

# <u>DBPLUS</u> <u>Performance Monitor for Oracle</u> <u>description of changes in version 2023.2</u>

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The following is a list of changes to DBPLUS Performance Monitor for monitoring Oracle databases.

### New features in version 202 3.2

### 1. Ability to copy links to application pages

In the latest version, we have added the functionality of copying links to a given application page. A user will be able to send a link to a given application page along with its contents as part of data analysis in the DBPLUS Performance Monitor application. This makes it possible to quickly transfer between users the analysis performed in the Performance Monitor application.

The ability to copy links is available from the instance's performance details by clicking on the link icon in the upper right corner of the screen.

III Database Load	Waits Late	hes SQL Analyze	SQL Details	SQL Plan Load	Trends Compare	Top SQL S	QL 3D Top Day	Slow SQLs P	erf Counters O	S Stat					€ i
293591135	From:	2023/07/05	00:00 to: 📰 20	23/07/05 23:59		Group by pl	an					Group by S	nap 👻 Url link to	page	
STATEMENT TEXT												Vie	w Sessi params_ clipboard	hash=1569718558 ha I	prioracie/performan is been copied to
SELECT item_t0.F	item_t0.FK FROM rulegroupormpromoproduct item_t0 JOIN icormpromotionitem item_t0.BK FROM rulegroupormpromoproduct item_t0.TypeFKString=:2 Ap														
SQL STATISTICS (SQ	QL ID: c9r8c6s8	zq2z)											Grid v	iew: General s	tatistics 👻 🌣
Date	Plan hash	Elapsed Time	Cpu Time	Rows processed	Fetches	Executions	Parse Calls	Disk Reads	Disk Reads	Buffers Get	Buffer Quality	Module	Action	Outline category	Elapsed Time
		[Seconds]	[Seconds]	[Rows]	[Rows]			[Blocks]	[MB]	[Blocks]	[%]				[Seconds]
2023-07-05 04:29:14	2330105082	9.2	6.9	0	70		70	70 45	99 35	3 MB 3 421 628	98.7	JDBC Thin Client		DEFAULT	0.131631

When the button is clicked, the link is automatically added to the clipboard. The link contains a coded configuration, which is only available to read from the Performance Monitor application.

In order to open the page using the link, the user must have access to the application and the database instance to which the submitted link applies. Example url form:

https://hostname/dpmoracle/performance\_sql\_details.aspx?params\_hash=1321027467

### Improve saving of settings on application pages

In addition, the mechanism for remembering settings on application pages while working with the tool has been improved. Remembering the last settings on the pages of the application allows you to go and return to subsequent pages in the application without any problems. Upon return, the user's last settings are remembered and displayed as they were during the previous entry. When you return to the Dashboard screen, the memorization is cleared.

### 2. Oracle Alert Log support

In the latest version of the application, a view containing Oracle database logs has been added to monitoring. The information is available at the database details level in the **Logs** menu under the **Oracle Alert Log** tab.

Immediately after the update, monitoring is not available. When you enter the tab, you will get a message.



To start monitoring, create a dedicated table based on the **X\$DBGALERTEXT** system view with read permissions for the monitoring user.



To do this, from the Configuration Wizard, go to the settings for the database in question and select **Refresh user privileges.** On the dedicated screen, select **Enable read AlertLog** and click Refresh user privileges. Refresh privileges requires the **SYS** user data to be entered. The administrator data is not saved anywhere, it is only needed to create the table and assign permissions.

Monitored Databases	Orac	cle database User refresh privileges	
60 databases (from 6	2) Conn	e SQL Instance refreshing user privileges Instance is refreshing user privileges (in case of broken)	
:h:	Inclu	Oracle instance details	_
T15/g1kingcrimson	•	Connection Type TNS	
T2 testowa/u 1pulpfiction	0	Network alias T4	
T3/u1dune	0	User name dbplus1	
T4 testowa/u 1metropolis	0	Fashing and shilless	-
T5 testowa/u 1matrix	0	Alert Log	-
T6/u1kingkong	•	Needed tables/views do not exist (DBPLUS_ALERT_EXT). Need to create them	
T8/u1bigshort	0		1
T9/u1gladiator	0	STSUBA connection credentials (for instance)	
TETAKADT1/g1air	•	Authentication Oracle Authentication	
TETAKAD/u1gravity	0 <u>5</u> 3	Username STS Role SYSDBA	
	-	Password	

Once the table is created, the information containing Oracle logs will be monitored by the Performance Monitor application and available in the **Oracle alert Log** tab.

III Dbp	lus procedu	re statistics Proce	dure Errors	Dbplus database objects Oracle	alert log					i
Date fro	m: 🗐 2	2023/07/05 to:	2023/07	//05						Refresh
DBPLU	S ALERT LO	G								
Alert	Log proc	edure run time	्र  Search m	essage	Show only ORA errors					
Instance id	Error	Date & Time 🔻	Included		Message text	Organization	Component	Host id	Host Address	Module id
1	0	2023-07-05 13:32:36		Thread 1 advanced to log sequence 1613	3 (LGWR switch)	oracle	rdbms	DESKTOP-HR	::1	
1	0	2023-07-05 13:32:36		Current log# 1 seq# 1613 mem# 0: C:\OR	RACLEXE\APP\ORACLE\FAST_RECOVERY_AREA\XE\ONLINELOG\O1_MF_1_JHZS6N	oracle	rdbms	DESKTOP-HR	:1	
1	0	2023-07-05 13:32:33	~	Thread 1 cannot allocate new log, sequer	nce 1613	oracle	rdbms	DESKTOP-HR	:1	
1	0	2023-07-05 13:32:33	1	Private strand flush not complete		oracle	rdbms	DESKTOP-HR	c1	
1	0	2023-07-05 13:32:33	<b></b>	Current log# 2 seq# 1612 mem# 0: C:\OR	RACLEXE\APP\ORACLE\FAST_RECOVERY_AREA\XE\ONLINELOG\01_MF_2_JHZS6N	oracle	rdbms	DESKTOP-HR	:1	
1	0	2023-07-05 12:54:29		Time drift detected. Please check VKTM t	trace file for more details.	oracle	rdbms	DESKTOP-HR	:1	
1	0	2023-07-05 11:55:55	<b>V</b>	Thread 1 advanced to log sequence 1612	2 (LGWR switch)	oracle	rdbms	DESKTOP-HR	:1	
1	0	2023-07-05 11:55:55	~	Current log# 2 seq# 1612 mem# 0: C:\OR	RACLEXEVAPPIORACLEVFAST_RECOVERY_AREAXEVONLINELOGVO1_MF_2_JHZS6N	oracle	rdbms	DESKTOP-HR	:1	
1	0	2023-07-05 10:05:28		Thread 1 advanced to log sequence 1611	I (LGWR switch)	oracle	rdbms	DESKTOP-HR	:1	
1	0	2023-07-05 10:05:28		Current log# 1 seq# 1611 mem# 0: C:\OR	RACLEXEVAPP\ORACLE\FAST_RECOVERY_AREA\XE\ONLINELOG\O1_MF_1_JHZS6NH	oracle	rdbms	DESKTOP-HR	:1	
1	0	2023-07-05 09:26:23		ORA-60013: invalid MAXSIZE storage op	ation value	oracle	rdbms	DESKTOP-HR	:1	SQL Developer
1	0	2023-07-05 09:24:45		ORA-12315: database link type is invalid	for the ALTER DATABASE statement	oracle	rdbms	DESKTOP-HR	:1	SQL Developer
1	0	2023-07-05 08:42:23		Time drift detected. Please check VKTM t	trace file for more details.	oracle	rdbms	DESKTOP-HR	::1	

In addition, if Oracle ORA errors occur in the log, a dedicated message will be displayed in the form of a Log Alerts alert. The alerts can be seen on the Dashboard screen, Database Load and of course in Anomaly Monitor under Non Performance Alerts.



Details	
Oracle Details:	Alert Log problem : Oracle ORA error messages detected. Go to the Menu Logs > Oracle AlertLog tab to verify details.
	2023-07-05 09:24:45 ORA-12315: database link type is invalid for the ALTER DATABASE statement

The user also has the ability to manage for which ORA errors should be displayed in the Performance Monitor application. For this purpose, a dedicated configuration has been created in the **Configuration> Alert Settings** menu of the **Non Performance Alerts** tab.

Dashboard	II Ma	l settings	General set	ings Alerts definit	ion R	easons & Probl	ems definitio	Events subscription	Adhoc Alerts calculator	Exclude Alerts	Non Performance Alerts			
> SQL Server menu	DEFIN	TION OF INC	LUDING/REJE	CTING ORA NUMBERS	ALERTLOG	3						+ Add new action	ACTION DETAILS FOR THE I	NDICATED RANGE ORA NUMBERS
✓ Oracle menu	Q	Search mes	sage										Id:	1
Database Analysis	id	Level	Category	Туре	Action	Number ORA from	Number ORA to		Description	Freque	ксу		Level:	Global
	2	Global	Alert Log	Based on Alert Log	Exclude	200	299	Example numbers to exclu	ide	15 mnin				
Space monitor	1	Global	Alert Log	Based on Alert Log	Include	0	50000	All ORA numbers included		15 mnin			Category:	Alert Log 👻
Parameters														
Reports													Type:	Based on Alert Log 👻
<ul> <li>Servers monitor</li> </ul>													Action	Include +
Configuration														
<ul> <li>Settings</li> <li>Databases</li> <li>References lists</li> </ul>													Range of ORA numbers: from-to	0 50000
Alert settings     Outpress settings													Description	All ORA numbers included
														45
													Frequency	15 min +
Version: 2023.2.1													Save changes	Delete this row

On the site, the user can manage the configuration of alerts based on Oracle logs.

### 3. Improve monitoring of execution plans

An Oracle bug related to query plans has been handled in the latest version. The bug was related to a scenario when different execution plans were stored in system views for the same query plan ID. The problem was handled inside the Performance Monitor application.

The fix also applies to performance anomaly detection in Anomaly Monitor. When there is a change in the execution plan, the application compares the contents of the plan and reports the problem only if the plans on which the query runs differ.

### 4. Additional filtering capabilities

On some of the screens in **Top SQL**, **Sql 3D**, **Slow Sql**, additional filters have been added to limit the queries displayed to those run by the module data or containing actions.

To filter the data, select Show additional filters and then complete the dedicated filter.

III Database Load Waits Latches SQL Analyz	zo SQL Details	SQL Plan Lo	ad Trends Cr	mpare Top SQL	SQL 3D Top Day	Slow SQLs Perf Co	unters OS Stat							Ø
Date from: 2023/07/04 00:00 to:	2023/07/04	23:59	i 🖬 🗹	Group by plan							UnGroup literals	✓ Min elapsed executive	ution time 0 A	econds Refresh
						Hic	e additional filters							
Filter by module	Sessions	JUndo/Locking Snz	ipper				Filter by action							
SQL STATEMENTS EXECUTED DURING SPECIFIED PE	ERIOD TIME													٥
Q. Search statistic by query text or hash value														
Query text	Hash Value	Sql Id	Plan Hash	Elapsed Time 🕶	Cpu Time	Time per 1 exec.	Sorts	Fetches	Executions	Disk reads	Buffer gets	Module	Rows processed	Buffer quality
				[Seconds]	[Seconds]	[Seconds]	[Rows]	[Rows]		[M3]	[Blocks]		[Rows]	[5]
INSERT INTO DBPLUS_TAB6 (SNAP_ID, SERVER	2027342021	5rwh145wddk65	0	0.9	97 0.0	3 0.003	0	0	249	6 MB	22 470	Sessions/Undo/Locki	5 601	96.8
SELECT /*+ RULE */ a.inst_id, a.sid, a.seriaW,a.sql_h	2493728519	6jnywbyaa6js7	530757277	0.4	16 0.0	0.001	1 370	249	249	0	411	Sessions/Undo/Locki	320	100.0
select /*+RULE */ 1 from dual where exists (select 1 fr	1284254591	dpc1nzt68savz	501286428	0.3	24 0.0	5 0.000	995	249	249	0	0	Sessions/Undo/Locki	29	0
select inst_id, last_call_et, usemame, sql_hash_valu	2844392438	b0w7rsqnsmyzq	644658511	0.1	22 0.0	2 0.000	0	249	249	0	0	Sessions/Undo/Locki	5 577	0
select /*+RULE */ Lsid,Linst_id, Ltype,Lid1,Lid2,J.Imod	3665194514	guywx9md7cvhk	490955278	0.1	18 0.0	2 0.008	261	29	29	0	38	Sessions/Undo/Locki	0	100.0
SELECT /*+ RULE */ su.inst_id, LOGON_TIME,S.SID	3303142506	2n5r2w32f3x3a	3385221913	0.1	14 0.0	3 0.000	1 992	249	249	0	4 233	Sessions/Undo/Locki	0	100.0
INSERT INTO DBPLUS_TAB23 (SERVER_ID, SNAP	2711368923	b0zjfz6htsd6v	0	0.1	0.0	2 0.000	0	0	187	0 MB	2 120	Sessions/Undo/Locki	320	98.2
insert into dbplus_tab21 (server_id,dat1,snap_id,num	689672221	5j8sd3snjr40x	0	0.0	99	0.000	0	0	249	0 MB	3 670	Sessions/Undo/Locki	249	99.2
update dbplus_tab21 set num1 = :num1, num2 = :nu	4192833027	f5nxs8vwym3h3	3448357992	0.0	54	0.000	0	0	249	0	977	Sessions/Undo/Locki	249	100.0

Note that the module and action information is not refreshed by the database for each query run. The information is saved for the first run of the query and stored in the database cache.

### 5. Finding anomalies in database performance statistics

In the latest version, we have added a mechanism for searching for anomalies in database statistics. The data is available at the details level of the monitored database in the **Perf Counters** tab.

The anomaly search mechanism can be started by selecting Show counters with anomalies. Then fill in the period in which the anomaly search mechanism will be activated. The search involves verifying the level of the performance indicator for which the values in the indicated period deviate from the trend for the last 30 days from the indicated search period.



The result of the search is a list of indicators for which trend anomalies were detected in the indicated period. In addition, the table presents columns showing:

- History average the historical average value for a given indicator
- Anomaly Average the average value of the indicator during the anomaly search period
- Growth% the difference in percentage between the historical value and the compared value.

### 6. Improvements

### 6.1. Automatic refresh of data after checkbox selection

The logic associated with clicking a checkbox on application pages has been changed. In the latest version, clicking a checkbox or unchecking it refreshes the data on the page.

The change will improve the operation and ergonomics of the application.



### 6.2. Improving the import of monitoring databases from a file

In the latest version, we have improved the process of importing monitoring databases using a flat file. The import is possible from the Configuration Wizard.

BBPLUS Performance Monitor for ORA	CLE- system configurator		– 🗆 X
System architecture List of DPM components and it's available			Version <b>2023.2.1</b> License Information
Monitored Databases	Monitoring service	Database repository	User application
✓ 2 databases monitored	✓ Configured successfully	✓ Configured successfully	✓ Configured successfully
Search:NEW_XE/DESKTOP.+HR1BE66 &	DBPLUS ORACLE Catcher Status: • Running	SID: xe Hostname: localhost User: DBPLUS_xe	IIS Service Status: • Running
			Application: • Installed Website: • running App pool: • running http://desktop-hr1be66/DPMOracle
Add an Add another database	b <u>e settings</u>	Repository settings	Application settings
The J Import databases from fil	e no install/repair DBPLUS Performation ases in monitoring process too.	ance Monitor system.	Refresh Configuration Wizard

We begin the import of monitoring databases by completing the data for the connection in the file. The file is completed without a header, on the first line. Individual fields separated by a comma sign. There are 4 different types of configuration to choose from:

Connection via **TNS** to **an existing** DBPLUS user: [USER,PASSWORD,NETWORK\_ALIAS]. Example configuration: DBPLUS,password,XE

Connection via **TNS** to a **new** DBPLUS user. In this case, we additionally need to provide the administrator account data to create a monitoring user: [USER,PASSWORD,NETWORK\_ALIAS,ADMIN\_ROLE,ADMIN\_USER,ADMIN\_PASSWORD]. Example configuration: DBPLUS\_NEW,password,XE,SYSDBA,SYS,passwordSYS

**Basic** type connection to **an existing** DBPLUS user: [USER,PASSWORD,SID/SERVICE,HOSTNAME,TCCPORT,CONNECT\_BY\_SID/SERVICE]. Example configuration: DBPLUS,password,XE,127.0.0.1,1521,SID

**Basic** type connection to a **new** DBPLUS user: [USER,PASSWORD,SID/SERVICE,HOSTNAME,TCCPORT,CONNECT\_BY\_SID/SERVICE,ADMIN\_ROLE,AD MIN\_USER,ADMIN\_PASSWORD]. Example configuration: DBPLUS,password,XE,127.0.0.1,1521,SID,SYSDBA,SYS,passwordSYS

After indicating the file to be imported, an automatic connection attempt will be made. After verification, the databases for which the verification was successful (**Marked For Import** column) and for which the import can be performed will be **marked**.



🖳 Import d	atabases form					×
DBPLUS Import data	Performance Mo abases to monitoring li	onitor for ORACL	.E			
Pleas - for	e select a file to impor TNS with existing user TNS with new user : [l BASIC with existing us BASIC with new user: N_ROLE, ADMIN_USEF hould be without head	t databases connectio : [USER, PASSWORD, NE ser: [USER, PASSWORD, NE ser: [USER, PASSWORD, S [USER, PASSWORD, S ADMIN_PASSWORD er and with comma se	n details to include the NETWORK_ALIAS] TWORK_ALIAS, ADMI D, SID/SERVICE, HOS SID/SERVICE, HOSTN )]. parator.	em in monitoring pro N_ROLE, ADMIN_USE STNAME, TCPPORT, C AME, TCPPORT, CON	Cess. Columns form ER, ADMIN_PASSWO CONNECT_BY_SID/S NECT_BY_SID/SERV	DRD] SERVICE] VICE,
Select	a file					
File for imp	C:\Users\Artur E	Bogusyewski\Desktop\	import_file.txt		Select file	Check
Marked For Import	Username	Password	Database	Hostname	TCP Port	Conne
	dbplusfile	test	XE			Already
	ARTUR	test	XE	127.0.0.1	1521	Already
	ABCCC	test	XE	127.0.0.1	1521	Already
				Test	connection	Import

The import is done by clicking the Import button. Once done, the database import will automatically be added to the monitoring.

### 6.3. Improve query search for SQL Find functionality

The SQL Find functionality allows you to search for queries in the monitored database. One of the search options is to search the query by the entered phrase. In case the searched text contained special characters (e.g., such as '\_') this resulted in returning an incorrect search result.

### 6.4. Adding All session series to session history

As part of the latest version, functionality has been added to collect information about the number of sessions connected to the database. Until now, this information was collected in the main thread (every 15 minutes), which was insufficient for some problems.

Information about the number of all sessions is visible in the **Sessions** menu under **Session/Sort/Undo history.** Session data is downloaded every 60 seconds (default value with the possibility to change it at the configuration level). Only information on the number of sessions is downloaded.

ne san read			o anar ronninini										
III Sessions Sort usage sessions	Undo usage sessions Sessions history	Session / So	rt / Undo history				i						
From: 2023/07/05 00:00 to:	2023/07/05 23:59	Using Hash Val	ue/Sql Id: Enter hash value or sql id	Username: Enter username	Sid:		Refresh						
	Show additional filters												
SESSION / SORT / UNDO HISTORY							🏚 Toggle view: 🔳 🔳						
Logdate Active User Sessions All Sessions • Sessions using Sort Space Used Sessions using Undo Record Count in Undo Undo Space Used [M8]													
2023-07-05 10:44:56	47	1251	778	2 170 MB	9	45	0 MB 🗖						
2023-07-05 10:43:22	36	1250	772	2 098 MB	12	91	0 MB						
2023-07-05 10:43:54	25	1250	774	2 121 MB	11	104	0 MB						
2023-07-05 10:44:25	38	1250	775	2 133 MB	16	25	0 MB						
2023-07-05 10:40:46	57	1249	716	1 891 MB	20	178	0 MB						
2023-07-05 10:41:18	33	1249	749	1 964 MB	16	56	0 MB						
2023-07-05 10:41:49	32	1249	760	2 003 MB	18	47	0 MB						
2023-07-05 10:42:20	37	1249	762	2 036 MB	21	163	0 MB						

We can read the information in tabular form in the All Sessions column.



## And on the Active Sessions chart after changing the presentation to a chart in the Toggle View option.

III Se	ssions	Sort usage sessio	undo usage se	issions	Sessions histo	ry Session / Sort / Und	o history						
From:	20	23/07/05 00:00	10: 2023/07/05	23:59		Using Hash Value/Sql Id	d: Enter hash value or s	I id Username:	Enter username	Sid:			Refresh
								Show additional	filters				
SESS	ON / SOR	T / UNDO HISTORY									Draw history for:	Active sessions 👻	Toggle view:
							Ad	live / Sort / Undo se	ssions history				⊠ ≡
ions	1 500										07.05 10 Activ All Se	0:41:18 re User Sessions: 33 essions: 1 249	lm
nber of sess	500										Imm	~~~~~	
Nun		Wirm		~~~	~~								
	07.05 00	1:00:06		07.	05 02:24:49		07.05 04:45:59		07	.05 07:07:09	07.05 09:29	):27	
							— Acti	e User Sessions	All Sessions				