126
DBMS_MEMOPTIMIZE

The `DBMS_MEMOPTIMIZE` package provides the interface for managing the Memoptimized Rowstore data buffered in the large pool and the memoptimize pool.

This chapter contains the following topics:

- DBMS_MEMOPTIMIZE Overview
- Summary of DBMS_MEMOPTIMIZE Subprograms

DBMS_MEMOPTIMIZE Overview

The `DBMS_MEMOPTIMIZE` package provides the interface for managing Memoptimized Rowstore data buffered in the large pool and the memoptimize pool.

The Memoptimized Rowstore provides the following functionality:

- Fast Ingest

  Fast ingest optimizes the processing of high-frequency, single-row data inserts. Fast ingest uses the large pool in the SGA for buffering the inserts before writing them to disk.

- Fast Lookup

  Fast lookup enables fast retrieval of data for high-frequency queries. Fast lookup uses a separate memory area in the SGA called the *memoptimize pool* for buffering data queried from tables.

The `DBMS_MEMOPTIMIZE` package provides the following operations related to the Memoptimized Rowstore:

- Fast ingest operations:
  - Provide the low high-water mark (low HWM) of the sequence numbers of rows that have been successfully written from the large pool to disk across all the sessions.
  - Provide the high-water mark (HWM) sequence number of the row that has been written to the large pool for the current session.
  - Flush all the fast ingest data from the large pool to disk for the current session.
- Fast lookup operations:
  - Remove data for a table from the memoptimize pool.
  - Populate data for a table in the memoptimize pool.

Summary of DBMS_MEMOPTIMIZE Subprograms

This table lists the `DBMS_MEMOPTIMIZE` subprograms and briefly describes them.

Table 126-1 DBMS_MEMOPTIMIZE Package Subprograms Related to Fast Ingest

Procedure	Description
GET_APPLY_HWM_SEQID Function	Returns the low high-water mark (low HWM) of the sequence numbers of rows that have been successfully written to disk globally across all the sessions.
GET_WRITE_HWM_SEQID Function	Returns the high-water mark (HWM) sequence number of the row that has been written to the large pool for the current session.
WRITE_END Procedure	Flushes all the fast ingest data from the large pool to disk for the current session.

Table 126-2 DBMS_MEMOPTIMIZE Package Subprograms Related to Fast Lookup

Procedure	Description
DROP_OBJECT Procedure	Removes data for a table from the memoptimize pool.
POPULATE Procedure	Populates data for a table in the memoptimize pool.

DROP_OBJECT Procedure

This procedure removes data for a table from the memoptimize pool.

Syntax

```
DBMS_MEMOPTIMIZE.DROP_OBJECT (
   schema_name         IN VARCHAR2,
   table_name          IN VARCHAR2,
   partition_name      IN VARCHAR2 DEFAULT NULL);
```

Parameters

Table 126-3 DROP_OBJECT Procedure Parameters

Parameter	Description
schema_name	Name of the schema.
table_name	Name of the table for which the data needs to be removed from the memoptimize pool.
partition_name	Name of the table partition for which the data needs to be removed from the memoptimize pool. This is an optional parameter and its default value is NULL.

GET_APPLY_HWM_SEQID Function

This function returns the low high-water mark (low HWM) of sequence numbers of the records that have been successfully written to disk across all the sessions.

Syntax

```
DBMS_MEMOPTIMIZE.GET_APPLY_HWM_SEQID
  RETURN number;
```

Return Value

Returns the low high-water mark (low HWM) of sequence numbers of the records that have been successfully written to disk across all the sessions.

GET_WRITE_HWM_SEQID Function

This function returns the high-water mark (HWM) sequence number of the record that has been written to the large pool for the current session.

Syntax

```
DBMS_MEMOPTIMIZE.GET_WRITE_HWM_SEQID
  RETURN number;
```

Return Value

Returns the high-water mark (HWM) sequence number of the record that has been written to the large pool for the current session.

POPULATE Procedure

This procedure populates the data for a table in the memoptimize pool.

Syntax

```
DBMS_MEMOPTIMIZE.POPULATE (
   schema_name        IN VARCHAR2,
   table_name         IN VARCHAR2,
   partition_name     IN VARCHAR2 DEFAULT NULL);
```

Parameters

Table 126-4 POPULATE Procedure Parameters

Parameter	Description
schema_name	Name of the schema.
table_name	Name of the table for which the data needs to be populated in the memoptimize pool.

Table 126-4 (Cont.) POPULATE Procedure Parameters

Parameter	Description
`partition_name`	Name of the table partition for which the data needs to be populated in the memoptimize pool. This is an optional parameter and its default value is `NULL`.

WRITE_END Procedure

This procedure flushes all the fast ingest data from the large pool to disk for the current session.

Syntax

```
DBMS_MEMOPTIMIZE.WRITE_END;
```