

DBS, Memory Limit Reached

OPERATING INSTRUCTIONS

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DBS, Memory Limit Reached



1 Introduction

This instruction concerns alarm handling.

1.1 Alarm Description

The alarm is raised when Database Service (DBS) memory use exceeds a threshold.

The possible alarm causes and fault locations are explained in Table 1.

Table 1 Alarm Causes

Alarm Cause	Description	Fault Reason	Fault Location	Impact
Out of memory	All available memory is allocated	One or more DBN ⁽¹⁾ instances consume all their record heap.	Heap memory	If a DBN instance runs out of record heap, database operations fail with retry status until memory becomes available



Table 1 Alarm Causes

Alarm Cause	Description	Fault Reason	Fault Location	Impact
Uneven memory consumption	The memory consumption is uneven	Faulty keyToD U()	Memory	Service downtime or reduced service capacity when the problem is too often detected or when it persists
		Faulty pool allocation		
Increasing memory consumption	The memory consumption increases	Application does not clear data (Persistent Object Type instances) that is not used any more		
		Memory leak		
System overload	The system is overloaded	The system is overloaded	System dimensioning	
One or more processes of DBS leak memory	One or more DBS processes leak memories	A software component has an implementation defect	Software component	Software crash leading to service downtime or reduced service capacity depending on redundancy

(1) Database Network (DBN)

Note: This alarm can appear as a result of a maintenance activity.

The alarm attributes are listed and explained in Table 2.

Table 2 Alarm Attributes

Attribute Name	Attribute Value
Major Type	193
Minor Type	917505
Managed Object Instance	Format: ⁽¹⁾ ManagedElement=1, SystemFunctions=1, Pm=1, PmJob=<threshold job name>, MeasurementReader=<measurement_reader_name>: PU=<node_name>, EE=DBN
Specific Problem	DBS, Memory Limit Reached
Event Type	processingErrorAlarm (4)
Probable Cause	outOfMemory(162)



Table 2 Alarm Attributes

Attribute Name	Attribute Value
Additional Text	Measurement type: Mem.RecordHeap.PUsed
Perceived Severity	critical (3)

(1) This attribute value is only an example and can be different on the node.

1.2 Prerequisites

This section provides information on the documents, tools, and conditions that apply to the procedure.

1.2.1 Documents

This instruction references the following documents:

- *Create Measurement Collection Job*
- *Data Collection Guideline*
- *Fetch File in Logical File System*
- *Start Measurement Collection Job*
- *Stop Measurement Collection Job*

1.2.2 Tools

No tools are required.

1.2.3 Conditions

Before starting this procedure, ensure that the following condition is met:

- A DBS, Memory Limit Reached alarm is raised.



DBS, Memory Limit Reached



2 Procedure

This section describes the procedure to follow when this alarm is received.

Do the following:

1. Log on to the host to access a Linux® shell:

```
ssh <user>@<hostname> -p 22
```

The hostname is part of alarm attribute *Source*.

2. Create DBS measurement collection job.

For information on measurement type for the measurement job to create, see *Additional Text* in Table 2.

For example: `Mem.RecordHeap.PUsed`.

For information on how to create a measurement job, refer to *Create Measurement Collection Job*.

3. Start the measurement collection job.

For information on how to start a measurement job, refer to *Start Measurement Collection Job*.

4. For all nodes, collect data about CPU memory, for example:

```
>top -b -n 1 >> /tmp/top.txt
```

```
>mpstat -P ALL 1 1 >> /tmp/mpstat.txt
```

5. For all nodes, collect data about RAM memory, for example:

```
>cat /proc/meminfo >> /tmp/meminfo.txt
```

6. Collect measurement collection job log.

For information on how to collect measurement job log, refer to *Fetch File in Logical File System*.

7. Collect CPU log files.

Download the log file created in Step 4.

8. Collect RAM log file.

Download the log file created in Step 5.

9. Perform data collection, refer to *Data Collection Guideline*.



10. Consult the next level of maintenance support. Further actions are outside the scope of this Operating Instruction.

11. Stop measurement collection job.

For information on how to stop a measurement job, refer to *Stop Measurement Collection Job*.

12. Job is completed.