
Appendix D

Oracle Background Processes

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This appendix is not an exhaustive list of all background processes and is meant to serve as a quick reference. For more details on these background processes and any that have not been mentioned here, consult the Oracle Database Reference guide.

General Processes

Acronym	Process Name	Description	Required for basic operation	Started by default
ARC <i>n</i>	Archiver Process	Writes filled redo logs to the archive log location(s). Possible processes include ARC0–ARC9 and ARCa–ARCt.	No	No
CJQ0	Job Queue Coordinator Process	Spawns slave processes (Jnnn) to execute jobs in the queue.	No	Yes
CKPT	Checkpoint Process	Writes checkpoint information to control files and data file headers.	Yes	Yes
DBRM	Database Resource Manager Process	Sets resource plans and performs other Resource Manager tasks.	No	Yes
DBW <i>n</i>	Database Writer Process	Writes dirty buffers from the buffer cache to the data files. Possible processes include DBW0–DBW9 and DBWa–DBWz.	Yes	Yes
DIA0	Diagnostic Process	Responsible for hang detection and deadlock resolution. Triggers DIAG to perform diagnostic tasks.	Yes	Yes
DIAG	Diagnostic Capture Process	Performs diagnostic dumps and executes global oradebug commands	Yes	Yes
Dnnn	Dispatcher Process	In a Shared Server configuration, dispatchers place connection requests in a connection request queue.	No	Yes
EMNC	EMON Coordinator Process	Coordinates the event management and notification activity in the database, including Streams Event Notifications, Continuous Query Notifications, and Fast Application Notifications.	No	No
FBDA	Flashback Data Archiver Process	Archives historical rows for tracked tables into flashback data archives and manages the flashback archives.	No	Yes
FMON	File Mapping Monitor Process	Spawns FMPUTL, an external non-Oracle Database process that communicates with the mapping libraries provided by storage vendors. Responsible for managing the mapping information.	No	No
Jnnn	Job Queue Slave Process	Processes jobs in the queue. Spawned by CJQ0.	No	Yes
LGWR	Log Writer Process	Writes the log buffer out to the redo logs.	Yes	Yes
MMAN	Memory Manager Process	Serves as the SGA Memory Broker and coordinates the sizing of the memory components.	No	Yes
MMNL	Manageability Monitor Lite Process	Performs frequent and lightweight manageability-related tasks, such as session history, capture and metrics computation.	No	Yes
MMON	Manageability Monitor Process	Collects statistics for the Automatic Workload Repository.	No	Yes
PMON	Process Monitor	Recovers failed process resources. If Shared Server architecture is used, PMON monitors and	Yes	Yes

Acronym	Process Name	Description	Required for basic operation	Started by default
		restarts any failed dispatcher or server processes.		
Pnnn	Parallel Query Slave Process	Started and stopped as needed to participate in parallel query operations.	No	No
PSP0	Process Spawner Process	Starts and stops Oracle processes. Reduces workload of RBAL by starting/stopping ASM rebalance slaves.	No	Yes
RCBG	Result Cache Background Process	Supports SQL query and PLO/SQL function result caches.	No	No
RECO	Recoverer Process	Resolves failures involving distributed transactions.	No	Yes
RVWR	Recovery Writer Process	Writes flashback data to flashback database logs in the flash recovery area.	No	No
SMCO	Space Management Coordinator Process	Coordinates the execution of various space management related tasks, such as proactive space allocation and space reclamation.	No	Yes
SMON	System Monitor Process	Performs recovery after instance failure and monitors temporary segments and extents.	Yes	Yes
Snnn	Shared Server Process	In a shared Server configuration, shared servers check a connection request queue (populated by dispatchers) and services the connection requests.	No	Yes
VKTM	Virtual Keeper of Time Process	Responsible for providing a wall-clock time (updated every second) and reference-tin counter (updated ever 20ms and available only when running at elevated priority).	Yes	Yes
Wnnn	Space Management Slave Process	These are slave processes spawned by SMCO to execute space management tasks.	No	Yes

Advanced Queuing Processes

Acronym	Process Name	Description	Required for basic operation	Started by default
Qnnn	AQ Server Class Process	Processes messaged in the Streams AQ queue. Spawned by QMNC.	No	Yes
QMNC	AQ Coordinator Process	Monitors message queues. Spawns Qnnn processes.	No	Yes

Automatic Storage Management Processes

Acronym	Process Name	Description	Required for basic operation	Started by default
ARBn	ASM Rebalance Process	Rebalances data extents across the ASM file systems. Possible processes are ARB0 – ARB9 and ARBA.	No	No
ASMB	ASM Background Process	Communicates with the Automatic Storage Management instance.	No	No
DSKM	Slave Diskmon Process	Acts as conduit between RDBMS and ASM instances and the Master Diskmon daemon to communicate I/O Fencing Information, I/O Resource Manager Plans, and Transaction Commit Cache information to SAGE storage. If no SAGE storage is used, the slave diskmon	No	No

Acronym	Process Name	Description	Required for basic operation	Started by default
		process will exit silently after startup of the instance.		
GMON	ASM Disk Group Monitor Process	Maintains disk membership in ASM disk groups.	No	No
MARK	Mark AU for Resynchronization Coordinator Process	Marks ASM Allocation Units as stale following a missed write to an offline disk.	No	No
RBAL	ASM Rebalance Master Process	Coordinates rebalance activity for disk groups in an Automatic Storage Management instance. Performs global opens on Automatic Storage Management disks.	No	No
DRnn	ASM Disk Resynchronization Slave Process	Resynchronizes the contents of an offline disk. When a disk online SQL command is issued on a disk or disks that are offline, ASM spawns DRnn. Depending on the load, more than one slave may be spawned.	No	No

Data Guard Processes

Acronym	Process Name	Description	Required for basic operation	Started by default
DMON	Data Guard Broker Monitor Process	Starts when Data Guard Broker is started. DMON is the server-side component that interacts with the local database and the DMON processes of the other databases to perform the requested function. Also responsible for monitoring the health of the broker configuration and for ensuring that every database has a consistent description of the configuration.	No	No
FSFP	Data Guard Broker Fast Start Failover Pinger Process	Observer process integrated in the DGMGROL client-side component. It monitors the DG Broker environment and initiates the failover on detecting a problem with Primary.	No	No
INSV	Data Guard Broker Instance Slave Process	Performs Data Guard Broker communication between instances of a RAC database.	No	No
LSP0	Logical Standby Coordinator Process	Assigns transactions to different Data Guard appliers and coordinates among them to ensure that dependencies between transactions are honored.	No	No
LSP1	Logical Standby Dictionary Build Process	Builds the data dictionary for the Logical Standby.	No	No
LSP2	Logical Standby Set Guard Process	Maintains Guard Standby information for the Logical Standby.	No	No
MRP0	Managed Standby Recovery Process	Provides transparent support for XA global transactions in RAC.	No	No
NSVn	Data Guard Broker NetSlave Process	Performs broker network communications between databases in Data Guard configuration.	No	No

Acronym	Process Name	Description	Required for basic operation	Started by default
		Possible processes include NSV0–NSV9.		
RSM0	Data Guard Broker Worker Process	Used by the DMON process to manage and monitor the database.	No	No

RMAN Processes

Acronym	Process Name	Description	Required for basic operation	Started by default
CTWR	Change Tracking Writer Process	Writes to the RMAN Change Tracking Log, a bitmap representing the entire database. The bitmap has an associated SCN, which is the SCN as at the last backup.	No	No

Real Application Clusters Processes

Acronym	Process Name	Description	Required for basic operation	Started by default
ACMS	Atomic Control File to Memory Server Process	Contributes to ensuring a distributed SGA memory update is either globally omitted on success or globally aborted in the event of a failure in an Oracle RAC environment.	No	No
GTXn	Global Transaction Process	Provides transparent support for XA global transactions in an Oracle RAC environment. The database auto tunes the number of these process based on the workload of XA global transactions. Possible processes are GTX0–GTX9 and GTXa–GTXj.	No	No
LCK0	Instance Enqueue Background Process	Manage the global enqueued requests and the cross-instance broadcast. Handles all requests for resources other than data blocks.	No	No
LMD0	Global Enqueue Service Daemon 0 Process	Manages enqueue manager service requests for Global Cache Service enqueues to control access to global enqueues and resources. The LMD0 process also handles deadlock detection and remote enqueued requests. Remote resource requests are the requests originating from another instance.	No	No
LMON	Global Enqueue Service Monitor Process	Monitors the entire cluster to manage the global enqueues and the resources. Manages instance and process failures and the associated recovery for the Global Cache Service (GCS) and Global Enqueue Service (GES). In particular LMON handles the part of recovery associated with global resources. LMON-provided services are also known as cluster group services (CGS).	No	No
LMSn	Global Cache Service Process	Handles remote Global Cache Service (GCS) messages. The number of LMS processes varies depending on the amount of messaging traffic among nodes in the cluster.	No	No
PING	Interconnect Latency Measurement Process	Assesses the latencies associated with communications for each pair of instances. Every	No	No

Acronym	Process Name	Description	Required for basic operation	Started by default
		few seconds, the process in one instance (INSTANCE_NUMBER value) sends two messages to each instance (TARGET_INSTANCE value). One message has a size of 500 bytes and the other has a size of 8 KB. The message is received by the PING process on the target instance and is immediately acknowledged. The time for the round-trip is measured and collected.		
RMSn	Oracle RAC Management Process	Performs manageability tasks for Oracle RAC, such as creation of RAC-related resources when new instances are added to the clusters.	No	No
RSMN	Remote Slave Monitor Process	Manages background slave process creation and communication on remote instances.	No	No