

Remote Monitoring User for IBM DB2 for LUW



Applies to:

Enhancement Package 1 for SAP Solution Manager 7.0 (SP18) and IBM DB2 for Linux, UNIX, and Windows databases V8.2, V9.1 or V9.5.

Summary

The SAP default user for database monitoring is the instance owner. If you want to limit the privileges of the remote monitoring user to read-only functionality, follow the instructions in this article to create an additional user for the database connection in the SAP Solution Manager.

Author: Steffen Siegmund

Company: SAP AG

Created on: 22 April 2009

Author Bio

Steffen Siegmund works as a senior developer in the IBM DB2 for Linux, UNIX, and Windows development team at SAP. His area of coverage includes database monitoring based on SAP BI, integration with SAP Solution Manager and setup of high available cluster solutions with IBM DB2 for Linux, UNIX, and Windows and IBM Tivoli System Automation for Multiplatforms.

Table of Contents

Preparations.....	4
General GRANT Statements	4
GRANT Statements for IBM DB2 V9.1 and DB2 V9.5.....	5
GRANT Statements for IBM DB2 V9.5	5
GRANT Statements for SAP DDIC Tables	6
GRANT Statements for Special SAPTOOLS Tables.....	6
EXPLAIN on SAP tables	7
Execution of SQL Commands in the DBA Cockpit	7

User Limitations

By default, in an SAP environment the DB2 instance owner is used as monitoring user in the context of SAP Solution Manager integration.

Using the DB2 instance owner enables the full functionality provided with the latest available DBA Cockpit in the SAP Solution Manager, which includes database monitoring, administration, detailed analysis and alerting. If you do not want to have administration capabilities in the SAP Solution Manager for the connected databases, you can create an additional monitoring user with SYSMON role and additional privileges to enable only the monitoring feature in SAP Solution Manager. If you want to use this monitoring user, the following actions are **not allowed** for this user:

- Access to SAP tables except for some DDIC (ABAP Dictionary) tables
- Tablespace maintenance
- RUNSTATS on tables
- Table REORG
- Update on DBM/DB CFG
- Partition group maintenance
- Automatic table maintenance
- Event monitor maintenance
- EXPLAIN on SAP tables
- DB2 V9.5: WLM maintenance
- DB2 V9.1 FP7: Database Scheduler
- Execution of SQL-statements in the DBA Cockpit

This information in this article is valid for Enhancement Package 1 for SAP Solution Manager 7.0 (SP18). With future development of the DBA Cockpit and future DB2 versions, additional GRANT statements on tables, stored procedures or functions might be required. In these cases, you should receive an error in the DBA Cockpit with the message that the user does not have the privilege to execute the SQL statement. To enable these features, you have to grant the required privileges to the monitoring user.

User Creation

You have to create an additional user group and an additional user on the monitored database server. You then have to configure the SYSMON group and restart your database. Proceed as follows:

1. Create a user group, for example DB<DBSID>MON.
2. Create a user in this group DB<DBSID>MON, for example <dbsid>mon.
3. Update the database manager configuration and define the SYSMON group using the following command:

```
db2 update dbm cfg using SYSMON_GROUP=DB<DBSID>MON
```

4. To enable the SYSMON group, restart the database

Granting Required Privileges

Depending on the database version, you have to grant the following privileges to the created <dbsid>mon user.

Preparations

- If the SAPTOOLS tablespace does not yet exist, see SAP Note 1111597.
- If the SAPTOOLS schema does not yet exist, create the SAPTOOLS schema.

General GRANT Statements

The following privileges are required for all DB2 for LUW versions:

GRANT CONNECT, CREATETAB, BINDADD ON DATABASE TO <dbsid>mon

GRANT USE OF TABLESPACE SAPTOOLS TO <dbsid>mon

GRANT ALTERIN, CREATEIN, DROPIN ON SCHEMA SAPTOOLS TO <dbsid>mon
WITH GRANT OPTION

GRANT EXECUTE ON FUNCTION SYSPROC.ADMIN_GET_MSGS TO <dbsid>mon

GRANT EXECUTE ON FUNCTION SYSPROC.ADMIN_GET_TAB_INFO TO <dbsid>mon

GRANT EXECUTE ON FUNCTION SYSPROC.ADMIN_LIST_DB_PATHS TO <dbsid>mon

GRANT EXECUTE ON FUNCTION SYSPROC.ADMIN_LIST_HIST TO <dbsid>mon

GRANT EXECUTE ON FUNCTION SYSPROC.ENV_GET_INST_INFO TO <dbsid>mon

GRANT EXECUTE ON FUNCTION SYSPROC.DB_PARTITIONS TO <dbsid>mon

GRANT EXECUTE ON FUNCTION SYSPROC.AUTH_LIST_GROUPS_FOR_AUTHID TO <dbsid>mon

GRANT EXECUTE ON FUNCTION SYSPROC.COMPILOATION_ENV TO <dbsid>mon

GRANT EXECUTE ON FUNCTION SYSPROC.PD_GET_LOG_MSGS TO <dbsid>mon

GRANT EXECUTE ON FUNCTION SYSPROC.REG_LIST_VARIABLES TO <dbsid>mon

GRANT EXECUTE ON FUNCTION SYSPROC.EXPLAIN_GET_MSG TO <dbsid>mon

GRANT EXECUTE ON PROCEDURE SYSPROC.REORGCHK_IX_STATS TO <dbsid>mon

GRANT EXECUTE ON PROCEDURE SYSPROC.REORGCHK_TB_STATS TO <dbsid>mon

GRANT EXECUTE ON PROCEDURE SYSPROC.SYSINSTALLOBJECTS TO <dbsid>mon

GRANT EXECUTE ON FUNCTION SAPTOOLS.* TO <dbsid>mon

GRANT EXECUTE ON PROCEDURE SAPTOOLS.* TO <dbsid>mon

GRANT SELECT ON TABLE SYSIBMADM.DBCFG TO <dbsid>mon WITH GRANT OPTION

GRANT SELECT ON TABLE SYSIBMADM.SNAPDB_MEMORY_POOL TO <dbsid>mon
WITH GRANT OPTION

GRANT SELECT ON TABLE SYSIBMADM.SNAPDBM_MEMORY_POOL TO <dbsid>mon
WITH GRANT OPTION

GRANT SELECT ON TABLE SYSIBMADM.SNAPAGENT_MEMORY_POOL TO <dbsid>mon
WITH GRANT OPTION

GRANT SELECT ON TABLE SYSIBMADM.DB_HISTORY TO <dbsid>mon WITH GRANT OPTION

GRANT SELECT ON TABLE SYSCAT.BUFFERPOOLS TO <dbsid>mon WITH GRANT OPTION

GRANT SELECT ON TABLE SYSCAT.TABLES TO <dbsid>mon WITH GRANT OPTION

GRANT Statements for IBM DB2 V9.1 and DB2 V9.5

The following privileges are required for DB2 V9.1 and V9.5 for LUW :

```
GRANT EXECUTE ON FUNCTION SYSPROC.SQLERRM( VARCHAR(9), VARCHAR(70), VARCHAR(1),
VARCHAR(33), INTEGER ) TO <dbsid>mon
```

```
GRANT EXECUTE ON FUNCTION SYSPROC.SQLERRM( INTEGER ) TO <dbsid>mon
```

```
GRANT EXECUTE ON PROCEDURE SYSPROC.NNSTAT( VARCHAR(128), VARCHAR(128),
VARCHAR(128), VARCHAR(1000), VARCHAR(2000), INTEGER ) TO <dbsid>mon
```

```
GRANT EXECUTE ON PROCEDURE SYSPROC.NNSTAT( VARCHAR(128), VARCHAR(128),
VARCHAR(128), CLOB(2M), CLOB(2M), SMALLINT, VARCHAR(1000), VARCHAR(2000) ) TO <dbsid>mon
```

```
GRANT EXECUTE ON PROCEDURE SYSPROC.POLICY_RETRIEVE TO <dbsid>mon
```

```
GRANT SELECT ON TABLE SYSTOOLS.POLICY TO <dbsid>mon
```

GRANT Statements for IBM DB2 V9.5

The following privileges are required for DB2 V9.5 for LUW:

```
GRANT EXECUTE ON FUNCTION SYSPROC.PD_GET_DIAG_HIST TO <dbsid>mon
```

```
GRANT EXECUTE ON FUNCTION SYSPROC.ADMIN_GET_DBP_MEM_USAGE( INTEGER )
TO <dbsid>mon
```

```
GRANT EXECUTE ON FUNCTION SYSPROC.ADMIN_GET_DBP_MEM_USAGE( ) TO <dbsid>mon
```

```
GRANT EXECUTE ON FUNCTION SYSPROC.EXPLAIN_FORMAT_STATS TO <dbsid>mon
```

```
GRANT EXECUTE ON FUNCTION SYSPROC.EXPLAIN_GET_MSG2 TO <dbsid>mon
```

```
GRANT EXECUTE ON FUNCTION SYSPROC.ADMIN_GET_TAB_INFO_V95 TO <dbsid>mon
```

```
GRANT EXECUTE ON FUNCTION SYSPROC.ENV_GET_SYS_RESOURCES TO <dbsid>mon
```

```
GRANT EXECUTE ON FUNCTION SYSPROC.WLM_GET_SERVICE_CLASS_AGENTS TO <dbsid>mon
```

```
GRANT EXECUTE ON FUNCTION SYSPROC.WLM_GET_SERVICE_SUBCLASS_STATS TO <dbsid>mon
```

```
GRANT EXECUTE ON PROCEDURE SYSPROC.ADMIN_TASK_ADD TO <dbsid>mon
```

```
GRANT EXECUTE ON PROCEDURE SYSPROC.ADMIN_TASK_UPDATE TO <dbsid>mon
```

```
GRANT EXECUTE ON PROCEDURE SYSPROC.ADMIN_TASK_REMOVE TO <dbsid>mon
```

```
GRANT EXECUTE ON PROCEDURE SYSPROC.WLM_CAPTURE_ACTIVITY_IN_PROGRESS TO
<dbsid>mon
```

```
GRANT EXECUTE ON PROCEDURE SYSPROC.WLM_COLLECT_STATS TO <dbsid>mon
```

```
GRANT SELECT ON TABLE SYSIBMADM.ENV_SYS_RESOURCES TO <dbsid>mon
WITH GRANT OPTION
```

```
GRANT SELECT ON TABLE SYSCAT.SERVICECLASSES TO <dbsid>mon WITH GRANT OPTION
```

```
GRANT SELECT ON TABLE SYSCAT.THRESHOLDS TO <dbsid>mon WITH GRANT OPTION
```

GRANT Statements for SAP DDIC Tables

The following privileges are required for SAP tables to retrieve some meta data. You have to specify the correct SAP schema. For non-SAP or SAP Java only systems, these tables are not available and you can ignore this section.

```
GRANT SELECT ON TABLE <SAP_SCHEMA>.SVERS TO <dbsid>mon
GRANT SELECT ON TABLE <SAP_SCHEMA>.CVERS TO <dbsid>mon
GRANT SELECT ON TABLE <SAP_SCHEMA>.DBSTATC TO <dbsid>mon
GRANT SELECT ON TABLE <SAP_SCHEMA>.DD02L TO <dbsid>mon WITH GRANT OPTION
GRANT SELECT ON TABLE <SAP_SCHEMA>.DD03L TO <dbsid>mon WITH GRANT OPTION
GRANT SELECT ON TABLE <SAP_SCHEMA>.DD06L TO <dbsid>mon
GRANT SELECT ON TABLE <SAP_SCHEMA>.DDART TO <dbsid>mon
GRANT SELECT ON TABLE <SAP_SCHEMA>.TRESA TO <dbsid>mon
```

GRANT Statements for Special SAPTOOLS Tables

The following privileges are required for SAPTOOLS tables if they exist in the system:

```
GRANT SELECT ON TABLE SAPTOOLS.DBH_STG_DB TO <dbsid>mon WITH GRANT OPTION
GRANT SELECT ON TABLE SAPTOOLS.ACTIVITYSTMT_SAP_WLM_ACTIVITIES
TO <dbsid>mon WITH GRANT OPTION
GRANT SELECT ON TABLE SAPTOOLS.ACTIVITYVALS_SAP_WLM_ACTIVITIES
TO <dbsid>mon WITH GRANT OPTION
GRANT SELECT ON TABLE SAPTOOLS.ACTIVITY_SAP_WLM_ACTIVITIES
TO <dbsid>mon WITH GRANT OPTION
GRANT SELECT ON TABLE SAPTOOLS.CONTROL_SAP_WLM_ACTIVITIES
TO <dbsid>mon WITH GRANT OPTION
GRANT SELECT ON TABLE SAPTOOLS.CONTROL_SAP_WLM_STATISTICS
TO <dbsid>mon WITH GRANT OPTION
GRANT SELECT ON TABLE SAPTOOLS.CONTROL_SAP_WLM_THRVIOLATIONS
TO <dbsid>mon WITH GRANT OPTION
GRANT SELECT ON TABLE SAPTOOLS.HISTOGRAMBIN_SAP_WLM_STATISTICS
TO <dbsid>mon WITH GRANT OPTION
GRANT SELECT ON TABLE SAPTOOLS.QSTATS_SAP_WLM_STATISTICS
TO <dbsid>mon WITH GRANT OPTION
GRANT SELECT ON TABLE SAPTOOLS.SCSTATS_SAP_WLM_STATISTICS
TO <dbsid>mon WITH GRANT OPTION
GRANT SELECT ON TABLE SAPTOOLS.VIOLATIONS_SAP_WLM_THRVIOLATIONS
TO <dbsid>mon WITH GRANT OPTION
GRANT SELECT ON TABLE SAPTOOLS.WLSTATS_SAP_WLM_STATISTICS
TO <dbsid>mon WITH GRANT OPTION
```

Removing Limitations

If you want to add some special features, you have to add some privileges to the monitoring user to enable them.

EXPLAIN on SAP tables

To enable the EXPLAIN feature for SAP tables, you have to grant the SELECT privilege on all participating tables of the SQL query.

Execution of SQL Commands in the DBA Cockpit

To enable the SQL command feature, you have to add the following GRANT statement:

```
GRANT EXECUTE ON PROCEDURE SYSPROC.ADMIN_CMD TO <dbsid>mon
```

SAP Solution Manager Integration

You have to apply the SAP Note 1318039 to your SAP Solution Manager system to enable the use of SYSMON users for remote monitoring. Otherwise, a message is displayed that the user you supplied is not a database administrator user.

Copyright

© Copyright 2009 SAP AG. All rights reserved.

No part of this publication may be reproduced or transmitted in any form or for any purpose without the express permission of SAP AG. The information contained herein may be changed without prior notice.

Some software products marketed by SAP AG and its distributors contain proprietary software components of other software vendors.

Microsoft, Windows, Excel, Outlook, and PowerPoint are registered trademarks of Microsoft Corporation.

IBM, DB2, DB2 Universal Database, System i, System i5, System p, System p5, System x, System z, System z10, System z9, z10, z9, iSeries, pSeries, xSeries, zSeries, eServer, z/VM, z/OS, i5/OS, S/390, OS/390, OS/400, AS/400, S/390 Parallel Enterprise Server, PowerVM, Power Architecture, POWER6+, POWER6, POWER5+, POWER5, POWER, OpenPower, PowerPC, BatchPipes, BladeCenter, System Storage, GPFS, HACMP, RETAIN, DB2 Connect, RACF, Redbooks, OS/2, Parallel Sysplex, MVS/ESA, AIX, Intelligent Miner, WebSphere, Netfinity, Tivoli and Informix are trademarks or registered trademarks of IBM Corporation.

Linux is the registered trademark of Linus Torvalds in the U.S. and other countries.

Adobe, the Adobe logo, Acrobat, PostScript, and Reader are either trademarks or registered trademarks of Adobe Systems Incorporated in the United States and/or other countries.

Oracle is a registered trademark of Oracle Corporation.

UNIX, X/Open, OSF/1, and Motif are registered trademarks of the Open Group.

Citrix, ICA, Program Neighborhood, MetaFrame, WinFrame, VideoFrame, and MultiWin are trademarks or registered trademarks of Citrix Systems, Inc.

HTML, XML, XHTML and W3C are trademarks or registered trademarks of W3C®, World Wide Web Consortium, Massachusetts Institute of Technology.

Java is a registered trademark of Sun Microsystems, Inc.

JavaScript is a registered trademark of Sun Microsystems, Inc., used under license for technology invented and implemented by Netscape.

SAP, R/3, SAP NetWeaver, Duet, PartnerEdge, ByDesign, SAP Business ByDesign, and other SAP products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of SAP AG in Germany and other countries.

Business Objects and the Business Objects logo, BusinessObjects, Crystal Reports, Crystal Decisions, Web Intelligence, Xcelsius, and other Business Objects products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of Business Objects S.A. in the United States and in other countries. Business Objects is an SAP company.

All other product and service names mentioned are the trademarks of their respective companies. Data contained in this document serves informational purposes only. National product specifications may vary.

These materials are subject to change without notice. These materials are provided by SAP AG and its affiliated companies ("SAP Group") for informational purposes only, without representation or warranty of any kind, and SAP Group shall not be liable for errors or omissions with respect to the materials. The only warranties for SAP Group products and services are those that are set forth in the express warranty statements accompanying such products and services, if any. Nothing herein should be construed as constituting an additional warranty.