

Oracle

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 Enterprise installation)
- Setup the oracle user account
- Test the connection to the database
- Setup your server host definition

On this page

- [Abstract](#)
 - [What is already available in the Shinken Installation](#)
 - [Setup the oracle user account](#)
 - [Test the connection](#)
 - [Manage more than 1 database on the same host](#)
- [What is checked with the templates](#)
 - [Public templates](#)
 - [Shinken Administrator templates \(can't be seen by other users\)](#)
- [How to](#)
 - [Configuration of Oracle-connection-method host template](#)
 - [Attach an oracle template to you host](#)
 - [How to create you own template](#)
 - [create you own pack!](#)
 - [Use your own plugin](#)

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 Enterprise 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 disk space 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 Administrators 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 should be set 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-Operations 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 diskpace 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 diskpace 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

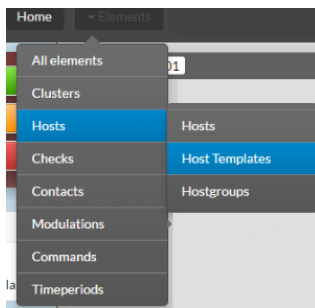
This template indicates the percentage of maximum possible sessions and how many users are connected.

| 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

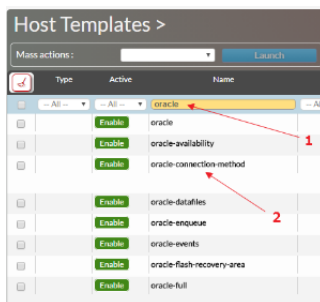
Configuration of Oracle-connection-method host template

Click on **H**osts then on **H**osts **T**emplates in the **E**lements menu



In the Name field, type **oracle**.

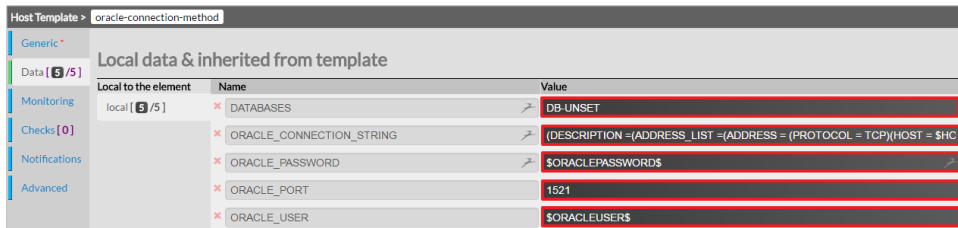
Then click on **O**racle **C**onnection **M**ethod



Click on **D**ata tab

You can setup the following DATA :

- **DATABASES** : the name(s) of the Oracle SID database(s) to be monitored.



- `ORA
CLE
_CO
NNE
CTIO
N_S
TRING`

:
this
is
the
the
Oracl
e
conn
ectio
n
strin
g
whic
h
allow
to
conn
ect
and
do
requ
est
towa
rd
the
data
base
s.
Unle
ss
you
know
what
your
doin
g,
you
will
rarel
y
have
the
need
to
modi
fy it.

- `ORA
CLE
_PA
SSW
ORD`

:
the
oracl
e
pass
word
of
the
user
used
to
conn
ect
to
data
base

- `ORA_CLE_US_ER`: the oracle user name used to connect to database
- `ORA_CLE_PO_RT`: the listening port of the Oracle database server

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



Tip

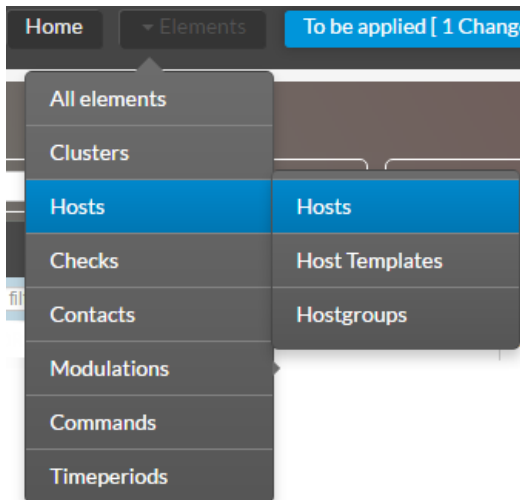
It's a best practice to use the same database monitoring user on every Oracle server monitored. Doing so, you can configure the database user/password only once in the host template **oracle-connection-method**.

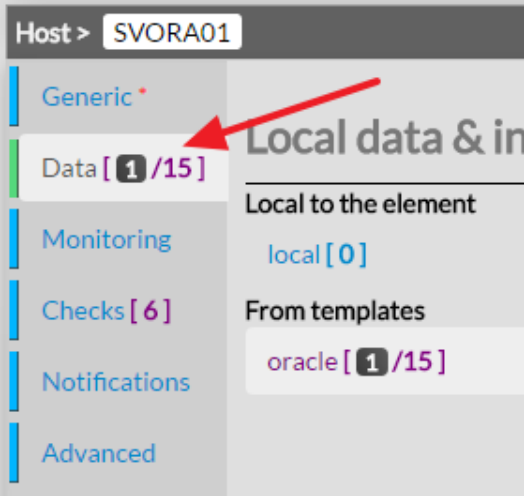


Important (Changing the connection port per database)

Attach an oracle template to you host

Clic on **Hosts** in the **Elements** menu



| | |
|---|---|
| <p>Add the chosen Oracle host template to the <i>Host Templates to inherit</i> field.</p> <p>For example the <i>Oracle</i> host template.</p> | <p>Host Templates to inherit oracle [6 checks] x</p> |
| <p>Click on the Data tab</p> |  |
| <p>Look for the field <i>DATABASES</i> in the From templates data</p> | |
| <p>Type the name of the database to be monitoring</p> | <p>DATABASES <input type="text" value="XE"/></p> |
| <p>Check if the Following data are ok.</p> | <p>ORACLE_PASSWORD <input type="text" value="\$ORACLEPASSWORD\$ [In template oracle]"/></p> <p>ORACLE_PORT <input type="text" value="1521 [In template oracle]"/></p> <p>ORACLE_USER <input type="text" value="\$ORACLEUSER\$ [In template oracle]"/></p> |



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