

Xshell 7 (Build 0063)
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Type `help` to learn how to use Xshell prompt.
[C:\~]\$

Connecting to 192.168.117.177:22...
Connection established.
To escape to local shell, press Ctrl+Alt+].

Last login: Wed Aug 17 16:02:36 2022 from 192.168.117.1
[root@rac2 ~]# su - oracle
8 17 16:13:54 CST 2022
[oracle@rac2 ~]\$ sqlplus / as sysdba

SQL*Plus: Release 19.0.0.0.0 - Production on Wed Aug 17 19:13:12 2022
Version 19.3.0.0.0

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Connected to an idle instance.

```
SQL> alter system set "_serial_direct_read"=never scope=both sid='*';
alter system set "_serial_direct_read"=never scope=both sid='*'
*
ERROR at line 1:
ORA-01034: ORACLE not available
Process ID: 0
Session ID: 0 Serial number: 0
```

```
SQL> alter system set _serial_direct_read =never scope=both sid='*';
alter system set _serial_direct_read =never scope=both sid='*'
*
ERROR at line 1:
ORA-01034: ORACLE not available
Process ID: 0
Session ID: 0 Serial number: 0
```

```
SQL> alter system set _serial_direct_read =never
2
SQL> alter system set _serial_direct_read =never;
alter system set _serial_direct_read =never
*
ERROR at line 1:
ORA-01034: ORACLE not available
Process ID: 0
Session ID: 0 Serial number: 0
```

```
SQL> alter system set _serial_direct_read =never;
alter system set _serial_direct_read =never
*
ERROR at line 1:
ORA-01034: ORACLE not available
Process ID: 0
Session ID: 0 Serial number: 0
```

```
SQL>
SQL>
t
Disconnected
[oracle@rac2 ~]$ sqlplus / as sysdba
```

SQL*Plus: Release 19.0.0.0.0 - Production on Wed Aug 17 19:17:12 2022
Version 19.3.0.0.0

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Connected to:
Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.3.0.0.0

SQL> alter system set "_serial_direct_read"=never;

System altered.

SQL> exit
Disconnected from Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.3.0.0.0

```
^[[A[oracle@rac2 alter system set "_serial_direct_read"=never scope=both sid='*';
bash: alter:           ...
[oracle@rac2 ~]$ sqlplus / as sysdba
```

SQL*Plus: Release 19.0.0.0.0 - Production on Wed Aug 17 19:18:01 2022
Version 19.3.0.0.0

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Connected to:
Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.3.0.0.0

SQL> alter system set "_serial_direct_read"=never scope=both sid='*';

System altered.

```
SQL> SELECT x.ksppinm NAME, y.ksppstvl VALUE, x.ksppdesc describ
 2     FROM SYS.x$ksppi x, SYS.x$ksppcv y
 3     where x.indx = y.indx
 4     AND (x.ksppinm = '_small_table_threshold' or
 5         x.ksppinm = '_serial_direct_read');
```

```
-----
©          51CT0          zhjh256
oracle 11g          direct path read
https://blog.51cto.com/zhjh256/3133622 2 3 4 5 2 FROM SYS.x$ksppi x, SYS.x$ksppcv y
*
```

ERROR at line 2:
ORA-00923: FROM keyword not found where expected

SQL> SQL> SP2-0734: unknown command beginning "© .." - rest of line ignored.

SQL> SP2-0734: unknown command beginning "oracle 11g..." - rest of line ignored.

```
SQL> SELECT x.ksppinm NAME, y.ksppstvl VALUE, x.ksppdesc describ
  FROM SYS.x$ksppi x, SYS.x$ksppcv y
  where x.indx = y.indx
```

```
  AND (x.ksppinm = '_small_table_threshold' or
  x.ksppinm = '_serial_direct_read');SP2-0734: unknown command beginning "https://bl..." - rest of line ignored.
```

SQL> SP2-0734: unknown command beginning "FROM SYS.x..." - rest of line ignored.

SP2-0044: For a list of known commands enter HELP

and to leave enter EXIT.

SQL> SP2-0734: unknown command beginning "where x.in..." - rest of line ignored.

SQL> SP2-0734: unknown command beginning "AND (x.ksp..." - rest of line ignored.

SQL> exit

SP2-0734: unknown command beginning "x.ksppinm ..." - rest of line ignored.

SQL> exit

Disconnected from Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.3.0.0.0

[oracle@rac2 ~]\$ exit

[root@rac2 ~]# cd /u01/app/

[root@rac2 app]# ls

19.0.0 archiving grid oracle oraInventory

[root@rac2 app]# su - oracle

```
      8   17 19:13:05 CST 2022pts/0
[oracle@rac2 ~]$ sqlplus / as sysdba
```

```
SQL*Plus: Release 19.0.0.0.0 - Production on Wed Aug 17 21:00:08 2022
Version 19.3.0.0.0
```

```
Copyright (c) 1982, 2019, Oracle. All rights reserved.
```

```
Connected to:
Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.3.0.0.0
```

```
SQL>
SQL> alter system set "_gc_bypass_readers=false" scope=both sid='*';
alter system set "_gc_bypass_readers=false" scope=both sid='*'
*
```

```
ERROR at line 1:
ORA-02065: illegal option for ALTER SYSTEM
```

```
SQL> alter system set "_gc_bypass_readers=false"=false sid='*';
alter system set "_gc_bypass_readers=false"=false sid='*'
*
```

```
ERROR at line 1:
ORA-02065: illegal option for ALTER SYSTEM
```

```
SQL> alter system set "_gc_bypass_readers=false"=false sid='*';
alter system set "_gc_bypass_readers=false"=false sid='*'
*
```

```
ERROR at line 1:
ORA-02065: illegal option for ALTER SYSTEM
```

```
SQL> alter system set "_gc_bypass_readers=false"=false sid='*';
alter system set "_gc_bypass_readers=false"=false sid='*'
*
```

```
ERROR at line 1:
ORA-02065: illegal option for ALTER SYSTEM
```

```
SQL> alter system set "_gc_bypass_readers"=false scope=both sid='*';
System altered.
```

```
SQL> alter system set "_gc_affinity_time"=0;
alter system set "_gc_affinity_time"=0
*
```

```
ERROR at line 1:
ORA-02065: illegal option for ALTER SYSTEM
```

```
SQL> _gc_policy_time=0
SP2-0734: unknown command beginning "_gc_policy..." - rest of line ignored.
SQL> alter system set _gc_policy_time =0
```

```
2
SQL> alter system set _gc_policy_time =0;
alter system set _gc_policy_time =0
*
```

```
ERROR at line 1:
ORA-02065: illegal option for ALTER SYSTEM
```

```
SQL> alter system set _gc_policy_time=0;
alter system set __gc_policy_time=0
*
```

```
ERROR at line 1:
ORA-02065: illegal option for ALTER SYSTEM
```

```
SQL> alter system set "_gc_policy_time"=0 scope=spfile;
```

```
System altered.
```

```
SQL> alter system set "_gc_policy_limit"=1500 scope=spfile;
alter system set "_gc_policy_limit"=1500 scope=spfile
*
```

```
ERROR at line 1:
ORA-02065: illegal option for ALTER SYSTEM
```

```
SQL> alter system set "_gc_policy_time"=0 scope=spfile sid='*';
```

```
System altered.
```

```
SQL> SELECT x.kspinm as name,
           y.kspstvl as value,
           y.kspstfd as isdefault,
           x.kspdesc describ
FROM SYS.x$kspinm x, SYS.x$kspstvl y
WHERE x.inst_id = USERENV('Instance')
      AND y.inst_id = USERENV('Instance')
      AND x.indx = y.indx
AN 2   3   4   5   6   7   8   9 D x.kspinm in ('_gc_policy_time', '_gc_undo_affinity');
```

```
NAME
-----
VALUE
-----
ISDEFAULT
-----
DESCRIB
-----
_gc_undo_affinity
TRUE
TRUE
if TRUE, enable undo affinity
```

```
NAME
-----
VALUE
-----
ISDEFAULT
-----
DESCRIB
-----
_gc_policy_time
20
TRUE
how often to make object policy decisions in minutes
```

```
SQL> alter system set "_gc_read_mostly_locking"=false scope=spfile sID='*';
```

```
System altered.
```

```
SQL> alter system set "_gc_bypass_readers"=false scope=spfile sID='*';
```

```
System altered.
```

```
SQL> exit
```

```
Disconnected from Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.3.0.0.0
```

```
[oracle@rac2 ~]$ exit
```

```
[root@rac2 app]# reboot
```

PolicyKit daemon disconnected from the bus.
 We are no longer a registered authentication agent.
 Connection closing...Socket close.

Connection closed by foreign host.

Disconnected from remote host(redhatrac2) at 21:42:07.

Type `help' to learn how to use Xshell prompt.

[C:\~]\$

Connecting to 192.168.117.177:22...

Connection established.

To escape to local shell, press Ctrl+Alt+].

System is booting up. See pam_nologin(8)

Last login: Wed Aug 17 19:11:58 2022 from 192.168.117.1

[root@rac2 ~]# su - oracle

8 17 21:00:02 CST 2022pts/0

[oracle@rac2 ~]\$ sqlplus / as sysdba

SQL*Plus: Release 19.0.0.0.0 - Production on Wed Aug 17 21:47:43 2022
 Version 19.3.0.0.0

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Connected to:

Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production

Version 19.3.0.0.0

```
SQL> SELECT x.kspinm as name,
         y.kspstvl as value,
         y.kspstfd as isdefault,
         x.kspdesc describ
    FROM SYS.x$kspipi x, SYS.x$kspicv y
   WHERE x.inst_id = USERENV('Instance')
         AND y.inst_id = USERENV('Instance')
         AND x.indx = y.indx
        AN 2 3 4 5 6 7 8 9 D x.kspinm in ('_gc_policy_time', '_gc_undo_affinity');
SELECT x.kspinm as name,
*
```

ERROR at line 1:

ORA-03135: connection lost contact

Process ID: 7186

Session ID: 241 Serial number: 17173

```
SQL> SELECT x.kspinm as name,
         y.kspstvl as value,
         y.kspstfd as isdefault,
         x.kspdesc describ
    FROM SYS.x$kspipi x, SYS.x$kspicv y
   WHERE x.inst_id = USERENV('Instance')
         AND y.inst_id = USERENV('Instance')
         AND x.indx = y.indx
        AN 2 3 4 5 6 7 8 9 D x.kspinm in ('_gc_policy_time', '_gc_undo_affinity');
ERROR:
ORA-03114: not connected to ORACLE
```

```
SQL> SELECT x.kspinm as name,
         y.kspstvl as value,
         y.kspstfd as isdefault,
         x.kspdesc describ
    FROM SYS.x$kspipi x, SYS.x$kspicv y
   WHERE x.inst_id = USERENV('Instance')
         AND y.inst_id = USERENV('Instance')
         AND x.indx = y.indx
```

```

AND x.ksppinm in ('_gc_policy_time', '_gc_undo_affinity'); 2 3 4 5 6 7 8 9
ERROR:
ORA-03114: not connected to ORACLE

```

```

SQL> SELECT x.ksppinm as name,
          y.ksppstvl as value,
          y.ksppstdf as isdefault,
          x.ksppdesc describ
FROM SYS.x$ksppi x, SYS.x$ksppcv y
WHERE x.inst_id = USERENV('Instance')
      AND y.inst_id = USERENV('Instance')
      AND x.indx = y.indx
      AND x.ksppinm in ('_gc_policy_time', '_gc_undo_affinity'); 2 3 4 5 6 7 8 9
ERROR:
ORA-03114: not connected to ORACLE

```

```

SQL> SELECT x.ksppinm as name,
          y.ksppstvl as value,
          y.ksppstdf as isdefault,
          x.ksppdesc describ
FROM SYS.x$ksppi x, SYS.x$ksppcv y
WHERE x.inst_id = USERENV('Instance')
      AND y.inst_id = USERENV('Instance')
      AND x.indx = y.indx
      AN 2 3 4 5 6 7 8 9 D x.ksppinm in ('_gc_policy_time', '_gc_undo_affinity');
ERROR:
ORA-03114: not connected to ORACLE

```

```

SQL>
SQL> SELECT x.ksppinm as name,
          y.ksppstvl as value,
          y.ksppstdf as isdefault,
          x.ksppdesc describ
FROM SYS.x$ksppi x, SYS.x$ksppcv y
WHERE x.inst_id = USERENV('Instance')
      AND y.inst_id = USERENV('Instance')
      AND x.indx = y.indx
      AN 2 3 4 5 6 7 8 9 D x.ksppinm in ('_gc_policy_time', '_gc_undo_affinity');
ERROR:
ORA-03114: not connected to ORACLE

```

```

SQL> exit
Disconnected from Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.3.0.0.0
^[A[oracle@rac2 ~]$ sqlplus / as sysdba

```

```

SQL*Plus: Release 19.0.0.0.0 - Production on Wed Aug 17 21:49:24 2022
Version 19.3.0.0.0

```

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```

Connected to:
Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.3.0.0.0

```

```

SQL> SELECT x.ksppinm as name,
          y.ksppstvl as value,
          y.ksppstdf as isdefault,
          x.ksppdesc describ
FROM SYS.x$ksppi x, SYS.x$ksppcv y
WHERE x.inst_id = USERENV('Instance')
      AND y.inst_id = USERENV('Instance')
      AND x.indx = y.indx
      AN 2 3 4 5 6 7 8 9 D x.ksppinm in ('_gc_policy_time', '_gc_undo_affinity');

```

```

NAME
-----
VALUE
-----
ISDEFAULT
-----
DESCRIB
-----
_gc_undo_affinity
TRUE
TRUE
if TRUE, enable undo affinity

```

```

NAME
-----
VALUE
-----
ISDEFAULT
-----
DESCRIB
-----
_gc_policy_time
0
FALSE
how often to make object policy decisions in minutes

```

```
SQL> alter system set "_gc_undo_affinity"=FALSE scope=spfile sid='*';
```

```
System altered.
```

```

SQL> select b.FILE_NAME AS "          ",
           b.TABLESPACE_NAME AS "          ",
           round(b.BYTES/1024/1024,2) AS "          (M)",
           b.AUTOEXTENSIBLE AS "          ",
           round((b.BYTES - sum(nvl(a.BYTES, 0)))/1024/1024,2) AS "          (M)",
           round(sum(nvl(a.BYTES, 0))/1024/1024,2) AS "          (M)",
           substr((b.BYTES - sum(nvl(a.BYTES, 0)))/(b.BYTES) * 100, 1, 5) AS
from dba_free_space a, dba_data_files b
where a.FILE_ID(+) = b.FILE_ID
group by b.FILE_NAME,b.TABLESPACE_NAME,b.BYTES,b.AUTOEXTENSIBLE
order by b.TABLESPACE_NAME,b.FILE_NAME 2 3 4 5 6 7 8 9 10 11
12

```

```

SQL> select b.FILE_NAME AS "          ",
           b.TABLESPACE_NAME AS "          ",
           round(b.BYTES/1024/1024,2) AS "          (M)",
           b.AUTOEXTENSIBLE AS "          ",
           round((b.BYTES - sum(nvl(a.BYTES, 0)))/1024/1 2 3 4 5 024,2) AS "          (M)",
           round(sum(nvl(a.BYTES, 0))/1024/1024,2) AS "          (M)",
           substr((b.BYTES - sum(nvl(a.BYTES, 0)))/(b.BYTES) * 100, 1, 5) AS
from dba_free_space a, dba_data_files b
where a.FILE_ID(+) = b.FILE 6 7 8 9_ID
group by b.FILE_NAME,b.TABLESPACE_NAME,b.BYTES,b.AUTOEXTENSIBLE
order by b.TABLESPACE_NAME,b.FILE_NAME;
ERROR:
ORA-01740: missing double quote in identifier

```

```
SQL>
```

```

SQL> set linesize 333
col name for a35
col description for a66
col value for a30
SELECT i.kspinm name,
       i.kspdesc description,
       CV.kspstvl VALUE
FROM sys.x$ksppi i, sys.x$ksppcv CV

```

```

WHERE i.inst_id = USERENV ('Instance')
AND CV.inst_id = USERENV ('Instance')
AND i.indx = CV.indx
AND i.ksppinm LIKE '/_gc%' ESCAPE '/'
ORDER BY REPLACE (i.ksppinm, '_', ''); SQL> SQL> SQL> SQL> 2 3 4 5 6 7 8 9

```

NAME	DESCRIPTION	VALUE
-----	-----	-----
_gc_affinity_locking	if TRUE, enable object affinity	TRUE
_gc_affinity_locks	if TRUE, get affinity locks	TRUE
_gc_affinity_ratio	dynamic object affinity ratio	50
_gc_anti_lock_ratio	dynamic object anti-lock ratio	66
_gc_async_receive	if TRUE, receive blocks asynchronously	FALS
_gc_async_send	if TRUE, send blocks asynchronously	TRU
_gc_bg_merge	if TRUE, merge pi buffers in the background	TRU
_gc_blocking_pins	if TRUE, record a histogram of blocking pins	FALS
_gc_buckets_per_latch	number of hash buckets per latch	163
_gc_bypass_readers	if TRUE, modifications bypass readers	FALS
_gc_check_bscn	if TRUE, check for stale blocks	TRU

NAME	DESCRIPTION	VALUE
-----	-----	-----
_gc_coalesce_recovery_reads	if TRUE, coalesce recovery reads	TRU
_gc_cr_server_read_wait	if TRUE, cr server waits for a read to complete	TRU
_gc_defer_ping_index_only	if TRUE, restrict deferred ping to index blocks only	TRU
_gc_defer_time	how long to defer pings for hot buffers in microseconds	0
_gc_delay_ping	if TRUE, delay pings to hot blocks	TRU
_gc_disable_s_lock_brr_ping_check	if TRUE, disable S lock BRR ping check for lost write protect	TRU
_gc_down_convert_after_keep	if TRUE, down-convert lock after recovery	TRU
_gc_drm_windows	number of DRM windows	8
_gc_dump_remote_lock	if TRUE, dump remote lock	TRU
_gc_element_percent	global cache element percent	105
_gc_enable_cr_bypass	if TRUE, enable CR bypass mechanism	TRU

NAME	DESCRIPTION	VALUE
-----	-----	-----
_gc_fast_index_split_wait	fast index split wait usn array size	102
_gc_fg_merge	if TRUE, merge pi buffers in the foreground	TRU
_gc_fg_spin_time	foreground msgq spin time	0
_gc_first_dirty_merge	if TRUE, merge with a pi after first dirty	TRU
_gc_flush_during_affinity	if TRUE, flush during affinity	TRU
_gc_fusion_compression	compress fusion blocks if there is free space	102
_gc_global_checkpoint_scn	if TRUE, enable global checkpoint scn	TRU
_gc_global_lru	turn global lru off, make it automatic, or turn it on	AUT
_gc_global_lru_touch_count	global lru touch count	5
_gc_global_lru_touch_time	global lru touch time in seconds	60
_gc_integrity_checks	set the integrity check level	1

NAME	DESCRIPTION	VALUE
-----	-----	-----
_gc_interconnect_checksum	if TRUE, checksum interconnect blocks	FALS
_gc_keep_recovery_buffers	if TRUE, make recovery buffers current	TRU
_gc_keep_undo_recovery_buffers	if TRUE, make recovery undo buffers current	TRU
_gc_latches	number of latches per LMS process	32
_gc_lease_time	lease time for rdma reads	100
_gc_log_flush	if TRUE, flush redo log before a current block transfer	TRU
_gc_max_downcvt	maximum downconverts to process at one time	204
_gc_max_reg_sz	maximum length for memory registration	687
_gc_msgq_buffers	set number of MSGQ buffers	0
_gc_no_fairness_for_clones	if TRUE, no fairness if we serve a clone	TRU
_gc_numa_lock_elements	if TRUE, numa aware lock element distribution	FALS

NAME	DESCRIPTION	VALUE
-----	-----	-----
_gc_object_queue_max_length	maximum length for an object queue	0
_gc_override_force_cr	if TRUE, try to override force-cr requests	TRU
_gc_partial_cleanout	if TRUE, partial cleanout is enabled	TRU
_gc_persistent_read_mostly	if TRUE, enable persistent read-mostly locking	TRU
_gc_policy_minimum	dynamic object policy minimum activity per minute	150

_gc_policy_rm_dirty_percent	percent of cache which can be dirty for readmostly	1
_gc_policy_time	how often to make object policy decisions in minutes	0
_gcr_cpu_consumer_dump_level	level of process dump performed for CPU consumers	0
_gcr_cpu_min_free	minimum amount of free CPU to flag an anomaly	10
_gcr_cpu_min_hard_limit	hard limit for min free CPU to flag high CPU	2560
_gcr_css_group_large	size of large CSS group above which query/update disabled	

NAME	DESCRIPTION	VALUE
_gcr_css_group_query_boost	allowed number of serial multiple queries	
_gcr_css_group_try_lock_delay	minimum delay between group locking attempts, secs	
_gcr_css_group_update2_interval	interval between CSS group updates when busy, secs	
_gcr_css_group_update_interval	interval between CSS group updates, secs	
_gcr_css_use_2group_lock	if FALSE, GCR will not try to lock 2 CSS groups at the same time	TRUE
_gcr_dump_cpu_consumers	if TRUE, enable dumps of CPU consumers	FALSE
_gc_read_mostly_flush_check	if TRUE, optimize flushes for read mostly objects	FALSE
_gc_read_mostly_locking	if TRUE, enable read-mostly locking	FALSE
_gcr_enable_high_cpu_kill	if TRUE, GCR may kill foregrounds under high load	FALSE
_gcr_enable_high_cpu_rm	if TRUE, GCR may enable a RM plan under high load	TRUE
_gcr_enable_high_cpu_rt	if TRUE, GCR may boost bg priority under high load	TRUE

NAME	DESCRIPTION	VALUE
_gcr_enable_high_memory_kill	if TRUE, GCR may kill foregrounds under high memory load	FALSE
_gcr_enable_kill_inst_diags	if TRUE, GCR will collect OS diags prior to kill instance	FALSE
_gcr_enable_new_drm_check	if FALSE, revert to old drm load metric	FALSE
_gcr_enable_statistical_cpu_check	if FALSE, revert to old cpu load metric	TRUE
_gcr_high_cpu_threshold	minimum amount of CPU process must consume to be kill target	10
_gcr_high_memory_threshold	minimum amount of Memory process must consume to be kill target	10
_gcr_max_rt_procs	maximum number of RT DLM processes allowed by GCR	
_gcr_mem_min_free	minimum amount of free memory to flag an anomaly	10
_gcr_min_free_memory_hard_limit	hard limit for minimum free memory, for high memory systems	1073741824
_gcr_tick	duration of time tick used by state machine, centisecs	
_gcr_use_css	if FALSE, GCR wont register with CSS nor use any CSS feature	TRUE

NAME	DESCRIPTION	VALUE
_gc_sanity_check_cr_buffers	if TRUE, sanity check CR buffers	FALSE
_gc_save_cleanout	if TRUE, save cleanout to apply later	TRUE
_gcs_cluster_flash_cache_mode	cluster flash cache mode	0
_gcs_cluster_flash_cache_persistence	Enable cluster flash cache persistency (FALSE = disable (default), TRUE = enable)	FALSE

_gcs_cr_master_ping_remote	if TRUE, cr request from master will ping the remote holder	TRUE
_gcs_crslave_check_time	time interval to check for load on cr slaves in seconds	10
_gcs_crslave_longq_cnt	long queue time threshold for cr slave	2000
_gcs_crslave_longq_us	long queue time for cr slave in microseconds	1000
_gcs_disable_imc_preallocation	disable preallocation for imc memory requirement in RAC	FALSE

NAME	DESCRIPTION	VALUE
_gcs_disable_remote_handles	disable remote client/shadow handles	FALSE
_gcs_disable_skip_close_remastering	if TRUE, disable skip close optimization in remastering	FALSE
_gcs_dynamic_sga	if TRUE, enable dynamic cache fusion resources in runtime	FALSE
_gcs_dynamic_slaves	if TRUE, it enables dynamic adjustment of the number of gcs slaves	TRUE
_gcs_enable_private_iterator	Enable private iterator for GCS locks	TRUE
_gc_serve_from_flash_cache	if TRUE, try to serve a flash cache buffer	FALSE
_gcs_fast_reconfig	if TRUE, enable fast reconfiguration for gcs locks	TRUE
_gcs_flash_cache_mode	flash cache mode	0
_gcs_freelists_alloc_percent	initial allocation of gcs freelists percentage of max usage	0
_gcs_integrity_checks	cache fusion integrity check level	1
_gc_skip_undo_disk_read	if TRUE, skip the disk read for undo blocks	TRUE

NAME	DESCRIPTION	VALUE
_gcs_latches	number of gcs resource hash latches to be allocated per LMS processes	128
_gcs_lsr_frequency	frequency of invoking lock state resolution in seconds	60

_gcs_min_cr_slaves	if non zero, it enables the minimum number of gcs slaves	0
_gcs_min_slaves	if non zero, it enables the minimum number of gcs slaves	0
_gcs_partial_open_mode	partial open cache fusion service in reconfiguration	0
_gc_spin_time	rdma spin time	16
_gcs_pkey_history	number of pkey remastering history	16384
_gcs_process_in_recovery	if TRUE, process gcs requests during instance recovery	TRUE
_gcs_recoverable_asserts	if non-zero, enable recoverable assert resolution	1

NAME	DESCRIPTION	VALUE
-----	-----	-----
_gcs_reserved_resources	allocate the number of reserved resources in reconfiguration	400
_gcs_reserved_shadows	allocate the number of reserved shadows in reconfiguration	400
_gcs_res_hash_buckets	number of gcs resource hash buckets to be allocated	
_gcs_resources	number of gcs resources to be allocated	22144
_gcs_res_per_bucket	number of gcs resource per hash bucket	4
_gcs_shadow_locks	number of gcs shadow locks to be allocated	22144
_gc_statistics	global cache statistics level	TRUE
_gcs_testing	GCS testing parameter	0
_gcs_trace_bucket	TRUE: use GCS trace bucket and trace LOW by default, FALSE: use default fault bucket but trace only if enabled	FALSE

NAME	DESCRIPTION	VALUE
-----	-----	-----
_gcs_trace_bucket_size	size of the GCS trace bucket in bytes (format: "LMS:<k>-RMV:<l>-CRV:<m>-DBW:<n>")	LMS:485
_gcs_track_reliable_block_sends	if TRUE, track block lost on reliable interconnect	FALSE
_gc_temp_affinity	if TRUE, enable global temporary affinity	FALSE
_gc_trace_blocking_pins	if TRUE, trace blocking pins	FALSE
_gc_trace_freelist_empty	if TRUE, dump a trace when we run out of lock elements	FALSE
_gc_transfer_ratio	dynamic object read-mostly transfer ratio	75
_gc_try_to_skip_imc_flush	if TRUE, try to skip an imc populate flush	TRUE
_gc_undo_affinity	if TRUE, enable undo affinity	TRUE
_gc_undo_block_disk_reads	if TRUE, enable undo block disk reads	TRUE

NAME	DESCRIPTION	VALUE
-----	-----	-----
_gc_undo_rdma_read	if TRUE, rdma read of undo blocks is enabled	TRUE
_gc_vector_read	if TRUE, vector read current buffers	TRUE
_gc_xmem_rdma	if TRUE, xmem blocks rdma read is enabled	FALSE

127 rows selected.

```
SQL>
SQL> set linesize 333
col name for a35
col description for a66
col value for a30
SELECT i.kspinm name,
       i.kspdesc description,
       CV.kspstvl VALUE
FROM   sys.x$ksppi i, sys.x$ksppcv CV
WHERE  i.inst_id = USERENV('Instance')
AND CV.inst_id = USERENV('Instance')
AND i.indx = CV.indx
AND i.kspinm LIKE '/_gc%' ESCAPE '/'
ORDER BY REPLACE(i.kspinm, '_', '');
```

NAME	DESCRIPTION	VALUE
-----	-----	-----
_gc_affinity_locking	if TRUE, enable object affinity	TRUE
_gc_affinity_locks	if TRUE, get affinity locks	TRUE
_gc_affinity_ratio	dynamic object affinity ratio	50
_gc_anti_lock_ratio	dynamic object anti-lock ratio	66
_gc_async_receive	if TRUE, receive blocks asynchronously	FALSE
_gc_async_send	if TRUE, send blocks asynchronously	TRUE
_gc_bg_merge	if TRUE, merge pi buffers in the background	TRUE
_gc_blocking_pins	if TRUE, record a histogram of blocking pins	FALSE

_gc_buckets_per_latch	number of hash buckets per latch	16384
_gc_bypass_readers	if TRUE, modifications bypass readers	FALSE
_gc_check_bscn	if TRUE, check for stale blocks	TRUE
NAME	DESCRIPTION	VALUE
-----	-----	-----
_gc_coalesce_recovery_reads	if TRUE, coalesce recovery reads	TRUE
_gc_cr_server_read_wait	if TRUE, cr server waits for a read to complete	TRUE
_gc_defer_ping_index_only	if TRUE, restrict deferred ping to index blocks only	TRUE
_gc_defer_time	how long to defer pings for hot buffers in microseconds	0
_gc_delay_ping	if TRUE, delay pings to hot blocks	TRUE
_gc_disable_s_lock_brr_ping_check	if TRUE, disable S lock BRR ping check for lost write protect	TRUE
_gc_down_convert_after_keep	if TRUE, down-convert lock after recovery	TRUE
_gc_drm_windows	number of DRM windows	8
_gc_dump_remote_lock	if TRUE, dump remote lock	TRUE
_gc_element_percent	global cache element percent	105
_gc_enable_cr_bypass	if TRUE, enable CR bypass mechanism	TRUE
NAME	DESCRIPTION	VALUE
-----	-----	-----
_gc_fast_index_split_wait	fast index split wait usn array size	1024
_gc_fg_merge	if TRUE, merge pi buffers in the foreground	TRUE
_gc_fg_spin_time	foreground msgq spin time	0
_gc_first_dirty_merge	if TRUE, merge with a pi after first dirty	TRUE
_gc_flush_during_affinity	if TRUE, flush during affinity	TRUE
_gc_fusion_compression	compress fusion blocks if there is free space	1024
_gc_global_checkpoint_scn	if TRUE, enable global checkpoint scn	TRUE
_gc_global_lru	turn global lru off, make it automatic, or turn it on	AUTO
_gc_global_lru_touch_count	global lru touch count	5
_gc_global_lru_touch_time	global lru touch time in seconds	60
_gc_integrity_checks	set the integrity check level	1
NAME	DESCRIPTION	VALUE
-----	-----	-----
_gc_interconnect_checksum	if TRUE, checksum interconnect blocks	FALSE
_gc_keep_recovery_buffers	if TRUE, make recovery buffers current	TRUE
_gc_keep_undo_recovery_buffers	if TRUE, make recovery undo buffers current	TRUE
_gc_latches	number of latches per LMS process	32
_gc_lease_time	lease time for rdma reads	1000
_gc_log_flush	if TRUE, flush redo log before a current block transfer	TRUE
_gc_max_downcvt	maximum downconverts to process at one time	2048
_gc_max_reg_sz	maximum length for memory registration	6871
_gc_msgq_buffers	set number of MSGQ buffers	0
_gc_no_fairness_for_clones	if TRUE, no fairness if we serve a clone	TRUE
_gc_numa_lock_elements	if TRUE, numa aware lock element distribution	FALSE
NAME	DESCRIPTION	VALUE
-----	-----	-----
_gc_object_queue_max_length	maximum length for an object queue	0
_gc_override_force_cr	if TRUE, try to override force-cr requests	TRUE
_gc_partial_cleanout	if TRUE, partial cleanout is enabled	TRUE
_gc_persistent_read_mostly	if TRUE, enable persistent read-mostly locking	TRUE
_gc_policy_minimum	dynamic object policy minimum activity per minute	1500
_gc_policy_rm_dirty_percent	percent of cache which can be dirty for readmostly	1
_gc_policy_time	how often to make object policy decisions in minutes	0
_gcr_cpu_consumer_dump_level	level of process dump performed for CPU consumers	0
_gcr_cpu_min_free	minimum amount of free CPU to flag an anomaly	10
_gcr_cpu_min_hard_limit	hard limit for min free CPU to flag high CPU	256
_gcr_css_group_large	size of large CSS group above which query/update disabled	
NAME	DESCRIPTION	VALUE
-----	-----	-----
_gcr_css_group_query_boost	allowed number of serial multiple queries	
_gcr_css_group_try_lock_delay	minimum delay between group locking attempts, secs	
_gcr_css_group_update2_interval	interval between CSS group updates when busy, secs	
_gcr_css_group_update_interval	interval between CSS group updates, secs	
_gcr_css_use_2group_lock	if FALSE, GCR will not try to lock 2 CSS groups at the same time	TRUE
_gcr_dump_cpu_consumers	if TRUE, enable dumps of CPU consumers	FALSE
_gc_read_mostly_flush_check	if TRUE, optimize flushes for read mostly objects	FALSE

_gc_read_mostly_locking	if TRUE, enable read-mostly locking	FALS
_gcr_enable_high_cpu_kill	if TRUE, GCR may kill foregrounds under high load	FALS
_gcr_enable_high_cpu_rm	if TRUE, GCR may enable a RM plan under high load	TRU
_gcr_enable_high_cpu_rt	if TRUE, GCR may boost bg priority under high load	TRU

NAME	DESCRIPTION	VALU
-----	-----	-----
_gcr_enable_high_memory_kill	if TRUE, GCR may kill foregrounds under high memory load	FALS
_gcr_enable_kill_inst_diags	if TRUE, GCR will collect OS diags prior to kill instance	FALS
_gcr_enable_new_drm_check	if FALSE, revert to old drm load metric	FALS
_gcr_enable_statistical_cpu_check	if FALSE, revert to old cpu load metric	TRU
_gcr_high_cpu_threshold	minimum amount of CPU process must consume to be kill target	10
_gcr_high_memory_threshold	minimum amount of Memory process must consume to be kill target	10
_gcr_max_rt_procs	maximum number of RT DLM processes allowed by GCR	
_gcr_mem_min_free	minimum amount of free memory to flag an anomaly	10
_gcr_min_free_memory_hard_limit	hard limit for minimum free memory, for high memory systems	1073
_gcr_tick	duration of time tick used by state machine, centisecs	
_gcr_use_css	if FALSE, GCR wont register with CSS nor use any CSS feature	TRU

NAME	DESCRIPTION	VALU
-----	-----	-----
_gc_sanity_check_cr_buffers	if TRUE, sanity check CR buffers	FALS
_gc_save_cleanout	if TRUE, save cleanout to apply later	TRU
_gcs_cluster_flash_cache_mode	cluster flash cache mode	0
_gcs_cluster_flash_cache_persistenc y	Enable cluster flash cache persistency (FALSE = disable (default), TRUE = enable)	FALS

_gcs_cr_master_ping_remote	if TRUE, cr request from master will ping the remote holder	TRU
_gcs_crslave_check_time	time interval to check for load on cr slaves in seconds	10
_gcs_crslave_longq_cnt	long queue time threshold for cr slave	2000
_gcs_crslave_longq_us	long queue time for cr slave in microseconds	1000
_gcs_disable_imc_preallocation	disable preallocation for imc memory requirement in RAC	FALS

NAME	DESCRIPTION	VALU
-----	-----	-----
_gcs_disable_remote_handles	disable remote client/shadow handles	FALS
_gcs_disable_skip_close_remastering	if TRUE, disable skip close optimization in remastering	FALS
_gcs_dynamic_sga	if TRUE, enable dynamic cache fusion resources in runtime	FALS
_gcs_dynamic_slaves	if TRUE, it enables dynamic adjustment of the number of gcs slaves	TRU
_gcs_enable_private_iterator	Enable private iterator for GCS locks	TRU
_gc_serve_from_flash_cache	if TRUE, try to serve a flash cache buffer	FALS
_gcs_fast_reconfig	if TRUE, enable fast reconfiguration for gcs locks	TRU
_gcs_flash_cache_mode	flash cache mode	0
_gcs_freelists_alloc_percent	initial allocation of gcs freelists percentage of max usage	0
_gcs_integrity_checks	cache fusion integrity check level	1
_gc_skip_undo_disk_read	if TRUE, skip the disk read for undo blocks	TRU

NAME	DESCRIPTION	VALU
-----	-----	-----
_gcs_latches	number of gcs resource hash latches to be allocated per LMS proces s	128
_gcs_lsr_frequency	frequency of invoking lock state resolution in seconds	60
_gcs_min_cr_slaves	if non zero, it enables the minimum number of gcs slaves	0
_gcs_min_slaves	if non zero, it enables the minimum number of gcs slaves	0
_gcs_partial_open_mode	partial open cache fusion service in reconfiguration	0
_gc_spin_time	rdma spin time	16
_gcs_pkey_history	number of pkey remastering history	1638
_gcs_process_in_recovery	if TRUE, process gcs requests during instance recovery	TRU
_gcs_recoverable_asserts	if non-zero, enable recoverable assert resolution	1

NAME	DESCRIPTION	VALU
-----	-----	-----
_gcs_reserved_resources	allocate the number of reserved resources in reconfiguration	400
_gcs_reserved_shadows	allocate the number of reserved shadows in reconfiguration	400
_gcs_res_hash_buckets	number of gcs resource hash buckets to be allocated	
_gcs_resources	number of gcs resources to be allocated	2216
_gcs_res_per_bucket	number of gcs resource per hash bucket	4
_gcs_shadow_locks	number of gcs shadow locks to be allocated	2216

<code>_gc_statistics</code>	global cache statistics level	TRUE
<code>_gcs_testing</code>	GCS testing parameter	0
<code>_gcs_trace_bucket</code>	TRUE: use GCS trace bucket and trace LOW by default, FALSE: use de fault bucket but trace only if enabled	FALS

NAME	DESCRIPTION	VAL
<code>_gcs_trace_bucket_size</code>	size of the GCS trace bucket in bytes (format: "LMS:<k>-RMV:<l>-CR V:<m>-DBW:<n>")	LMS 485
<code>_gcs_track_reliable_block_sends</code>	if TRUE, track block lost on reliable interconnect	FALS
<code>_gc_temp_affinity</code>	if TRUE, enable global temporary affinity	FALS
<code>_gc_trace_blocking_pins</code>	if TRUE, trace blocking pins	FALS
<code>_gc_trace_freelist_empty</code>	if TRUE, dump a trace when we run out of lock elements	FALS
<code>_gc_transfer_ratio</code>	dynamic object read-mostly transfer ratio	75
<code>_gc_try_to_skip_imc_flush</code>	if TRUE, try to skip an imc populate flush	TRU
<code>_gc_undo_affinity</code>	if TRUE, enable undo affinity	TRU
<code>_gc_undo_block_disk_reads</code>	if TRUE, enable undo block disk reads	TRU

NAME	DESCRIPTION	VAL
<code>_gc_undo_rdma_read</code>	if TRUE, rdma read of undo blocks is enabled	TRU
<code>_gc_vector_read</code>	if TRUE, vector read current buffers	TRU
<code>_gc_xmem_rdma</code>	if TRUE, xmem blocks rdma read is enabled	FALS

127 rows selected.

SQL>

```
SQL> alter system set "_gc_bypass_readers"=false scope=spfile sid='*';
```

System altered.

SQL>

```
SQL> alter system set "_gc_read_mostly_locking"=ture scope=spfile sid='*';
alter system set "_gc_read_mostly_locking"=ture scope=spfile sid='*'
*
*
```

ERROR at line 1:
ORA-00922: missing or invalid option

```
SQL> alter system set "_gc_read_mostly_locking"=true scope=spfile sid='*';
```

System altered.

```
SQL> alter system set "_gc_bypass_readers"=true scope=spfile sid='*';
```

System altered.

SQL> ^A