



PALOMINO DB

Proven Database Excellence

Nagios Plugins for Monitoring MySQL

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What is Monitoring?

- Threshold alerting
- Graphing/trending



Why Monitor?

- Problem alerting
- Find patterns
- Early warning for potential issues



Open Source Alerting Solutions

- Nagios
- Cacti
- Munin
- Zabbix
- Zenoss
- OpenNMS



Commercial Alerting Solutions

- MySQL Enterprise Monitor
- MONyog
- Oracle Grid Control
- Hyperic HQ



Best to use what you already have



Nagios is great because...

...anyone can write a plugin



The problem with Nagios...

...anyone can write a plugin



Official Nagios Plugins for MySQL

- `check_mysql`
- `check_mysql_query`



check_mysql

- db connectivity
- slave running
- slave lag using seconds_behind_master

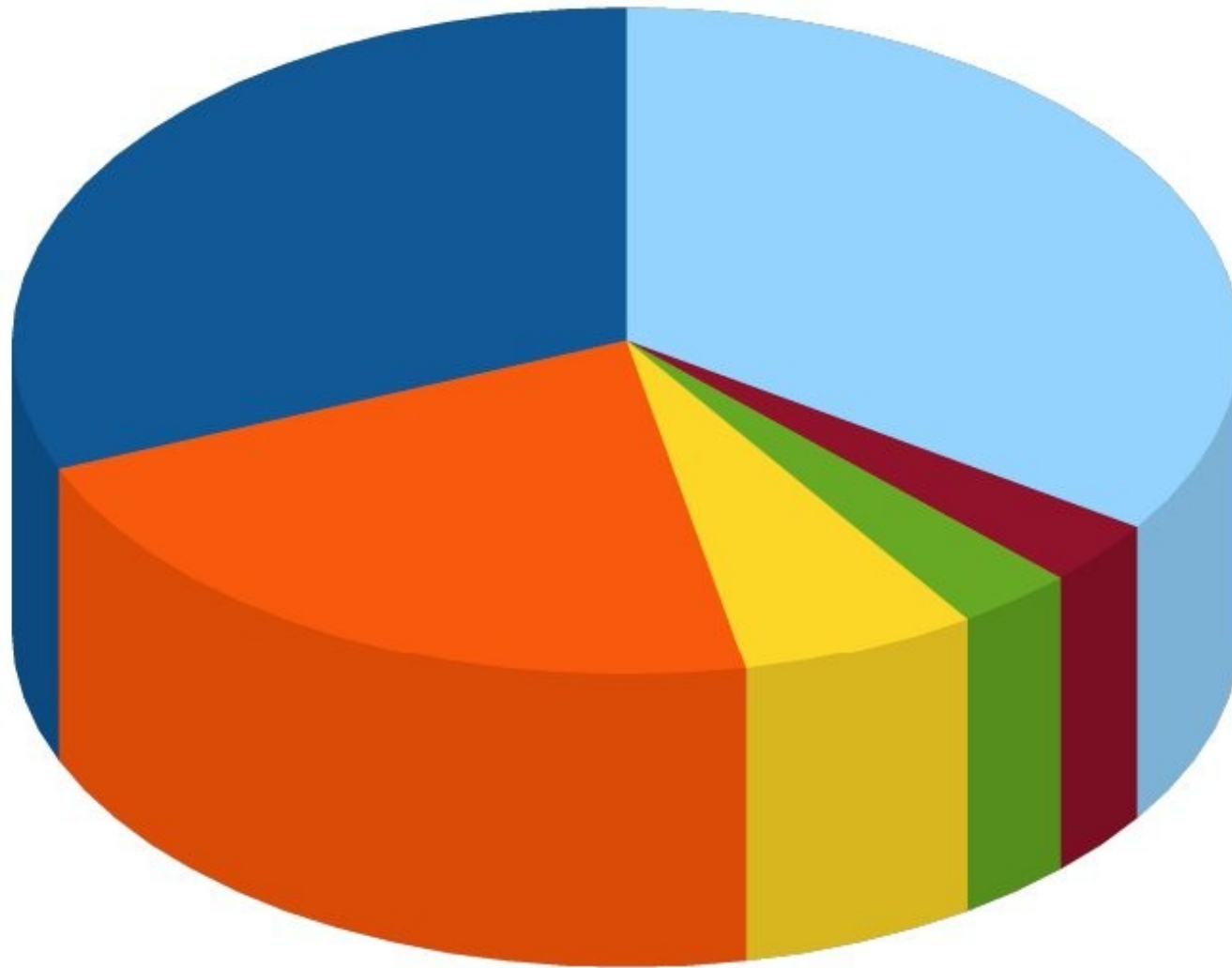


check_mysql_query

- Checks the output of a query is within a certain range (numerical)



MySQL Plugins on Nagios Exchange



■ slave ■ variables ■ # connections
■ deprecated ■ MSSQL ■ Other



System vars**Status vars****Caching****Calculations**

Check 1	yes	yes	no	no
check_mysql	no	yes	no	no
check_mysqlid_status	no	yes	no	no
check_mysql_stats	yes	no	yes	no
check_mysqlid	no	many	no	no
check_mysql_health	yes	yes	no	Hard-coded
Check 7	yes	yes	no	Hard-coded



“Let us know what you'd like to see!”



What I want

	System vars	Status vars	Caching	Calculations
New check	yes	yes	yes	flexible



Caching

- Save information to a file
 - `--cache-dir /path/to/dir/`
 - Use the file instead of connecting again
- `--max-cache-age <seconds>`
- `--no-cache` to force connection



--mode=varcomp

- %metadata{varstatus}
- SHOW GLOBAL VARIABLES
- SHOW GLOBAL STATUS
- --expression allows word replacement
- --warning --critical are flexible



Sample Command Definition

```
define command {  
    command_name      check_mysql_tmp_tables  
    command_line      $USER1$/mysql_health_check.pl  
--hostname $HOSTADDRESS$ --user myuser --password mypass  
--cache-dir=/var/lib/nagios/mysql_cache  
--max-cache-age=300  
--mode=varcomp  
--expression=  
    "Created_tmp_tables/Uptime_since_flush_status"  
--warning=">(8/60)" --critical=">(10/60)"  
}
```



Sample Service Definition

```
define service {  
    use                generic-service  
    host_name          __HOSTNAME__  
    service_description MySQL Temp Tables  
    check_command      check_mysql_tmp_tables  
}
```



--mode=long-query
--mode=locked-query

- %metadata{proc_list}
- SHOW FULL PROCESSLIST



Sample Command Definition

```
define command {  
    command_name      check_mysql_locked_queries  
    command_line      $USER1$/mysql_health_check.pl  
    --hostname $HOSTADDRESS$ --user myuser --password mypass  
    --cache-dir=/var/lib/nagios/mysql_cache  
    --max-cache-age=300  
    --mode=locked-query  
    --warning=$ARG1$ --critical=$ARG2$  
}
```



Extending Information

```
sub fetch_server_meta_data {}
```

add a new hash key to %meta_data

```
$meta_data{innodb_status} =  
$dbh->selectall_arrayref(  
q|SHOW ENGINE INNODB STATUS|);
```



Currently Unused

- %metadata{innodb_status}
 - SHOW ENGINE INNODB STATUS
- %metadata{master_status}
 - SHOW MASTER STATUS
- %metadata{slave_status}
 - SHOW SLAVE STATUS



Limitations

- ~~--comparison for critical only, not warning~~
--critical and --warning implemented!
- Cannot compare to previous (in progress)
- One check/calculation per Nagios service
- Does not output for performance data



“Standard” checks using this plugin

High Priority:

- % max connections
--expression “Threads_connected/max_connections*100”
- locked queries
- long-running queries
- InnoDB enabled
--expression “have_innodb” --comparison=”ne ‘YES’”



“Standard” checks using this plugin

% of sleeping connections

connected, # running, # max connections

```
--expression="(Threads_connected-  
Threads_running)/max_connections) * 100"  
--comparison=">$ARG1$"
```

slaves set as read-only, masters not

```
--expression "read_only" --comparison="ne 'YES'"
```

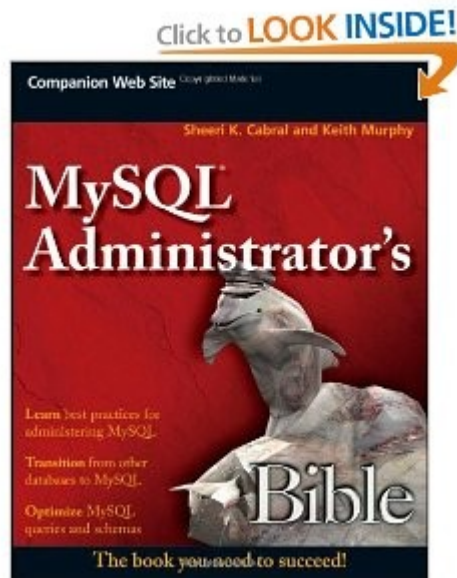


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OurSQL podcast



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