

problem.get - tested using 'problem' table with 13'000'000+ rows (5,2 GB in size; total database size - 11 GB)

API request	SQL variants generated (SQL_NO_CACHE added just for testing)	time for 1000x executions
{ "output": "extend" }	SELECT SQL_NO_CACHE p.* FROM problem p WHERE p.source='0' AND p.object='0' AND p.r_eventid IS NULL	0.92546200752258
{ "output": "extend", "name": "Too many processes on Zabbix server" }	SELECT SQL_NO_CACHE p.* FROM problem p WHERE p.source='0' AND p.object='0' AND p.name='Too many processes on Zabbix server' AND p.r_eventid IS NULL	0.73752999305725
	SELECT SQL_NO_CACHE p.* FROM problem p WHERE p.source='0' AND p.object='0' AND p.name LIKE '%Too many processes on Zabbix server%' AND p.r_eventid IS NULL	0.91593623161316
	SELECT SQL_NO_CACHE p.* FROM problem p WHERE p.source='0' AND p.object='0' AND p.name LIKE 'Too many processes on Zabbix server%' AND p.r_eventid IS NULL	0.73463106155396
{ "output": "extend", "objectids": "13496" }	SELECT SQL_NO_CACHE p.* FROM problem p WHERE p.source='0' AND p.object='0' AND p.objectid='13496' AND p.r_eventid IS NULL	0.10594010353088
{ "output": "extend", "objectids": "13496", "name": "Too many processes on Zabbix server" }	SELECT SQL_NO_CACHE p.* FROM problem p WHERE p.source='0' AND p.object='0' AND p.name='Too many processes on Zabbix server' AND p.objectid='13496' AND p.r_eventid IS NULL	0.11115288734436

Zabbix server" }	SELECT SQL_NO_CACHE p.* FROM problem p WHERE p.source='0' AND p.object='0' AND p.name LIKE '%Too many processes on Zabbix server%' AND p.objectid='13496' AND p.r_eventid IS NULL	0.1525239944458
	SELECT SQL_NO_CACHE p.* FROM problem p WHERE p.source='0' AND p.object='0' AND p.name LIKE 'Too many processes on Zabbix server%' AND p.objectid='13496' AND p.r_eventid IS NULL	0.11564898490906

{ "output": "extend", "groupids": "4", "objectids": "13496" }	SELECT SQL_NO_CACHE DISTINCT p.* FROM problem p, functions f, items i, hosts_groups hg WHERE p.source='0' AND p.object='0' AND p.objectid='13496' AND p.objectid=f.triggerid AND f.itemid=i.itemid AND i.hostid=hg.hostid AND hg.groupid='4' AND p.r_eventid IS NULL	0.1881799697876
{ "output": "extend", "groupids": "4", "objectids": "13496", "name": "Too many processes on Zabbix server" }	SELECT SQL_NO_CACHE DISTINCT p.* FROM problem p, functions f, items i, hosts_groups hg WHERE p.source='0' AND p.object='0' AND p.name='Too many processes on Zabbix server' AND p.objectid='13496' AND p.objectid=f.triggerid AND f.itemid=i.itemid AND i.hostid=hg.hostid AND hg.groupid='4' AND p.r_eventid IS NULL	0.20019483566284
	SELECT SQL_NO_CACHE DISTINCT p.* FROM problem p, functions f, items i, hosts_groups hg WHERE p.source='0' AND p.object='0' AND p.name LIKE '%Too many processes on Zabbix server%' AND p.objectid='13496' AND p.objectid=f.triggerid AND f.itemid=i.itemid AND i.hostid=hg.hostid AND hg.groupid='4' AND p.r_eventid IS NULL	0.18295288085938
	SELECT SQL_NO_CACHE DISTINCT p.* FROM problem p, functions f, items i, hosts_groups hg WHERE p.source='0' AND p.object='0' AND p.name LIKE 'Too many processes on Zabbix server%' AND p.objectid='13496' AND p.objectid=f.triggerid AND f.itemid=i.itemid AND i.hostid=hg.hostid AND	0.19553279876709

	hg.groupid='4' AND p.r_eventid IS NULL	
{ "countOutput": "true" }	SELECT SQL_NO_CACHE COUNT(DISTINCT p.eventid) AS rowcount FROM problem p WHERE p.source='0' AND p.object='0' AND p.r_eventid IS NULL	0.81373310089111
{ "countOutput": "true", "name": "Too many processes on Zabbix server" }	SELECT SQL_NO_CACHE COUNT(DISTINCT p.eventid) AS rowcount FROM problem p WHERE p.source='0' AND p.object='0' AND p.name='Too many processes on Zabbix server' AND p.r_eventid IS NULL	0.66228199005127
	SELECT SQL_NO_CACHE COUNT(DISTINCT p.eventid) AS rowcount FROM problem p WHERE p.source='0' AND p.object='0' AND p.name LIKE '%Too many processes on Zabbix server%' AND p.r_eventid IS NULL	0.78745102882385
	SELECT SQL_NO_CACHE COUNT(DISTINCT p.eventid) AS rowcount FROM problem p WHERE p.source='0' AND p.object='0' AND p.name LIKE 'Too many processes on Zabbix server%' AND p.r_eventid IS NULL	0.71933197975159

event.get - tested using:

- 'events' table with 17'000'000+ rows (3,5 GB in size);
- 'event_recovery' table with 16'000'000+ rows (2 GB in size);
- total database size - 11 GB.

API request	SQL variants generated (SQL_NO_CACHE added just for testing)	time for 1x execution
{ "output": "extend" }	<p><i>/* btw, execution time can be significantly reduced replacing DISTINCT by GROUP BY e.eventid. DISTINCT typically works faster when selected field is not an index which is not our case. */</i></p> <p>SELECT SQL_NO_CACHE DISTINCT e.*,er1.r_eventid,er2.c_eventid,er2.correlationid,er2.userid FROM events e LEFT JOIN event_recovery er1 ON er1.eventid=e.eventid LEFT JOIN event_recovery er2 ON er2.r_eventid=e.eventid WHERE e.source='0' AND e.object='0'</p>	396.01398897171

API request	SQL variants generated (SQL_NO_CACHE added just for testing)	time for 1x execution
{ "output": "extend", "limit": 1000 }	SELECT SQL_NO_CACHE DISTINCT e.*,er1.r_eventid,er2.c_eventid,er2.correlationid,er2.userid FROM events e LEFT JOIN event_recovery er1 ON er1.eventid=e.eventid LEFT JOIN event_recovery er2 ON er2.r_eventid=e.eventid WHERE e.source='0' AND e.object='0'	0.022838115692139
{ "output": "extend", "limit": 1000, "name": "Too many processes on Zabbix server" }	SELECT SQL_NO_CACHE DISTINCT e.*,er1.r_eventid,er2.c_eventid,er2.correlationid,er2.userid FROM events e LEFT JOIN event_recovery er1 ON er1.eventid=e.eventid LEFT JOIN event_recovery er2 ON er2.r_eventid=e.eventid WHERE e.source='0' AND e.object='0' AND e.name='Too many processes on Zabbix server'	98.121814012527
	SELECT SQL_NO_CACHE DISTINCT e.*,er1.r_eventid,er2.c_eventid,er2.correlationid,er2.userid FROM events e LEFT JOIN event_recovery er1 ON er1.eventid=e.eventid LEFT JOIN event_recovery er2 ON er2.r_eventid=e.eventid WHERE e.source='0' AND e.object='0' AND e.eventid IN (SELECT eventid FROM events WHERE name='Too many processes on localhost')	291.14221286774

	<pre> /* select results in two steps - first, select eventids and then add result as additional WHERE condition: \$res = DBselect("SELECT SQL_NO_CACHE eventid FROM events WHERE ".dbConditionString('name', [\$options['name']])); \$eventids = []; while (\$event = DBfetch(\$res)) { \$eventids[] = \$event['eventid']; } \$sqlParts['where'][] = dbConditionInt('e.eventid', \$eventids); The drawback for this approach is that different DBMS has different max number of values that IN (...) is able to process. */ SELECT SQL_NO_CACHE DISTINCT e.*,er1.r_eventid,er2.c_eventid,er2.correlationid,er2.userid FROM events e LEFT JOIN event_recovery er1 ON er1.eventid=e.eventid LEFT JOIN event_recovery er2 ON er2.r_eventid=e.eventid WHERE e.source='0' AND e.object='0' AND e.eventid='15' </pre>	<p>0.000655889511108 4</p>
<pre> { "output": "extend", "limit": 1000, "name": "Value is not equal to 1" } </pre>	<pre> /* same 2-step approach, just selecting an event with ~8K occurrences (rows in table) */ SELECT SQL_NO_CACHE DISTINCT e.*,er1.r_eventid,er2.c_eventid,er2.correlationid,er2.userid FROM events e LEFT JOIN event_recovery er1 ON er1.eventid=e.eventid LEFT JOIN event_recovery er2 ON er2.r_eventid=e.eventid WHERE e.source='0' AND e.object='0' AND (e.eventid IN ('21','27',[..],'39737')) </pre>	<p>Without index: 0.037962913513184</p> <p>Adding an index on 'name' column: 0.038376092910767</p>

	<i>/* Using LIKE %% took ~5s for the first step query and ~7s more to fetch 3,5M rows to PHP array */</i>	
{ "countOutput": "true" }	SELECT SQL_NO_CACHE COUNT(DISTINCT e.eventid) AS rowcount FROM events e WHERE e.source='0' AND e.object='0'	12.955904006958
{ "countOutput": "true", "name": "Value is not equal to 1" }	SELECT SQL_NO_CACHE COUNT(DISTINCT e.eventid) AS rowcount FROM events e WHERE e.source='0' AND e.object='0' AND (e.eventid IN ('21','27',[..],'39737'))	0.032606840133667
	<i>/* using LIKE '%Value is not%' gave 1,7M+ results and fatal error of exceeded memory size in dbConditionInt() */</i>	-
{ "countOutput": "true", "name": "Too many processes on Zabbix server" }	SELECT SQL_NO_CACHE COUNT(DISTINCT e.eventid) AS rowcount FROM events e WHERE e.source='0' AND e.object='0' AND e.eventid='15'	0.000420808792114 26