

أطخل ةلاس ر؛ "OS-SHMWIN-2-ERROR_ENCOUNTERED" اهحال صإو ءاطخأل فاشك تسأ

تايوت حمل

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ةمدقم

OS-SHMWIN-2-ERROR_ENCOUNTERED ءاطخأ فاشك تسأ ةي فيك دن تسمل اذه فص ي Cisco IOS® XR هجوم ل ع اهحال صإو

أطخل ةلاس ر

يه أطخل ةلاس ر ةلثمأ

```
"%OS-SHMWIN-2-ERROR_ENCOUNTERED"
```

```
LC/0/0/CPU0:Dec 16 09:45:58 : fib_mgr[260]: %OS-SHMWIN-2-ERROR_ENCOUNTERED : SHMWIN: Error encountered:
```

```
LC/0/0/CPU0:Dec 16 09:45:39 : 12fib[328]: %OS-SHMWIN-2-ERROR_ENCOUNTERED : SHMWIN: Error encountered: S
```

```
RP/0/RSP0/CPU0:Aug 11 21:15:47.174 IST: show_ip_interface[65961]: %OS-SHMWIN-2-ERROR_ENCOUNTERED : SHMW
```

يتل، ةكرت شمل ةرك اذلا هجاوت، ددحم لكش بو. ةدي دش ماظنل ةرك اذ ةلاح نأ ل أطخل ريشي ةلكشم، ةددعتم تاي لمع نېب ةي كي مان ي دل تانا ي بل نخت

اهحال صإو ءاطخأل فاشك تسأ

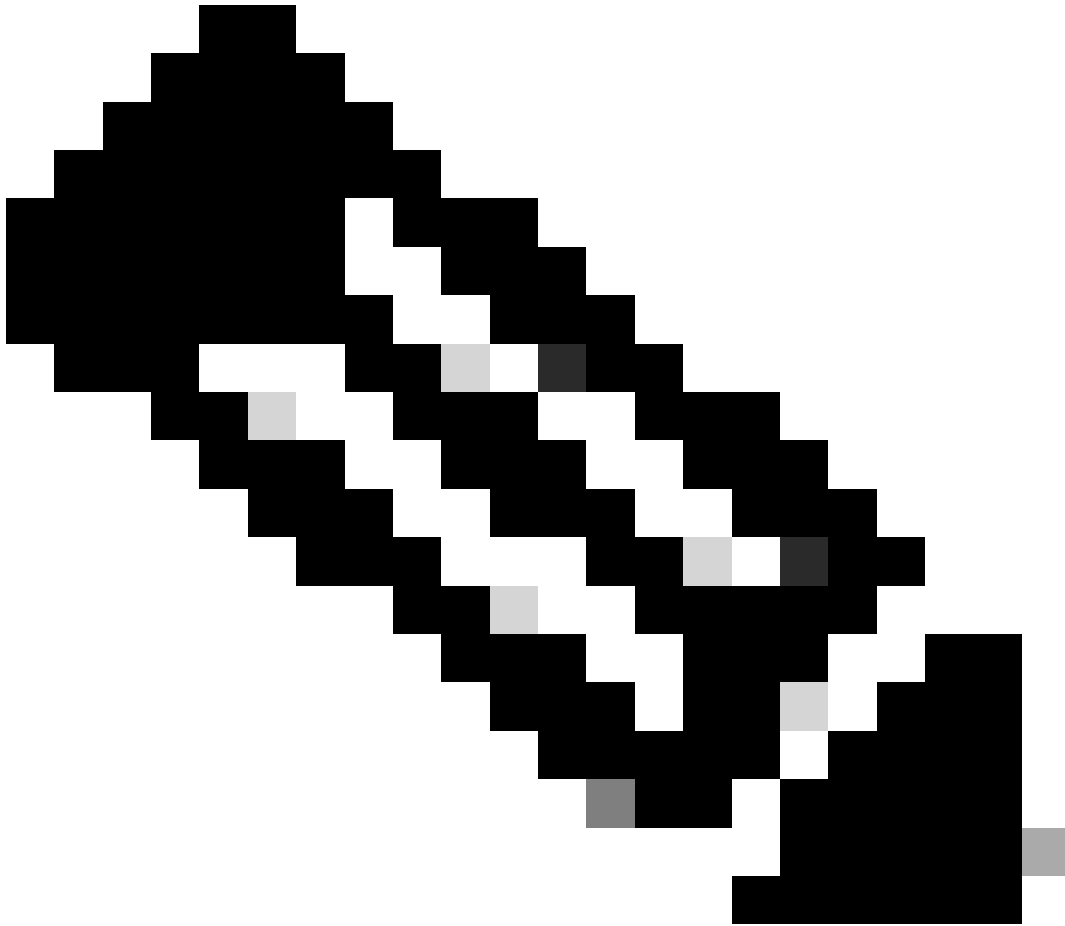
ةرك اذلا يكله تسمل ع أو (RP/RSP) وأ طخل ةق اطب في رعتب أدبا

ةرك اذلا ةلاح تناك اذ، لذل عمو. ن مضم رمأ يتح وأ ةي لمع ل ع أطخل ةلاس ر يوتحت نأ نكمي

ديدحت كيلع بچي. ةيفاك ةركاذ رفوتت مل اذل لشف في نأ عيش يأل نكميف ، ةضفخنم
ةرفوتملا ةركاذل ضافخنا ىل ي دؤت يتلا بابسألا

يكلهتسم لضفأ ىل ع روثعلا لواح. اهسفن أطخلا ةلاسري ف طخلا ةقاطب ىل ةراشإلا متي
ةركاذلا.

```
show memory location 0/x/CPUx  
show memory summary location 0/x/CPUx  
show watchdog memory-state location 0/x/CPUx  
show processes memory location 0/x/CPUx
```



لوؤسملا تايلمع يه ام ىل اريشت ىرخأ أطخ لئاسر كانه نوكت دق : ةظحالم.

لاثملا لىبس ىل ع

<#root>

```
RP/0/RSP0/CPU0:Apr 24 11:34:33.599 EST: wdsysmon[450]: %HA-HA_WD-4-MEMORY_ALARM : Memory threshold cross
RP/0/RSP0/CPU0:Apr 24 13:23:12.947 EST: wdsysmon[450]: %HA-HA_WD-4-MEMORY_ALARM : Memory threshold cross
RP/0/RSP0/CPU0:Apr 24 14:32:10.086 EST: wdsysmon[450]: %HA-HA_WD-4-MEMORY_STATE_CHANGE : New memory sta
RP/0/RSP0/CPU0:Apr 24 14:32:10.086 EST: wdsysmon[450]: %HA-HA_WD-4-TOP_MEMORY_USERS_WARNING :
```

Top 5 consumers of system memory

(671084 Kbytes free):

```
RP/0/RSP0/CPU0:Apr 24 14:32:10.086 EST: wdsysmon[450]: %HA-HA_WD-4-TOP_MEMORY_USER_WARNING : 0: Process
RP/0/RSP0/CPU0:Apr 24 14:32:10.086 EST: wdsysmon[450]: %HA-HA_WD-4-TOP_MEMORY_USER_WARNING : 1: Process
RP/0/RSP0/CPU0:Apr 24 14:32:10.087 EST: wdsysmon[450]: %HA-HA_WD-4-TOP_MEMORY_USER_WARNING : 2: Process
RP/0/RSP0/CPU0:Apr 24 14:32:10.087 EST: wdsysmon[450]: %HA-HA_WD-4-TOP_MEMORY_USER_WARNING : 3: Process
RP/0/RSP0/CPU0:Apr 24 14:32:10.087 EST: wdsysmon[450]: %HA-HA_WD-4-TOP_MEMORY_USER_WARNING : 4: Process
```

في تاريخي غت يا عارج مدع نم ققحتف ، رخأ هي جوت لوكوتورب يا و BGP يه ةي لمعل تناك اذا
اذه في تمهاس يتل ةكبش لل

لض ف ا ديحتلو ةمدختس مل ةرك اذلا يلع ةماع ةرطن يلع لوصحلل رم اوأل ا هذه مدختس ا
ةرك اذلا لغشت يتل ا تل لمعل

أطخل ا في ني عمل طخل ا فرح وه 0/x/CPUx

```
show memory summary location 0/x/CPUx
show memory summary location 0/x/CPUx
show shared-memory location 0/x/CPUx
show memory-top-consumers location 0/x/CPUx
show shmwin summary location 0/x/CPUx
```

ةلثم أ ل:

<#root>

RP/0/RSP1/CPU0:R1#

show memory summary location 0/RSP0/CPU0

```
node:          node0_RSP0_CPU0
Physical Memory: 6144M total-----
Application Memory : 5738M (2795M available)
Image: 117M (bootram: 117M)
Reserved: 224M, IOMem: 0, flashfsys: 0
Total shared window: 76M
```

<#root>

RP/0/RSP1/CPU0:R1#

show memory summary location 0/RSP0/CPU0

```
node:      node0_RSP0_CPU0
Physical Memory: 6144M total-----
Application Memory : 5738M (2797M available)
Image: 117M (bootram: 117M)
Reserved: 224M, IOMem: 0, flashfsys: 0
Total shared window: 76M
```

<#root>

RP/0/RSP1/CPU0:R1#

show shared-memory location 0/0/cpu0

```
Total Shared memory: 1527M
ShmWin: 236M
Image: 703M
LTrace: 353M
AIPC: 33M
SLD: 3M
SubDB: 1M
CERRNO: 144K
GSP-CBP: 64M
EEM: 0
XOS: 4M
CHKPT: 2M
CDM: 4M
XIPC: 594K
DLL: 64K
SysLog: 0
Miscellaneous: 119M
```

LTrace usage details:

```
Used: 353M, Max: 2075M
Current: default(dynamic)
Configured: dynamic with scale-factor: 8 (changes take effect after reload)
```

<#root>

RP/0/RP0/CPU0:R1#

show memory-top-consumers location 0/RP0/CPU0

Execute 'show memory-snapshots process <> location <>' to check memory usage trend.

```
#####
Top memory consumers on 0/RP0/CPU0 (at 2023/Nov/8/15:41:42)
#####
```

PID	Process	Total(MB)	Heap(MB)	Shared(MB)
7366	mibd_interface	233.2	192.64	37.7
2552	spp	228.2	9.71	222.1
49132	bgp	225.9	83.62	165.9
4844	l2rib	211.8	21.12	190.1
2787	gsp	137.9	24.64	113.1
3869	mpls_lsd	122.8	12.85	107.8

```

3804          fib_mgr      121.0      13.43      108.7
2975      parser_server    116.7      66.39      44.6
6685          l2vpn_mgr    116.5      43.77      82.3
3310      dpa_port_mapper  114.8       2.96      110.2

```

<#root>

RP/0/RSP1/CPU0:R1#

show shmwin summary location 0/0/cpu0

Shared memory window summary information

Data for Window "subdb_sco_tbl":

Virtual Memory size : 1536 MBytes
Virtual Memory Range : 0x7c000000 - 0xdc000000
Virtual Memory Group 2 size : 352 MBytes
Virtual Memory Group 2 Range : 0x66000000 - 0x7c000000

Window Name	ID	GRP	#Usrs	#Wrtrs	Ownr	Usage(KB)	Peak(KB)	Peak Timestamp
subdb_sco_tbl	70	1	1	1	158	3	0	--/--/----- --:---:--

Data for Window "ptp":

ptp	131	P	1	1	0	35	35	10/18/2023 11:56:31
-----	-----	---	---	---	---	----	----	---------------------

Data for Window "cfmd-sla":

cfmd-sla	53	1	1	1	0	99	99	10/18/2023 11:56:20
----------	----	---	---	---	---	----	----	---------------------

Data for Window "cfmd":

cfmd	36	1	1	1	0	99	99	10/18/2023 11:56:30
------	----	---	---	---	---	----	----	---------------------

Data for Window "vkg_pbr_ea":

vkg_pbr_ea	83	1	1	1	0	147	147	10/18/2023 11:56:27
------------	----	---	---	---	---	-----	-----	---------------------

Data for Window "span_ea_pd":

span_ea_pd	40	1	1	1	362	34	34	10/18/2023 11:56:13
------------	----	---	---	---	-----	----	----	---------------------

Data for Window "vkg_l2fib_vqi":

vkg_l2fib_vqi	97	1	2	2	0	3	0	--/--/----- --:---:--
---------------	----	---	---	---	---	---	---	-----------------------

Data for Window "statsd_db":

statsd_db	60	1	1	1	0	3	0	--/--/----- --:---:--
-----------	----	---	---	---	---	---	---	-----------------------

Data for Window "statsd_db_l":

statsd_db_l	130	P	1	1	0	1131	1131	10/18/2023 11:56:17
-------------	-----	---	---	---	---	------	------	---------------------

Data for Window "arp":

arp	20	1	1	1	0	227	227	10/18/2023 11:56:37
-----	----	---	---	---	---	-----	-----	---------------------

Data for Window "bm_lacp_tx":

bm_lacp_tx	54	1	1	1	132	1	0	--/--/----- --:---:--
------------	----	---	---	---	-----	---	---	-----------------------

Data for Window "ether_ea_shm":

ether_ea_shm	26	1	4	4	406	227	227	10/18/2023 11:56:27
--------------	----	---	---	---	-----	-----	-----	---------------------

Data for Window "vkg_l2fib_evpn":

```

vkg_l2fib_evpn 100 1 3 3 0 3 0 --/--/---- -:---
Data for Window "l2fib":
-----
l2fib 14 1 10 10 262 45265 45265 11/08/2023 15:03:18
Data for Window "ether_ea_tcam":
-----
ether_ea_tcam 58 1 5 5 313 595 595 10/18/2023 11:55:55
Data for Window "vkg_vpls_mac":
-----
vkg_vpls_mac 35 1 3 3 0 6291 6291 10/25/2023 13:15:04
Data for Window "prm_stats_svr":
-----
prm_stats_svr 24 1 21 21 0 12419 12419 10/18/2023 11:56:24
Data for Window "prm_srh_main":
-----
prm_srh_main 66 1 31 31 0 60163 60163 10/18/2023 11:56:31
Data for Window "prm_tcam_mm_svr":
-----
prm_tcam_mm_svr 23 1 1 1 0 22067 22163 10/18/2023 12:04:59
Data for Window "prm_ss_lm_svr":
-----
prm_ss_lm_svr 65 1 1 1 0 3233 3233 10/18/2023 11:56:33
Data for Window "prm_ss_mm_svr":
-----
prm_ss_mm_svr 22 1 5 5 0 3867 3867 10/18/2023 11:55:52
Data for Window "vkg_gre_tcam":
-----
vkg_gre_tcam 63 1 2 2 388 35 35 10/18/2023 11:55:54
Data for Window "tunl_gre":
-----
tunl_gre 62 1 2 2 388 39 39 10/18/2023 11:55:38
Data for Window "pd_fib_cd11":
-----
pd_fib_cd11 28 1 1 1 0 35 35 10/18/2023 11:55:36
Data for Window "SMW_TEST_2":
-----
SMW_TEST_2 86 1 1 1 0 1067 1067 10/18/2023 11:55:35
Data for Window "ifc-mp1s":
-----
ifc-mp1s 13 1 18 18 188 7161 9057 11/02/2023 18:32:41
Data for Window "ifc-ipv6":
-----
ifc-ipv6 17 1 18 18 188 25249 25665 11/02/2023 18:33:13
Data for Window "ifc-ipv4":
-----
ifc-ipv4 16 1 18 18 188 24205 24893 10/31/2023 18:12:27
Data for Window "ifc-protomax":
-----
ifc-protomax 18 1 18 18 188 6057 6297 10/18/2023 11:56:06
Data for Window "bfd_offload_shm":
-----
bfd_offload_shm 94 1 1 1 0 2 0 --/--/---- -:---
Data for Window "netio_fwd":
-----
netio_fwd 34 1 1 1 0 0 0 --/--/---- -:---
Data for Window "mfwd_info":
-----
mfwd_info 1 1 2 2 254 1373 1373 10/18/2023 11:56:24
Data for Window "mfwdv6":
-----
mfwdv6 15 1 1 1 258 737 737 10/18/2023 11:55:57
Data for Window "vkg_bmp_adj":

```

```

-----
vkg_bmp_adj      30 1 2 2 129 235 235 10/18/2023 11:55:55
Data for Window "rewrite-db":
-----
rewrite-db      101 1 3 3 0 4115 4115 10/18/2023 11:55:32
Data for Window "inline_svc":
-----
inline_svc      88 1 1 1 0 755 755 10/18/2023 11:55:33
Data for Window "im_rd":
-----
im_rd           33 1 75 75 217 1131 1131 10/18/2023 11:55:32
Data for Window "ipv6_pmtu":
-----
ipv6_pmtu       98 1 1 1 256 3 0 --/--/---- -:---:--
Data for Window "im_db_private":
-----
im_db_private   129 P 1 1 0 1131 1131 10/18/2023 11:55:34
Data for Window "infra_ital":
-----
infra_ital      19 1 3 3 340 387 387 10/18/2023 11:55:41
Data for Window "infra_statsd":
-----
infra_statsd    8 1 5 5 370 3 0 --/--/---- -:---:--
Data for Window "ipv6_nd_pkt":
-----
ipv6_nd_pkt     128 P 1 1 0 107 107 10/18/2023 11:55:30
Data for Window "aib":
-----
aib             2 1 10 10 114 2675 2675 10/18/2023 11:56:42
Data for Window "vkg_pm":
-----
vkg_pm          5 1 34 1 313 307 307 11/03/2023 11:25:06
Data for Window "subdb_fai_tbl":
-----
subdb_fai_tbl  75 2 11 1 0 51 51 10/18/2023 11:55:26
Data for Window "subdb_ifh_tbl":
-----
subdb_ifh_tbl  74 2 2 1 0 35 35 10/18/2023 11:55:26
Data for Window "subdb_ao_tbl":
-----
subdb_ao_tbl   72 2 1 1 0 43 43 10/18/2023 11:55:26
Data for Window "subdb_do_tbl":
-----
subdb_do_tbl   73 2 11 1 0 35 35 10/18/2023 11:55:26
Data for Window "subdb_co_tbl":
-----
subdb_co_tbl   71 2 11 1 0 4107 4107 10/18/2023 11:55:26
Data for Window "rspp_ma":
-----
rspp_ma         3 1 14 14 0 3 0 --/--/---- -:---:--
Data for Window "cluster_dlm":
-----
cluster_dlm     61 1 26 26 0 3 0 --/--/---- -:---:--
Data for Window "pfm_node":
-----
pfm_node        29 1 1 1 0 195 195 10/18/2023 11:56:11
Data for Window "im_rules":
-----
im_rules        31 1 85 85 217 453 453 10/18/2023 11:55:32
Data for Window "im_db":
-----
im_db           32 1 85 1 0 2065 2065 10/18/2023 11:56:26

```

Data for Window "spp":

```
-----  
spp          27  1  51  51    88  1403    1403    10/18/2023 11:56:29
```

Data for Window "qad":

```
-----  
qad          6  1  1  1     0  134    134    01/01/1970 02:00:08
```

Data for Window "pcie-server":

```
-----  
pcie-server  39  1  1  1     0  39    39    01/01/1970 02:00:07
```

Total SHMWIN memory usage : 235 MBytes

ةركاذل ا بي رست

ةي لمع ةي أة ركة اذل ا بي رست ءو ءو مء ءء:

ي لع ةي لمع لك ا ركة اذل ا ناصقن وأ ءءايز ةي لمع ا هءه كل رهظت . "ةركاذل ا نراقم" ءأ ك نكمي
"قرفال" ءومع ظحال ، لاثم اءه . اءءءء - نمزلا نم ءرتف يءم .

<#root>

RP/0/RSP0/CPU0:R1#

show memory compare start

Successfully stored memory snapshot /harddisk:/malloc_dump/memcmp_start.out

RP/0/RSP0/CPU0:R1#

show memory compare end

Successfully stored memory snapshot /harddisk:/malloc_dump/memcmp_end.out

RP/0/RSP0/CPU0:R1#

show memory compare report

JID	name	mem before	mem after	difference	mallocs	restart/exit/new
---	----	-----	-----	-----	-----	-----
376	parser_server	32069512	32070976	1464	1	
463	sysdb_svr_local	10064204	10065084	880	20	
459	sysdb_shared_nc	4103104	4103560	456	12	
66013	exec	209964	210052	88	3	
1241	xtc_agent	4796436	4796432	-4	0	
1087	bgp	51646552	51646120	-432	-3	
457	sysdb_mc	5094852	5094188	-664	-8	
358	netio	19185724	19183804	-1920	-45	
334	lpts_pa	76234948	76228484	-6464	-97	
1031	ospf	9107084	9098232	-8852	-1	
476	tcp	5725148	5708444	-16704	-8	
254	gsp	9473460	9424452	-49008	14	
1153	mdtd	25206084	24750076	-456008	-25	

You are now free to remove snapshot memcmp_start.out and memcmp_end.out under /harddisk:/malloc_dump

Ltrace

ءالمع لصفأ دحأ يهوءركاذل نم ريئكلا قرغتست يتلا ةيلمعل يه عبئتلا ةيلمع تناك اذا
اهمدختست يتلا ةركاذل رادقم ضيفخت كيلعف ،ةركاذل

[لمواع نيوكت](#): لقا ةركاذ ءحاسم ذخأتل LTRACE نيوكت اهب كنكمي يتلا ةقيرطل يه هءه
[ةركاذلل ءلاعفلا ءرادلل طخال اءاطبو ASR9K راسملا اءلاعم لءع عبئتلا سايقم](#)

ءارءال ريءوت

ءارءال اءه ريءوتب مقف ،ءنتسملا اءه يف ءلكشم لل لء لء رءءع مل اذا

ةيلمعلل (JID) ءمهمل فرعم لء روءءل نكمي .أطخال يف نيءملا طخال فرء وه 0/x/CPUx
رمأل مادختساب show processes.

```
show tech-support
show hw-module fpd
show memory location 0/x/CPUx
show memory summary location all
show watchdog memory-state location all
show watchdog trace location all
show processes memory location all
show shmwin all header location 0/x/CPUx
show shmwin all bands location 0/x/CPUx
show shmwin all banks location 0/x/CPUx
show shmwin all list all location 0/x/CPUx
show shmwin all malloc-stats location 0/x/CPUx
show shmwin all mutexlocation 0/x/CPUx
show shmwin all participants all-stats location 0/x/CPUx
show shmwin all pool all-pools location
show shmwin trace all location all
show memory <job id process> location 0/x/CPUx
```

ةمچرتل هذه لوج

ةللأل تاي نقتل نمة ومة مادختساب دن تسمل اذة Cisco تمةرت
ملاعلاء انء مء مء نمة دختسمل معد و تمة مء دقتل ةر شبل او
امك ةق قء نوك ت نل ةللأل ةمچرت لصف أن ةظحال مء ءرء. ةصاأل مء تءل ب
Cisco ةللخت. فرتمة مچرت مء دقء ةللأل ةل فارتحال ةمچرتل عم لاعل او
ىل إأمءءاد ءوچرلاب ةصوء و تامةرتل هذه ةقء نء اهءل وئس م Cisco
Systems (رفوتم طبارل) ةل صأل ةل ءل ءن إل دن تسمل