Abstract

This document describes how you can monitor an Oracle database server such as:

- Connection time
- A recent restart
- The number of connections
- Cache hit
- Dead lock
- etc

There are some steps you'll need to follow in order to monitor a new database machine:

- Understand what is already available (in the Shinken Entreprise installation)
- Setup the oracle user account
- Test the connection to the database
- Setup your server host definition

On this page

What is already available in the Shinken Installation

To make your life a bit easier, a few configuration tasks have already been done for you:

1. Installation of Oracle instant Client
2. Installation of check_oracle_health plugin : /var/lib/shinken/libexec/check_oracle_health
3. Several host templates are ready to be used

> **Note**
>
> We suppose here that the Oracle machine you want to monitor is named srv-lin-1 and is a linux. Please change the configuration and commands according with the real name of your server.

Setup the oracle user account

Create the database user

> **Note**
>
> You will need to configure the user for all your oracle databases.

Connect to your database as sysadmin on the oracle server :

```
srv-lin-1:oracle# sqlplus "/ as sysdba"
```

And then create your shinken account on the database:

```
CREATE USER shinken IDENTIFIED BY shinkenpassword;
GRANT CREATE SESSION TO shinken;
GRANT SELECT any dictionary TO shinken;
GRANT SELECT ON V_$SYSSTAT TO shinken;
GRANT SELECT ON V_$INSTANCE TO shinken;
GRANT SELECT ON V_$LOG TO shinken;
GRANT SELECT ON SYS.DBA_DATA_FILES TO shinken;
GRANT SELECT ON SYS.DBA_FREE_SPACE TO shinken;
```

And for old 8.1.7 database only:

```
---- if somebody still uses Oracle 8.1.7...
GRANT SELECT ON sys.dba_tablespaces TO shinken;
GRANT SELECT ON dba_temp_files TO shinken;
GRANT SELECT ON sys.v_$Temp_extent_pool TO shinken;
GRANT SELECT ON sys.v_$TEMP_SPACE_HEADER TO shinken;
GRANT SELECT ON sys.v_$session TO shinken;
```

Test the connection

To see if the connection to the database named **PROD** is ok, just launch :

```
/var/lib/shinken/libexec/check_oracle_health --connect "(DESCRIPTION =(ADDRESS_LIST =
(ADDRESS = (PROTOCOL = TCP)(HOST = srv-lin-1)(PORT = 1521)))(CONNECT_DATA =(SID =
PROD)))" --user "shinken" --password "shinkenpassword" --mode connection-time
```

Tip

The *DATABASES* data you will find in the host template matches to the SID of you Oracle database.

Manage more than 1 database on the same host

All checks presents in Oracle templates provided by Shinken Entreprise use the "Duplicate For Each" functionality.

For each database name listed in the DATA "*DATABASES*", check will be duplicated. An host, having 2 databases, will then have in double each checks with the datatabase name in the check.

Example

Let's look an example: an host has the following:

- The data "DATABASES" set to "DB1,DB2,DB3"
- The oracle template attached on it.
- Let's consider the Oracle-KEY-corrupted-blocks checks. He will then have 3 checks:
  - Oracle-DB1-corrupted-blocks
  - Oracle-DB2-corrupted-blocks
  - Oracle-DB3-corrupted-blocks

If you need to set a specific port of connection for 1 of the database, you can provide it as parameters of the Database:

Example

Let's look image the DB2 don't use the 1521 port set by default:

- Change the data "DATABASES" in that way "DB1,DB2(5000),DB3".
- For the duplication on the DB2, then the value1 5000 will be provided to each check and will overload the default port.

What is checked with the templates

Public templates

oracle

This is the very basic Oracle template allowing to know if your Oracle database is running and usable.

Every Oracle templates (except Oracle-connection-method) use it as a parent template.

Check	Detail	Check range	Default Warning	Default Critical
tnsping	listener			
process-usage	Percentage of max possible processes	0% to 100%	80	90
sga-shared-pool-free	Free Memory in the Shared Pool	0% to 100%	10:	5:
tablespace-usage	Used diskspace in the tablespace	0% to 100%	90	98
corrupted-blocks	Number of corrupted blocks in database	0 to n	1	10
invalid-objects	Sum of faulty Objects, Indices, Partitions	0 to n	0.1	0.1

oracle-full

Contains all Oracle host templates listed in the Shinken Adminstrators templates.

Warning

Using the *oracle-full* template will require a lot of resources on your poller daemon. We advise to use only needed templates.

Shinken Administrator templates (can't be seen by other users)

oracle-connection-method

This template describes the method to connect to an Oracle database. Every Oracle templates use it as a parent template.

Note

The parameters common to every Oracle server monitored shoud be setted in the **oracle-connection-method** host template.

If you have many connection method, do you own template and attach it to host.

oracle-availability

This template gives informations about the database availability.

Check	Detail	Check range	Default Warning	Default Critical

connection-time	Time to contact the database	0 to n seconds	0.5	1

Oracle-datafile

This template gives informations about the datafile availability.

Check	Detail	Check range	Default Warning	Default Critical
datafile-io-traffic	Sum of IO-Operationes from Datafiles per second	n/sec	1000	5000
datafiles-existing	Percentage of max possible datafiles	0% to 100%	80	90

Oracle-flash-recovery-area

This template allow to know about the used diskspace in the flash recovery area.

⚠ To be used only if you are using flash recovery area.

Check	Detail	Check range	Default Warning	Default Critical
flash-recovery-area-usage	Used diskspace in the flash recovery area	0% to 100%	90	98

Oracle-pga

This template allows to know the percentage of sorts that are done to disk vs. in-memory.

Check	Detail	Check range	Default Warning	Default Critical
pga-in-memory-sort-ratio	Percentage of sorts in the memory	0% to 100%	99:	90:

Oracle-redo

This template gives complete informations about the redolog.

Check	Detail	Check range	Default Warning	Default Critical
switch-interval	Interval between RedoLog File Switches	0 to n	600:	60:
retry-ratio	Retry-Rate in the RedoLog Buffer	0% to 100%	1	10
redo-io-traffic	Redolog IO in MB/sec	n/sec	199	200

Oracle-rman

This template indicates if there are any RMAN backup problem in the last 3 days.

⚠ To be used only if you are using RMAN.

Check	Detail	Check range	Default Warning	Default Critical
rman-backup-problems	Number of RMAN-errors during the last three days	0 to n	1	2

Oracle-rollback-segment

This template gives informations about the Rollback segment. Rollback segment record the actions of transactions in the event that a transaction is rolled back.

Check	Detail	Check range	Default Warning	Default Critical
roll-header-contention	Rollback Segment Header Contention	0% to 100%	1	2
roll-block-contention	Rollback Segment Block Contention	0% to 100%	1	2
roll-hit-ratio	Rollback Segment gets/waits Ratio	0% to 100%	99:	98:

roll-extends	Rollback Segment Extends n	n/sec	1	100
roll-wraps	Rollback Segment Wraps n	n/sec	1	100

Oracle-sga

This template gives complete information about the SGA (System Global Area).

Check	Detail	Check range	Default Warning	Default Critical
sga-data-buffer-hit-ratio	Hitrate in the Data Buffer Cache	0% to 100%	98:	95:
sga-library-cache-gethit-ratio	Hitrate in the Library Cache (Gets)	0% to 100%	98:	95:
sga-library-cache-pinhit-ratio	Hitrate in the Library Cache (Pins)	0% to 100%	98:	95:
sga-library-cache-reloads	Reload-Rate in the Library Cache	n/sec	10	10
sga-dictionary-cache-hit-ratio	Hitrate in the Dictionary Cache	0% to 100%	95:	90:
sga-latches-hit-ratio	Hitrate of the Latches	0% to 100%	98:	95:
sga-shared-pool-reloads	Reload-Rate in the Shared Pool	0% to 100%	1	10

Oracle-soft-parse

This template gives information about soft parse. It can give you an idea if an application and corresponding SQL statements are being used inefficiently

Check	Detail	Check range	Default Warning	Default Critical
soft-parse-ratio	Percentage of soft-parse-ratio	0% to 100%	90:	98:

Oracle-stale-statistics

This template allows to know about stale statistics.

Check	Detail	Check range	Default Warning	Default Critical
stale-statistics	Sum of objects with obsolete optimizer statistics	n	10	100

Oracle-tablespace

This template gives informations about tablespace such as fragmentation, if it's possible to allocate the next extent and potentially when a tablespace will be full.

Check	Detail	Check range	Default Warning	Default Critical
tablespace-fragmentation	Free Space Fragmentation Index	100 to 1	30:	20:
tablespace-can-allocate-next	Checks if there is enough free tablespace for the next Extent			
tablespace-remaining-time	Sum of remaining days until a tablespace is used by 100%. The rate of increase will be calculated with the values from the last 30 days. (With the parameter –lookback different periods can be specified)	Days	90:	30:

Oracle-top10-stats

This template give global statistics.

Check	Detail	Check range	Default Warning	Default Critical
seg-top10-logical-reads	Sum of the userprocesses under the top 10 logical reads	n	1	9
seg-top10-physical-reads	Sum of the userprocesses under the top 10 physical reads	n	1	9
seg-top10-buffer-busy-waits	Sum of the userprocesses under the top 10 buffer busy waits	n	1	9
seg-top10-row-lock-waits	Sum of the userprocesses under the top 10 row lock waits	n	1	9

Oracle-usage

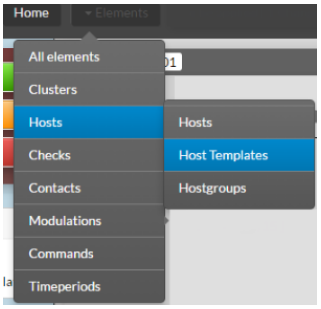
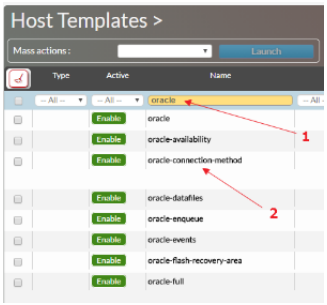
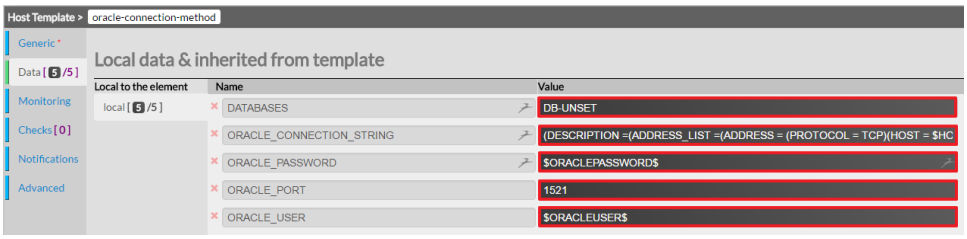
This template indicates the percentage of maximum possible sessions and how many users are connected.

Check	Detail	Check range	Default Warning	Default Critical

session-usage	Percentage of max possible sessions	0% to 100%	80	90
Connected users	Number of currently connected users	0 to n	50	100

How to

Configuration of Oracle-connection-method host template

Click on **Hosts** then on **Hosts Templates** in the **Elements** menu	
In the Name field, type **oracle**. Then clic on **Oracle-connection-method**	
Clic on **Data** tab	
You can setup the following DATA : • *DATABASES* : the name(s) of the Oracle SID database(s) to be monitored.	

- *ORACLE_CONNECTION_STRING*: this is the Oracle connection string which allow to connect and do request toward the databases. Unless you know what your doing, you will rarely have the need to modify it.
- *ORACLE_PASSWORD*: the oracle password of the user used to connect to database

• *ORACLE_USER* : the oracle username used to connect to database • *ORACLE_PORT* : the listening port of the Oracle database server	

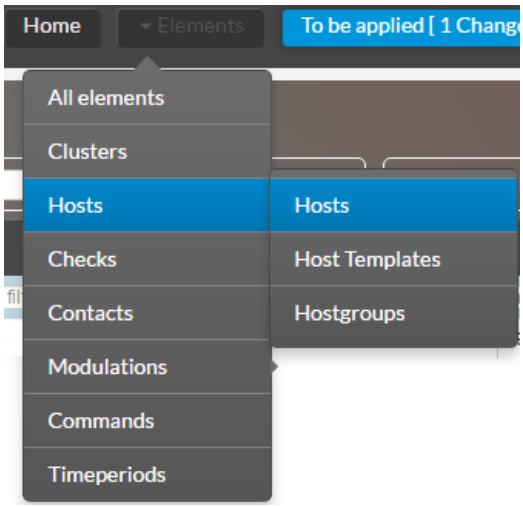
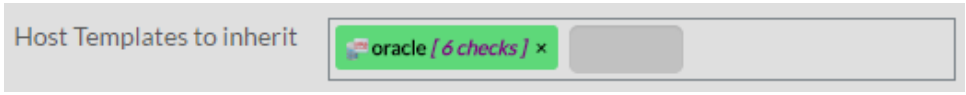
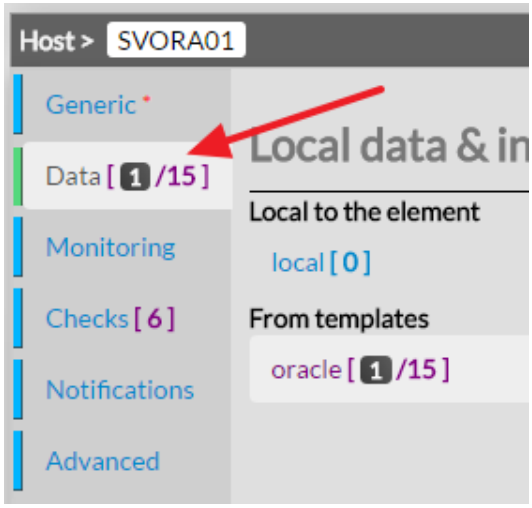
The parameters specifics to each server, such as **database name** (AKA SID) for example, has to be done in the host's data itself.

Tip

It's a best practice to use the same database monitoring user on every Oracle server monitored. Doing so, you can configure the database user/password only once in the host template **oracle-connection-method**.

Important (Changing the connection port per database)

Attach an oracle template to you host

Clic on **Hosts** in the **Elements** menu	
Add the chosen Oracle host template to the *Host Templates to inherit* field. For example the *Oracle* host template.	
Click on the **Data** tab	
Look for the field *DATABASES* in the **From templates** data	
Type the name of the database to be monitoring	
Check if the Following data are ok.	

Tip

You can monitor multiple database on the same host in typing the name of the database SID separated by a comma.

Exemple : DB1,DB2,DB3

How to create you own template

TODO

create you own pack!

TODO

Use your own plugin

TODO