saved as /etc/kdump.conf.rpmsave
  Verifying    : kexec-tools-2.0.0-280.el6.x86_64

Removed:
kexec-tools.x86_64 0:2.0.0-280.el6

Complete!
[root@JMNGD1BWN130V201 kdump]#
```

subscribing to the professional edition here: <http://mobaxterm.mobatek.net>

```
[root@JMNGD1BWN130V201 kdump]# python validator-kdump.py
JMNGD1BWN130V201,NOT-INSTALLED,NOT-CONFIGURED,NOT-OPERATIONAL,SPACE-COMPLIANT
[root@JMNGD1BWN130V201 kdump]#
```

- b) When kdump is installed and not configured and no space of greater than 10G
- It will show the hostname, Installed, Not Configured, Not Operational, Space compliant
- Test: (remove "crashkernel = auto" from /boot/grub/grub.conf)

```
root (hd0,0)
kernel /vmlinuz-2.6.32-504.el6.x86_64 ro root=/dev/mapper/vg_jmngd1bwn1
SYSFONT=latacyrheb-sun16 rd_LVM_LV=vg_jmngd1bwn130v201/lv_swap rd_LVM_LV=vg_jm
rd_NO_DM rhgb quiet
initrd /initramfs-2.6.32-504.el6.x86_64.img

[root@JMNGD1BWN130V201 kdump]# python validator-kdump.py
JMNGD1BWN130V201,INSTALLED,NOT-CONFIGURED,NOT-OPERATIONAL,SPACE-COMPLIANT
[root@JMNGD1BWN130V201 kdump]#
```

- c) When kdump is installed and configured and operational and no space of greater than 10G

It will show the hostname, installed, Configured, Operational, Space compliant

Test: (run “service kdump stop”)

```
[root@JMNGD1BWN130V201 kdump]# service kdump stop
Stopping kdump: [ OK ]
[root@JMNGD1BWN130V201 kdump]# python validator-kdump.py
JMNGD1BWN130V201,INSTALLED,CONFIGURED,NOT-OPERATIONAL,SPACE-COMPLIANT
[root@JMNGD1BWN130V201 kdump]# service kdump start
Starting kdump: [ OK ]
[root@JMNGD1BWN130V201 kdump]# python validator-kdump.py
JMNGD1BWN130V201,INSTALLED,CONFIGURED,OPERATIONAL,SPACE-COMPLIANT
[root@JMNGD1BWN130V201 kdump]#
```

Step by step flow:

Config-kdump.py

- a) When kdump is not installed, or not operational, or not configured

It will install, configured, make the service run set file in /etc/kdump-conf as

Default path in /etc/kdump-conf

```
#net user@my.server.com
path /var/crash
core_collector makedumpfile -c --message-level 1 -d 31
#core_collector scp
#core_collector cp --sparse=always
#extra_bins /bin/cp
```

After config-kdump.py


```
[root@JMNGD1BWN130V201 kdump]# ls
config-kdump.py  validator-kdump.py
[root@JMNGD1BWN130V201 kdump]# python config-kdump.py
JMNGD1BWN130V201,kdump path set to /idc/dump
JMNGD1BWN130V201,Installed and Configured. Starting the service
JMNGD1BWN130V201,Operational
[root@JMNGD1BWN130V201 kdump]#
```

```
#ext4 UUID=03138356-5e61-4ab3-b58e-27507ac41937
#net my.server.com:/export/tmp
#net user@my.server.com
path /idc/dump
core_collector makedumpfile -c --message-level 1 -d 31
#core_collector scp
#core_collector cp --sparse=always
#extra_bins /bin/cp
```

- b) When VM is crashed:

The crash file will be there in the “/idc/dump”

Test: (run “echo 1 > /proc/sys/kernel/sysrq ; echo c > /proc/sysrq-trigger” to crash the vm)

(This is example, when the path was set to /tmp/dmp)

```
[root@JMNGD1BWN130V201 dump]# ls /tmp/dump/
127.0.0.1-2016-08-10-15:19:13
[root@JMNGD1BWN130V201 dump]#
```

Execute: python config-kdump.py, it will install, configure everything.

```
[root@JMNGD1BWN130V201 kdump]# ls
config-kdump.py  validator-kdump.py
[root@JMNGD1BWN130V201 kdump]# python config-kdump.py
JMNGD1BWN130V201,kdump path set to /idc/dump
JMNGD1BWN130V201,Installed and Configured. Starting the service
JMNGD1BWN130V201,Operational
[root@JMNGD1BWN130V201 kdump]#
```

- c) Grub.conf setting

Memory setting:

If /idc/dump should have 10GB space

If the free space is $\geq 10G$, it is Space-not compliant

If the free space is $< 10G$, it is Space compliant

```
[root@JMNGD1BWN130V201 kdump]# service kdump stop
Stopping kdump: [ OK ]
[root@JMNGD1BWN130V201 kdump]# python validator-kdump.py
JMNGD1BWN130V201,INSTALLED,CONFIGURED,NOT-OPERATIONAL,SPACE-COMPLIANT
[root@JMNGD1BWN130V201 kdump]# service kdump start
Starting kdump: [ OK ]
[root@JMNGD1BWN130V201 kdump]# python validator-kdump.py
JMNGD1BWN130V201,INSTALLED,CONFIGURED,OPERATIONAL,SPACE-COMPLIANT
[root@JMNGD1BWN130V201 kdump]#
```

Running the script on HPSA

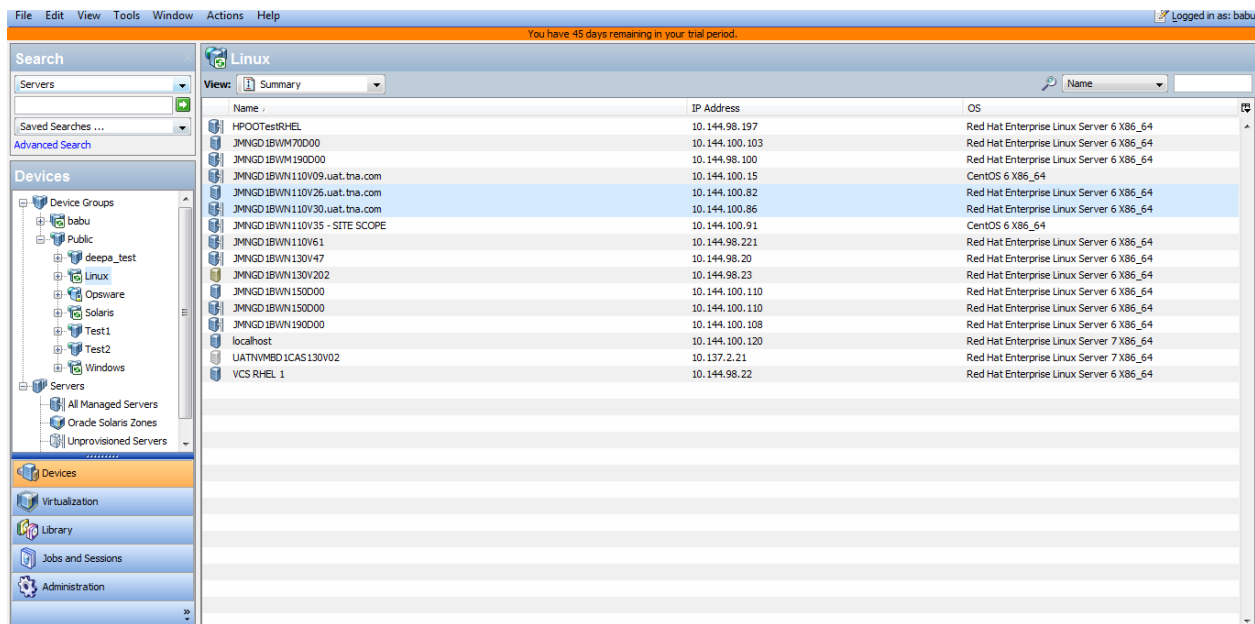
For testing the script is place in the IDC tools and automation UAT environment

10.144.100.83

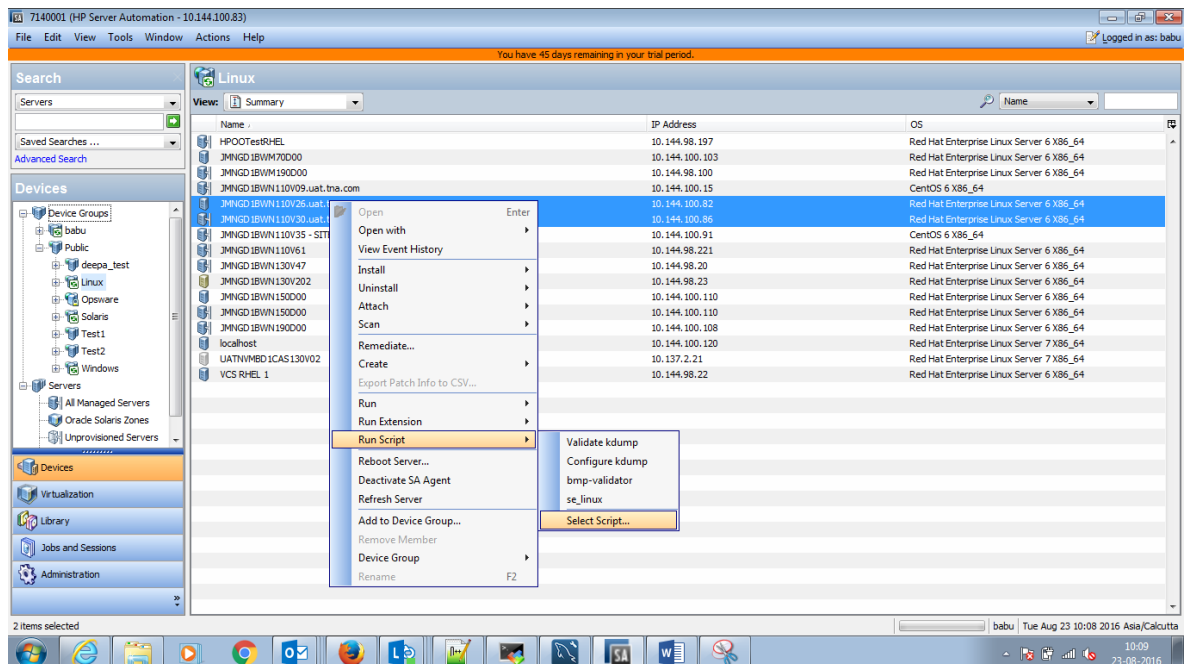
1. HPSA screen:

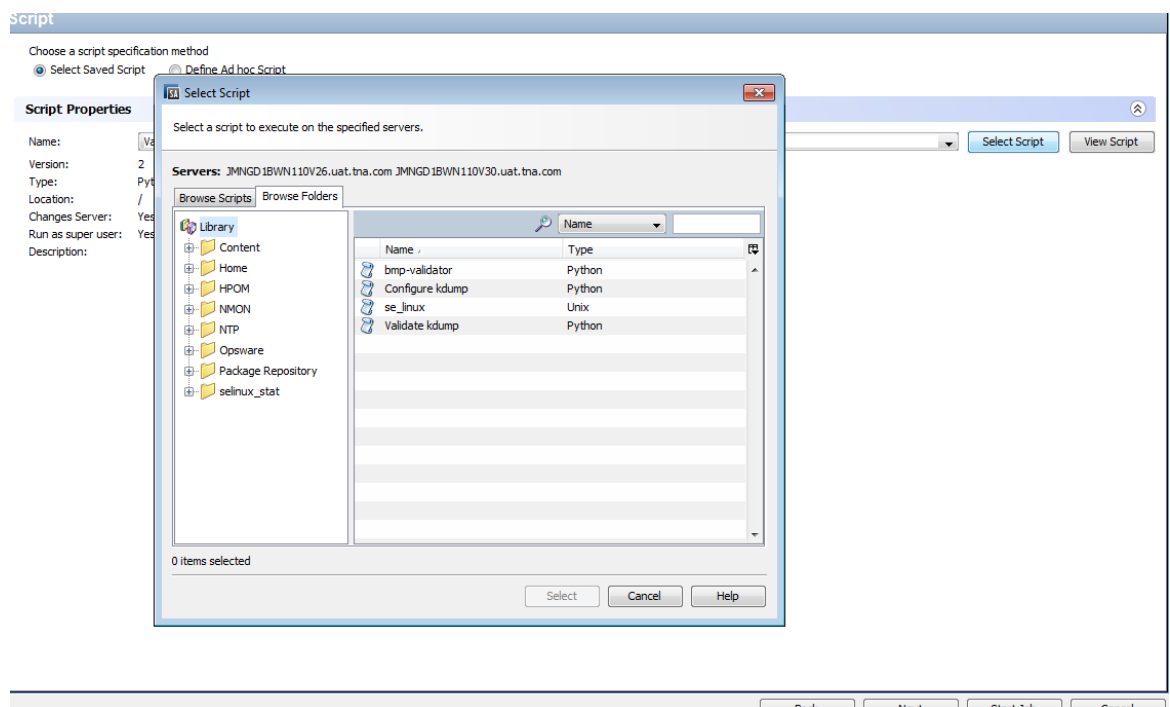
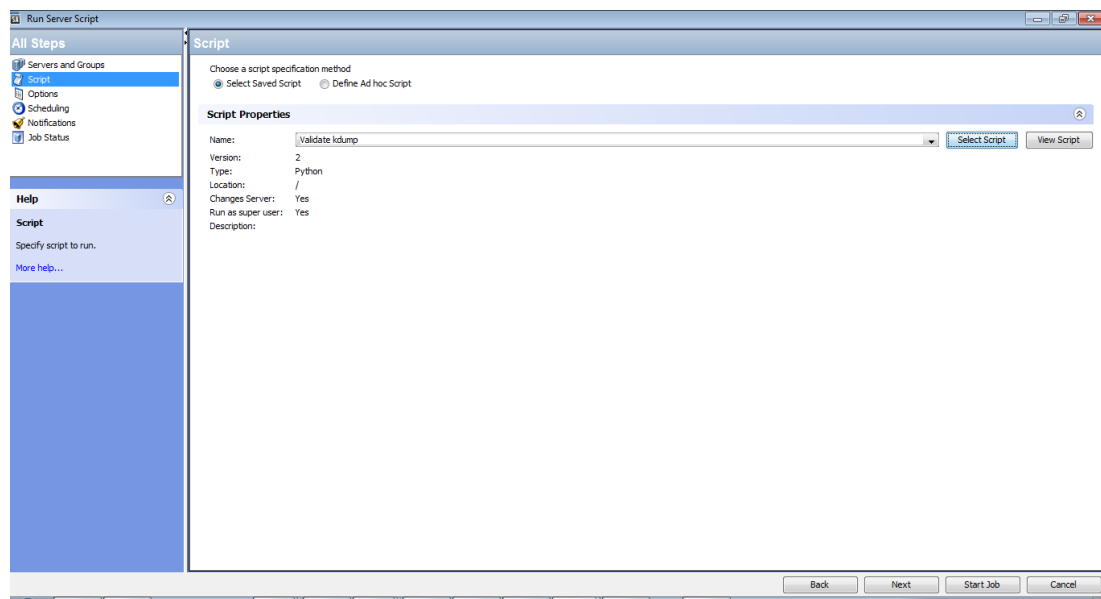
In HPSA there will be multiple devices attached to HPSA. We can select across the device we want to run.

Right click on it and select the script we want to run.



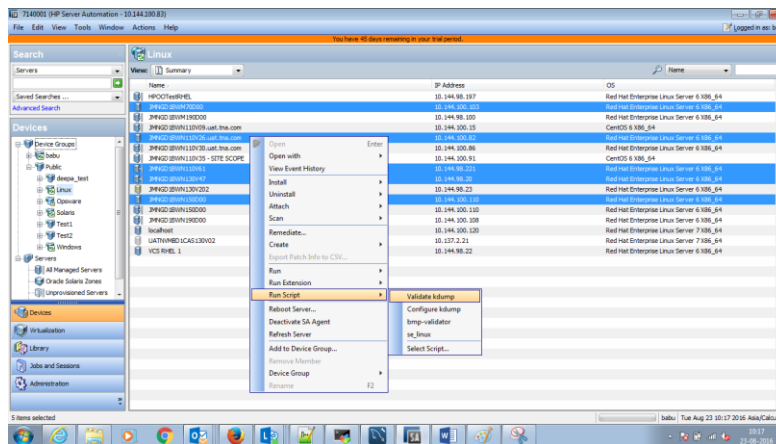
2. The screen shows: We can keep the script in the HPSA using winscp and place it in the HPSA installed VM. From HPSA we can browse and select those script.





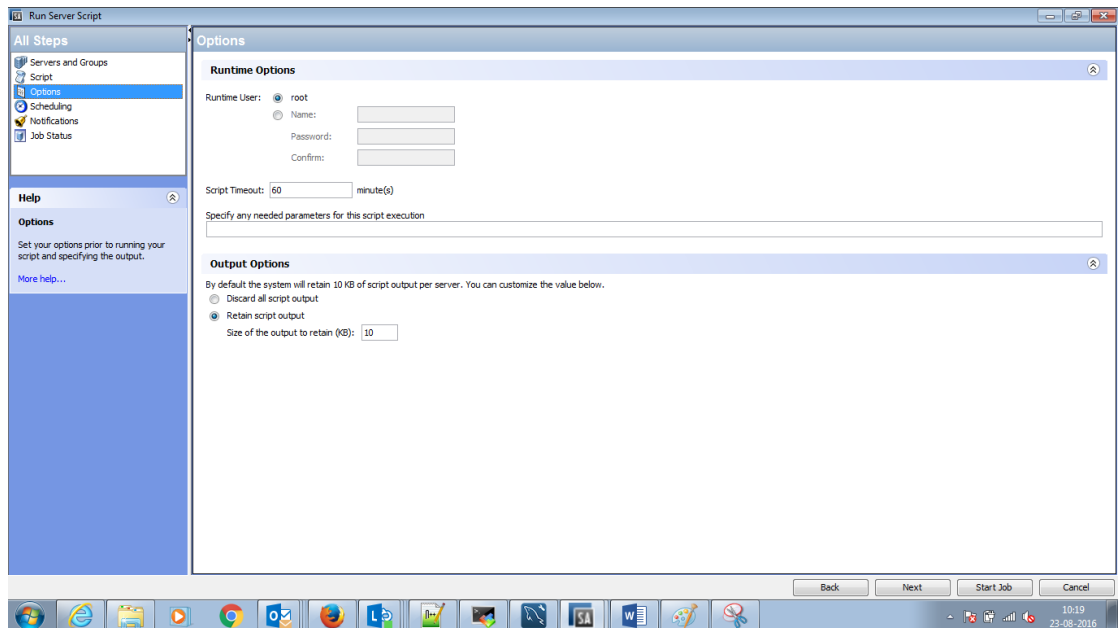
Running the script:

Select the list of devices we want to run across and then right click and select the “validate kdump”



Run time option:

Select how you want to run:, by default, just click on next.



Add notifier and click on startjob

Notifications

Email Notifications

Email Address of Recipient	On Success	On Failure	On Termination
babu.jayaram@ttn.com	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
jeyaraj@ttn.com	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Add Notifier Remove

Ticket Tracking

Ticket ID:

Status: pending, In progress, Succeeded, Failed.

Job Status

Action: Started (Tue Aug 23 10:23:13 2016)

Progress: 0 of 5 completed

☐ Show output in table

Delimiter for text files ☐ Export All Results

Server	Exit code	Status
JMNGD IBWM70D00		Pending
JMNGD IBWN110V26.uat.tna.com		Pending
JMNGD IBWN110V61		Pending
JMNGD IBWN130V47		Pending
JMNGD IBWN150D00		Pending

Back Next End Job Close

10:22 23-08-2016

Job Status

Action: Started (Tue Aug 23 10:23:13 2016)

Progress: 0 of 5 completed

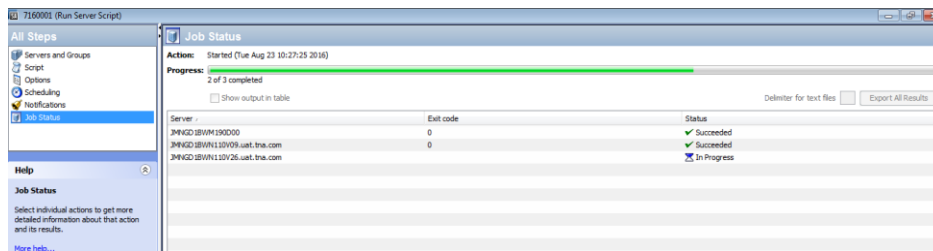
☐ Show output in table

Delimiter for text files ☐ Export All Results

Server	Exit code	Status
JMNGD IBWM70D00		In Progress
JMNGD IBWN110V26.uat.tna.com		In Progress
JMNGD IBWN110V61		In Progress
JMNGD IBWN130V47		In Progress
JMNGD IBWN150D00		In Progress

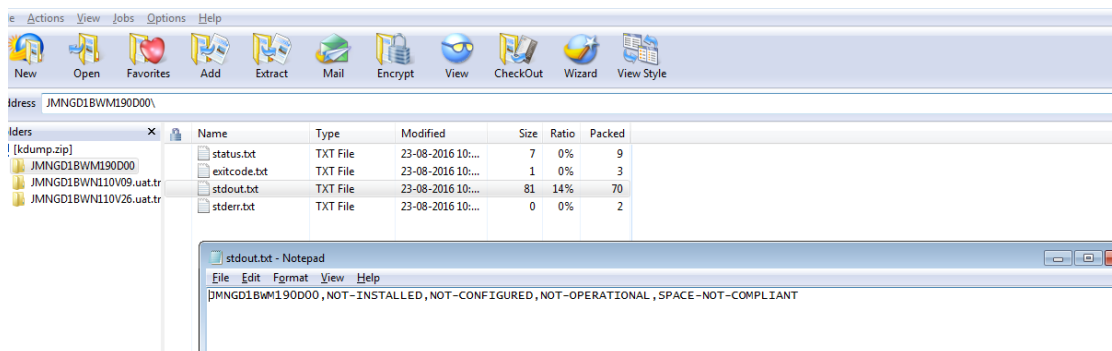
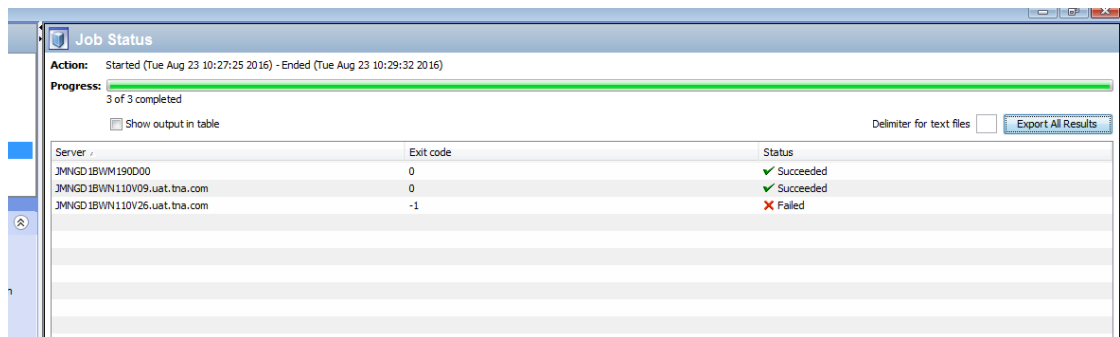
Back Next End Job Close

10:22 23-08-2016



Export the result: click on Export All Result button and save it, it will be a zip file when I save it.

Open the file and take a look for the result in “stdout.txt”



In the same way, run the script for “configure KDump”

