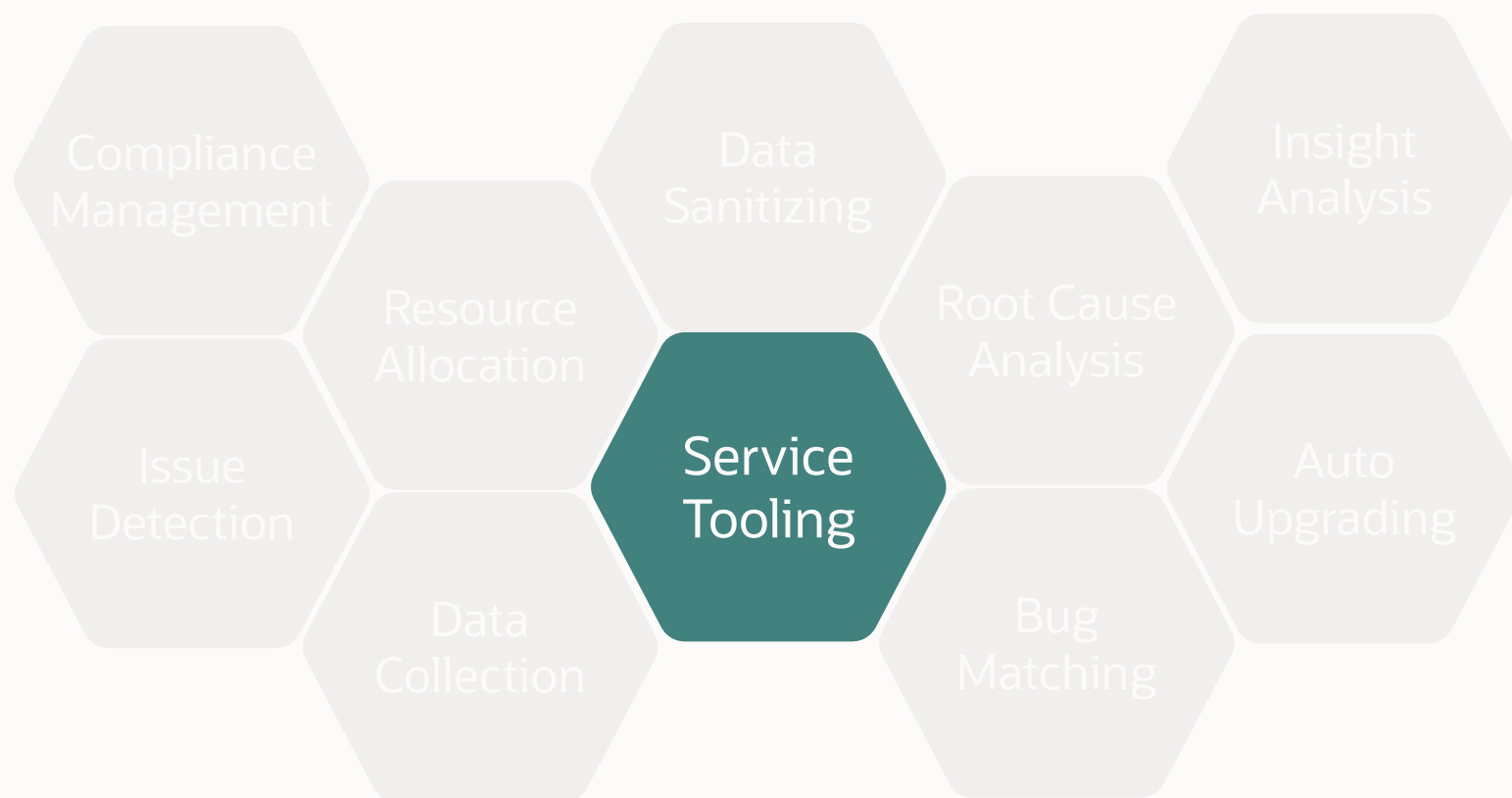


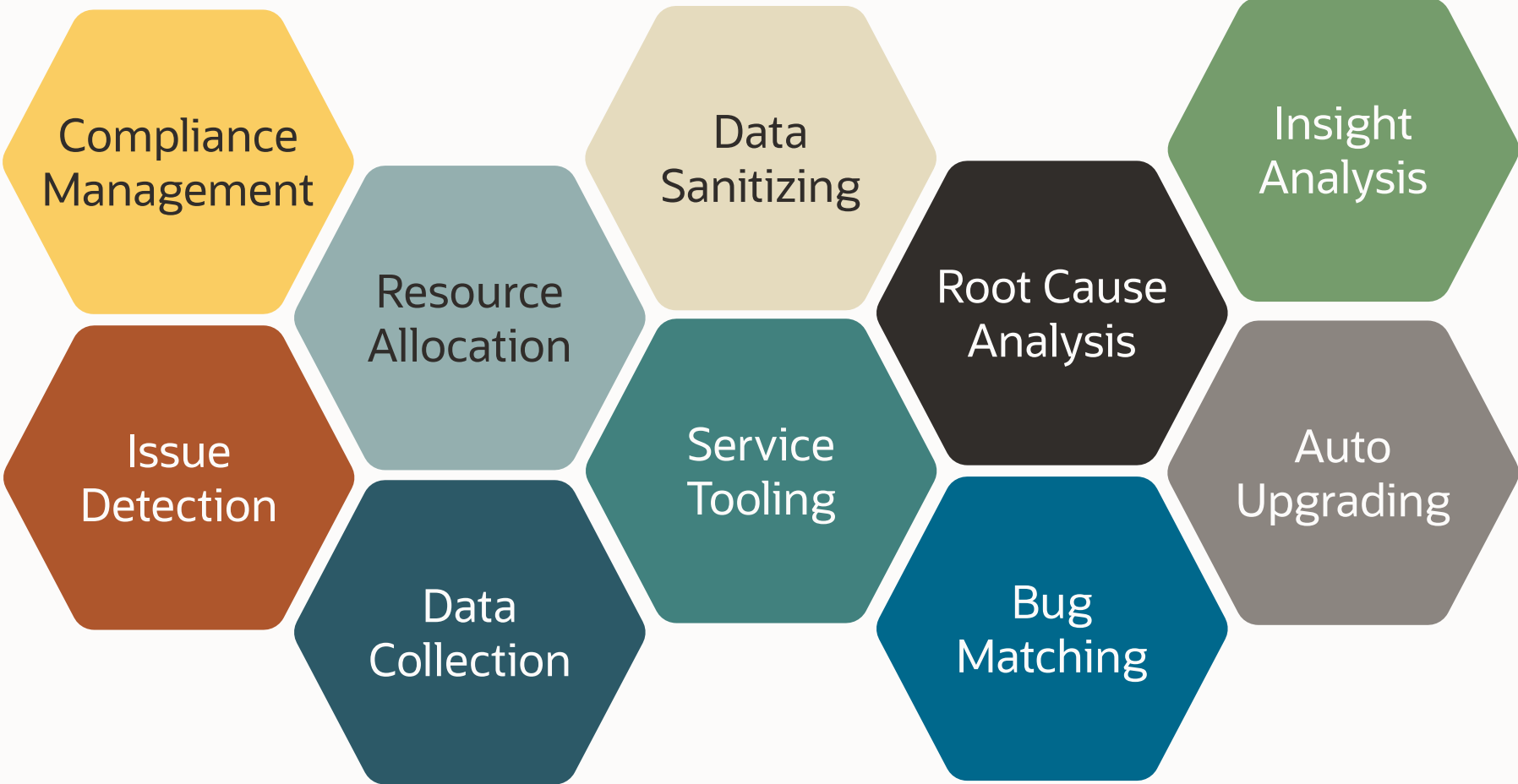
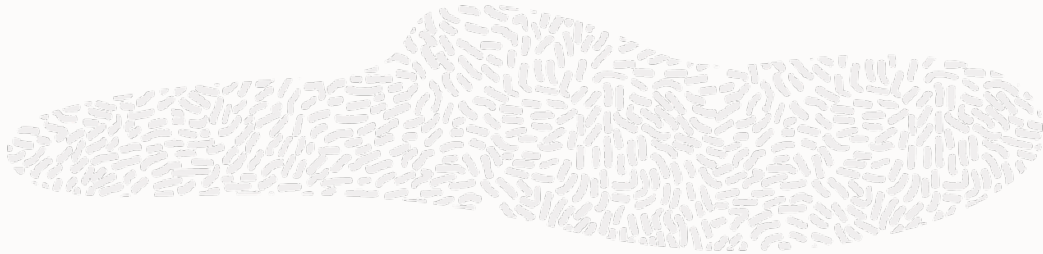
ORACLE

# Autonomous Health Framework

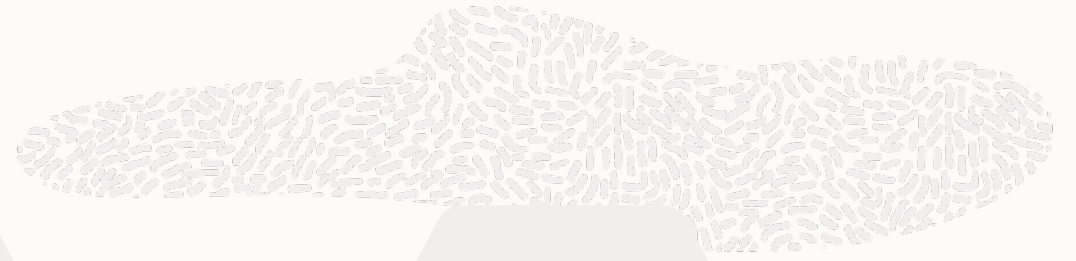
## Service Tooling



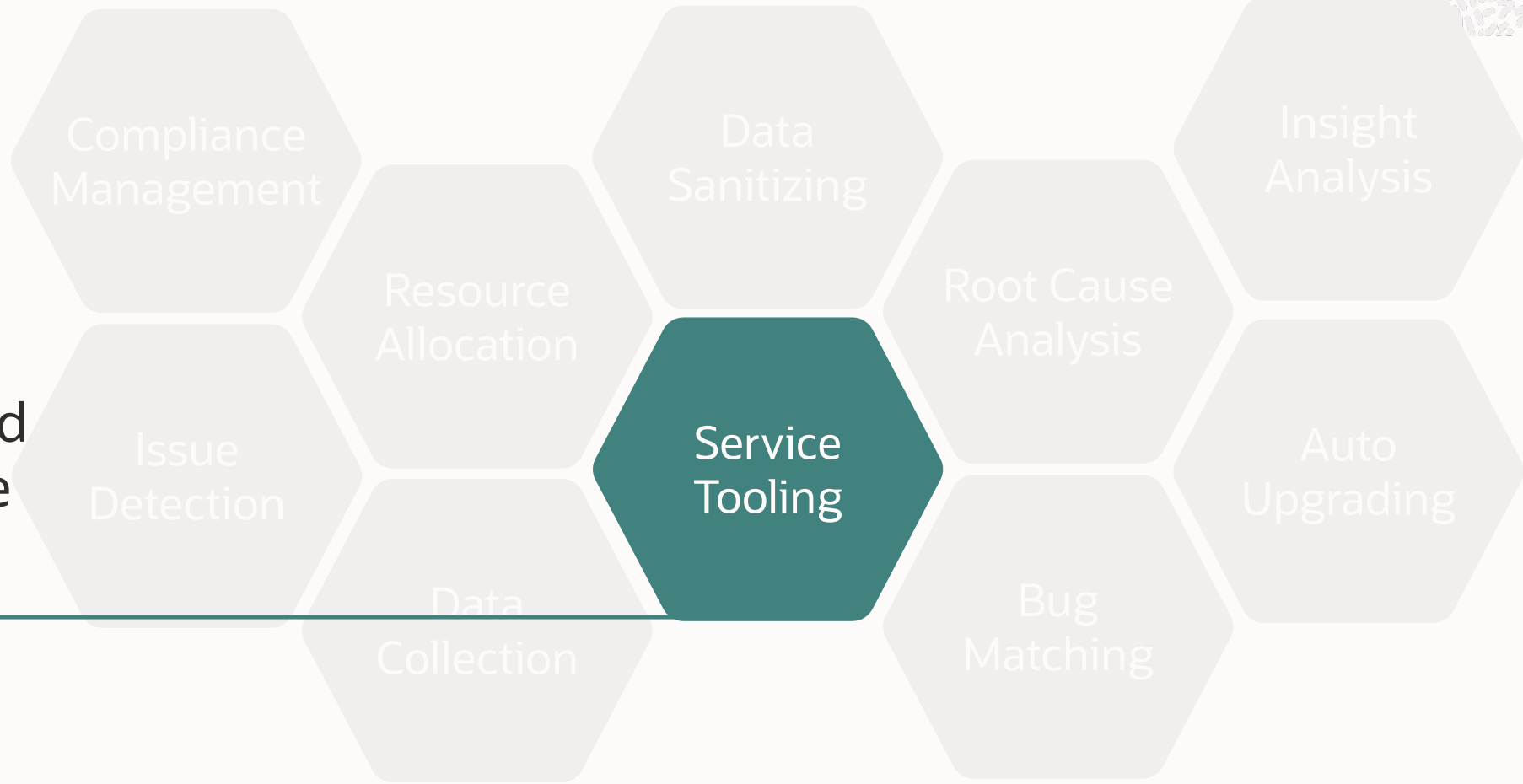
# Oracle Autonomous Health Framework



# Oracle Autonomous Health Framework



Tooling to manage and monitor the service



# Manage Logs

---

## Automatic Database Log Purge

TFA can automatically purge database logs

```
tfact1 set manageLogsAutoPurge=ON
```

Purging automatically removes logs older than 30 days

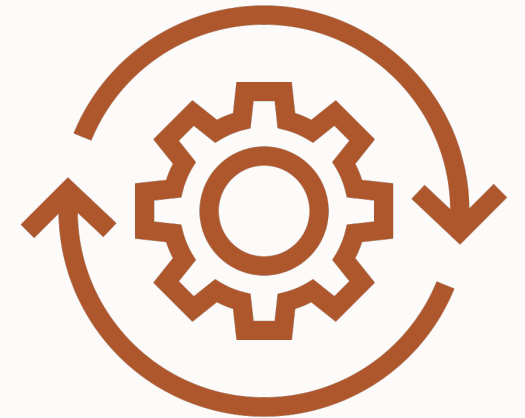
- Configurable with

```
tfact1 set manageLogsAutoPurgePolicyAge=<n><d|h>
```

Purging runs every 60 minutes

- Configurable with:

```
tfact1 set manageLogsAutoPurgeInterval=<minutes>
```



# Manual Database Log Purge

TFA can manage ADR log and trace files

```
tfactl managelogs <options>
#Show disk space usage per diagnostic directory for both GI and database logs

tfactl managelogs -show usage
#Show disk space growth for specified period

tfactl managelogs -show variation -older <n><m|h|d>
#Remove ADR files older than the time specified

tfactl managelogs -purge -older <n><m|h|d> -gi #Restrict command to only files under the GI_BASE

tfactl managelogs -purge -older <n><m|h|d> -database [all | dbname] #Restrict command to only files under the
database directory

#Use with -purge to estimate how many files will be affected and how much disk space will be freed by a
potential purge command

-dryrun
```

# Understand Database **log disk space usage**

```
tfactl managelogs -show usage
```

```
...
```

```
.....
```

Grid Infrastructure Usage	
Location	Size
/u01/app/crsusr/diag/afdbboot/user_root/host_309243680_94/alert	28.00 KB
/u01/app/crsusr/diag/afdbboot/user_root/host_309243680_94/incident	4.00 KB
/u01/app/crsusr/diag/afdbboot/user_root/host_309243680_94/trace	8.00 KB
.....	
Total	739.06 MB
.....	

```
.....
```

Use `-gi` to only show grid infrastructure

# Understand Database **log disk space usage**

```
...  
.  
+-----+  
| Database Homes Usage |  
+-----+  
| Location | Size |  
+-----+  
| /u01/app/crsusr/diag/rdbms/cdb674/CDB674/alert | 1.06 MB |  
| /u01/app/crsusr/diag/rdbms/cdb674/CDB674/incident | 4.00 KB |  
| /u01/app/crsusr/diag/rdbms/cdb674/CDB674/trace | 146.19 MB |  
| /u01/app/crsusr/diag/rdbms/cdb674/CDB674/cdump | 4.00 KB |  
| /u01/app/crsusr/diag/rdbms/cdb674/CDB674/hm | 4.00 KB |  
+-----+  
| Total | 147.26 MB |  
+-----+
```

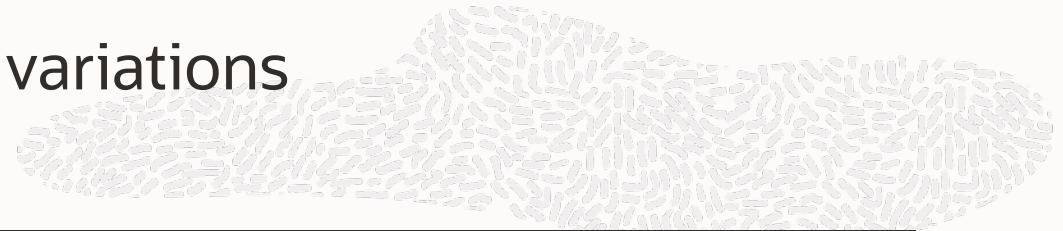
Use `-database` to only show database







# Understand Database log disk space usage variations



```
...  
+-----+  
|                Database Homes Variation                |  
+-----+-----+-----+  
| Directory                | Old Size | New Size |  
+-----+-----+-----+  
| /u01/app/crsusr/diag/rdbms/cdb674/CDB674/hm           | 4.00 KB  | 4.00 KB  |  
+-----+-----+-----+  
| /u01/app/crsusr/diag/rdbms/cdb674/CDB674/trace       | 16.63 MB | 146.19 MB|  
+-----+-----+-----+  
| /u01/app/crsusr/diag/rdbms/cdb674/CDB674/cdump      | 4.00 KB  | 4.00 KB  |  
+-----+-----+-----+  
| /u01/app/crsusr/diag/rdbms/cdb674/CDB674/incident    | 4.00 KB  | 4.00 KB  |  
+-----+-----+-----+  
| /u01/app/crsusr/diag/rdbms/cdb674/CDB674/alert      | 1.06 MB  | 1.06 MB  |  
+-----+-----+-----+  
|
```



# Run a database log purge dryrun

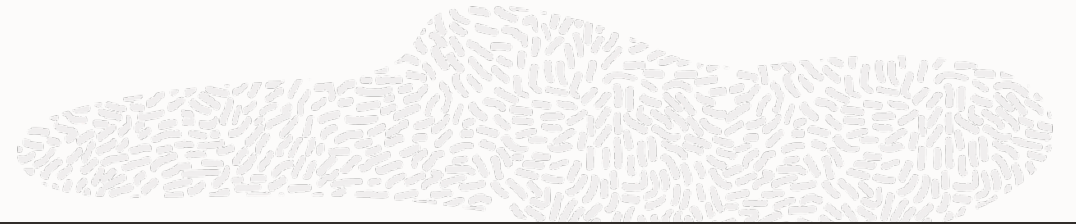
```
tfactl managelogs -purge -older 30d -dryrun
```

```
Output from host : myserver74
```

```
-----  
Estimating files older than 30 days
```

```
Estimating purge for diagnostic destination "diag/afdbboot/user_root/host_309243680_94" for files ~ 2 files deleted , 22.58 KB freed ]  
Estimating purge for diagnostic destination "diag/afdbboot/user_crsusr/host_309243680_94" for files ~ 2 files deleted , 11.72 KB freed ]  
Estimating purge for diagnostic destination "diag/asmtool/user_root/host_309243680_96" for files ~ 2 files deleted , 21.36 KB freed ]  
Estimating purge for diagnostic destination "diag/asmtool/user_crsusr/host_309243680_96" for files ~ 3 files deleted , 23.22 KB freed ]  
Estimating purge for diagnostic destination "diag/tnslsnr/myserver74/listener" for files ~ 23 files deleted , 225.33 MB freed ]  
Estimating purge for diagnostic destination "diag/diagtool/user_root/adrci_309243680_96" for files ~ 73 files deleted , 517.69 KB freed ]  
Estimating purge for diagnostic destination "diag/clients/user_crsusr/host_309243680_96" for files ~ 38 files deleted , 17.15 KB freed ]  
Estimating purge for diagnostic destination "diag/asm/+asm/+ASM" for files ~ 0 files deleted , 0 bytes freed ]  
Estimating purge for diagnostic destination "diag/asm/user_root/host_309243680_96" for files ~ 1 files deleted , 19.52 KB freed ]  
Estimating purge for diagnostic destination "diag/asm/user_crsusr/host_309243680_96" for files ~ 1 files deleted , 20.25 KB freed ]  
Estimating purge for diagnostic destination "diag/crs/myserver74/crs" for files ~ 40 files deleted , 219.39 MB freed ]  
Estimation for Grid Infrastructure [ Files to delete : ~ 185 files | Space to be freed : ~ 445.36 MB ]  
  
Estimating purge for diagnostic destination "diag/rdbms/cdb674/CDB674" for files ~ 27760 files deleted , 66.57 MB freed ]  
Estimation for Database Home [ Files to delete : ~ 27760 files | Space to be freed : ~ 66.57 MB ]
```

# Run a database log purge



```
tfactl managelogs -purge -older 30d
```

```
Output from host : myserver74
```

```
-----
```

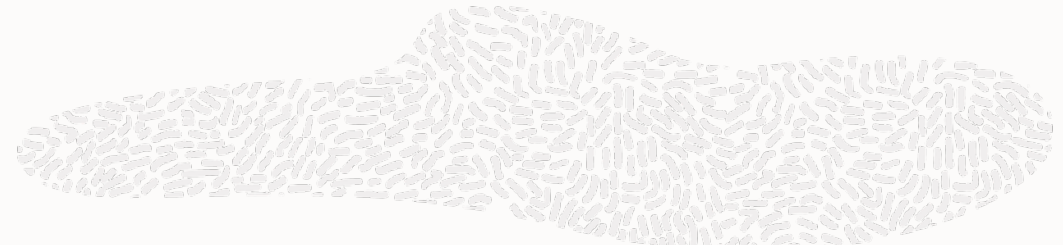
```
Purging files older than 30 days
```

```
Cleaning Grid Infrastructure destinations
```

```
Purging diagnostic destination "diag/afdbboot/user_root/host_309243680_94" for files - 0 files deleted , 0 bytes freed  
Purging diagnostic destination "diag/afdbboot/user_crsusr/host_309243680_94" for files - 1 files deleted , 10.16 KB freed  
Purging diagnostic destination "diag/asmtool/user_root/host_309243680_96" for files - 1 files deleted , 10.16 KB freed  
Purging diagnostic destination "diag/asmtool/user_crsusr/host_309243680_96" for files - 2 files deleted , 29.18 KB freed  
Purging diagnostic destination "diag/tnslsnr/myserver74/listener" for files - 2 files deleted , 29.18 KB freed  
Purging diagnostic destination "diag/diagtool/user_root/adrci_309243680_96" for files - 2 files deleted , 29.18 KB freed  
Purging diagnostic destination "diag/clients/user_crsusr/host_309243680_96" for files - 2 files deleted , 29.18 KB freed  
Purging diagnostic destination "diag/asm/+asm/+ASM" for files - 2 files deleted , 29.18 KB freed  
Purging diagnostic destination "diag/asm/user_root/host_309243680_96" for files - 2 files deleted , 29.18 KB freed  
Purging diagnostic destination "diag/asm/user_crsusr/host_309243680_96" for files - 2 files deleted , 29.18 KB freed  
Purging diagnostic destination "diag/crs/myserver74/crs" for files - 2 files deleted , 29.18 KB freed
```

```
...
```

# Run a database log purge



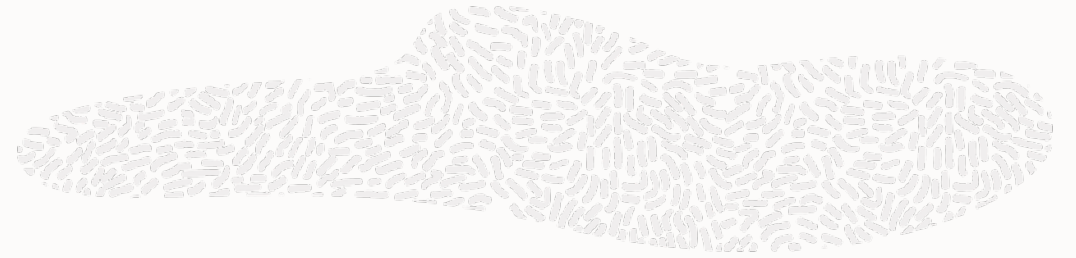
```
...
Grid Infrastructure [ Files deleted : 18 files | Space Freed : 253.75 KB ]

.------.
|                               File System Variation : /u01/app/crsusr/12.2.0/grid2                               |
+-----+-----+-----+-----+-----+-----+-----+-----+
| State  | Name                               | Size      | Used      | Free      | Capacity | Mount |
+-----+-----+-----+-----+-----+-----+-----+-----+
| Before | /dev/mapper/vg_rws1270665-lv_root | 51475068  | 46597152  | 2256476   | 96%      | /     |
| After  | /dev/mapper/vg_rws1270665-lv_root | 51475068  | 46597152  | 2256476   | 96%      | /     |
+-----+-----+-----+-----+-----+-----+-----+-----+
```

# Monitor multiple logs



# tail files



```
tfactl tail alert
```

```
Output from host : myserver69
```

```
-----
```

```
/scratch/app/11.2.0.4/grid/log/myserver69/alertmyserver69.log
```

```
2023-04-28 23:28:22.532:
```

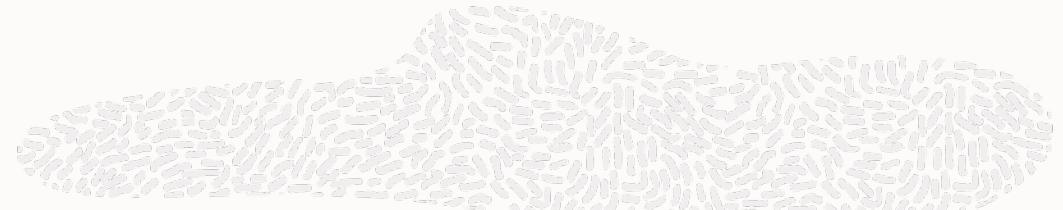
```
[ctssd(5630)]CRS-2409:The clock on host myserver69 is not synchronous with the mean cluster time. No action has been taken as the Cluster Time Synchronization Service is running in observer mode.
```

```
2023-04-28 23:58:22.964:
```

```
[ctssd(5630)]CRS-2409:The clock on host myserver69 is not synchronous with the mean cluster time. No action has been taken as the Cluster Time Synchronization Service is running in observer mode.
```

```
...
```

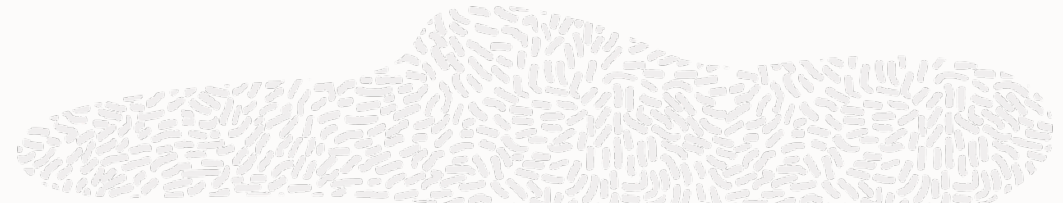
# tail files



```
...  
  
/scratch/app/oradb/diag/rdbms/apxcmupg/apxcmupg_2/trace/alert_apxcmupg_2.log  
  
Fri Apr 28 06:00:00 2023 VKRM started with pid=82, OS id=4903  
  
Fri Apr 28 06:00:02 2023 Begin automatic SQL Tuning Advisor run for special tuning task  
"SYS_AUTO_SQL_TUNING_TASK"  
  
Fri Apr 28 06:00:37 2023 End automatic SQL Tuning Advisor run for special tuning task  
"SYS_AUTO_SQL_TUNING_TASK"  
  
Fri Apr 28 23:00:28 2023 Thread 2 advanced to log sequence 759 (LGWR switch)  
  
    Current log# 3 seq# 759 mem# 0: +DATA/apxcmupg/onlinelog/group_3.289.917164707  
  
    Current log# 3 seq# 759 mem# 1: +FRA/apxcmupg/onlinelog/group_3.289.917164707  
  
...
```

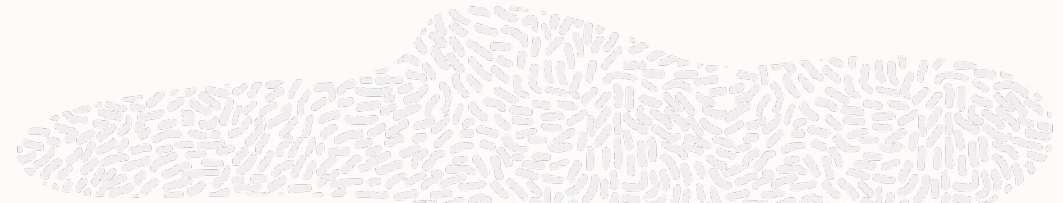


# tail files



```
...  
  
/scratch/app/oradb/diag/rdbms/ogg11204/ogg112041/trace/alert_ogg112041.log  
  
Clearing Resource Manager plan via parameter  
  
Fri Apr 28 05:59:59 2023  
Setting Resource Manager plan DEFAULT_MAINTENANCE_PLAN via parameter  
  
Fri Apr 28 05:59:59 2023  
Starting background process VKRM  
  
Fri Apr 28 05:59:59 2023  
VKRM started with pid=36, OS id=4901  
  
Fri Apr 28 22:00:31 2023  
Thread 1 advanced to log sequence 305 (LGWR switch)  
  
    Current log# 1 seq# 305 mem# 0: +DATA/ogg11204/redo01.log  
  
...
```

# tail files

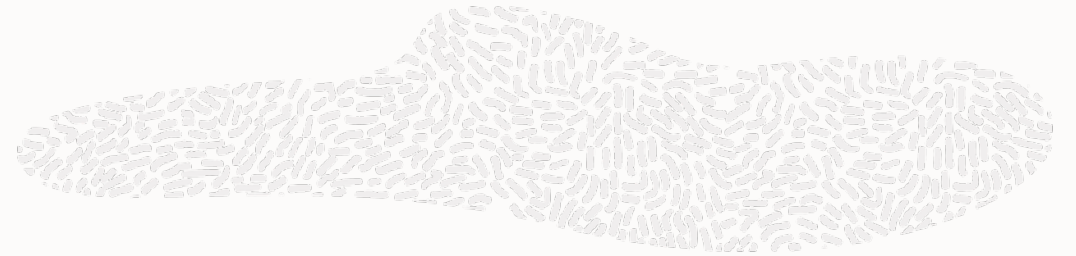


```
...  
  
/scratch/app/oragrid/diag/asm/+asm/+ASM1/trace/alert_+ASM1.log <==  
  
Fri Apr 28 04:42:22 2023  
NOTE: [ocrcheck.bin@myserver69 (TNS V1-V3) 2323] opening OCR file  
  
Fri Apr 28 01:05:39 2023  
NOTE: [ocrcheck.bin@myserver69 (TNS V1-V3) 16591] opening OCR file  
  
Fri Apr 28 01:05:41 2023  
NOTE: [ocrcheck.bin@myserver69 (TNS V1-V3) 16603] opening OCR file  
  
Fri Apr 28 01:21:12 2023  
NOTE: [ocrcheck.bin@myserver69 (TNS V1-V3) 1803] opening OCR file  
  
Fri Apr 28 01:21:12 2023  
NOTE: [ocrcheck.bin@myserver69 (TNS V1-V3) 1816] opening OCR file  
  
...
```

# Analyze OS Metrics



# Analyze OS metrics

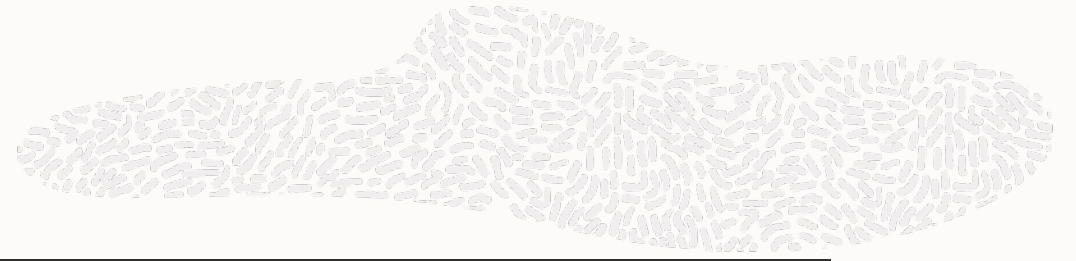


```
tfactl run oswbb
Starting OSW Analyzer V8.4.0

OSWatcher Analyzer Written by Oracle Center of Expertise
Copyright (c) 2023 by Oracle Corporation
Parsing Data. Please Wait...

Scanning file headers for version and platform info...
Parsing file rws1270069_iostat_18.11.24.0900.dat ...
Parsing file rws1270069_iostat_18.11.24.1000.dat ...
...
```

# Analyze OS metrics



```
...  
Enter 1 to Display CPU Process Queue Graphs  
Enter 2 to Display CPU Utilization Graphs  
Enter 3 to Display CPU Other Graphs  
Enter 4 to Display Memory Graphs  
Enter 5 to Display Disk IO Graphs  
Enter GC to Generate All CPU Gif Files  
Enter GM to Generate All Memory Gif Files  
Enter GD to Generate All Disk Gif Files  
Enter GN to Generate All Network Gif Files  
Enter L to Specify Alternate Location of Gif Directory  
Enter Z to Zoom Graph Time Scale (Does not change analysis dataset)  
...
```

# Analyze OS metrics

...

Enter B to Returns to Baseline Graph Time Scale (Does not change analysis dataset)

Enter R to Remove Currently Displayed Graphs

Enter X to Export Parsed Data to Flat File

Enter S to Analyze Subset of Data(Changes analysis dataset including graph time scale)

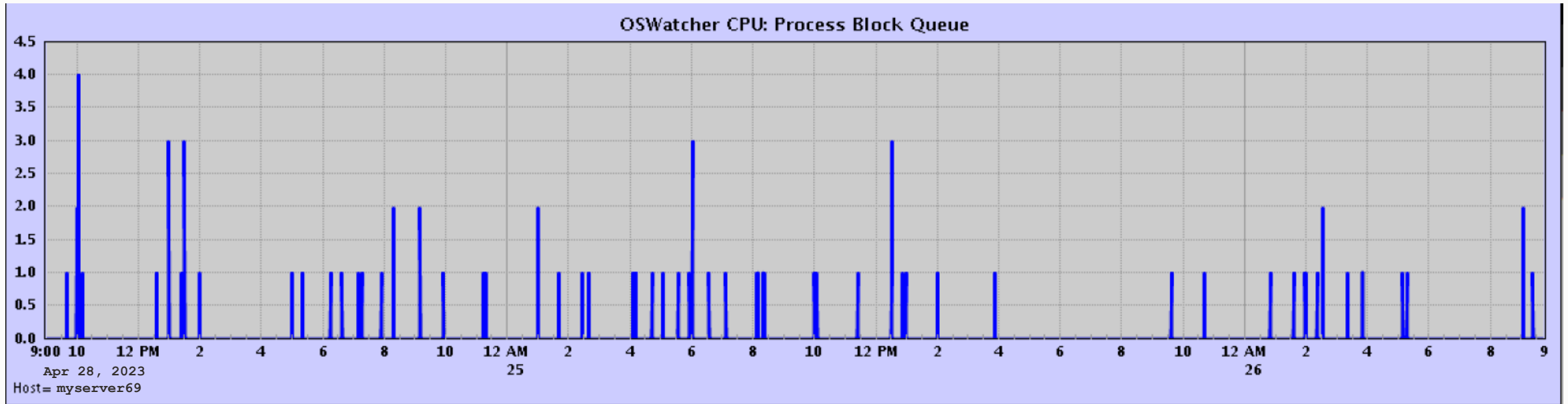
Enter A to Analyze Data

Enter D to Generate DashBoard

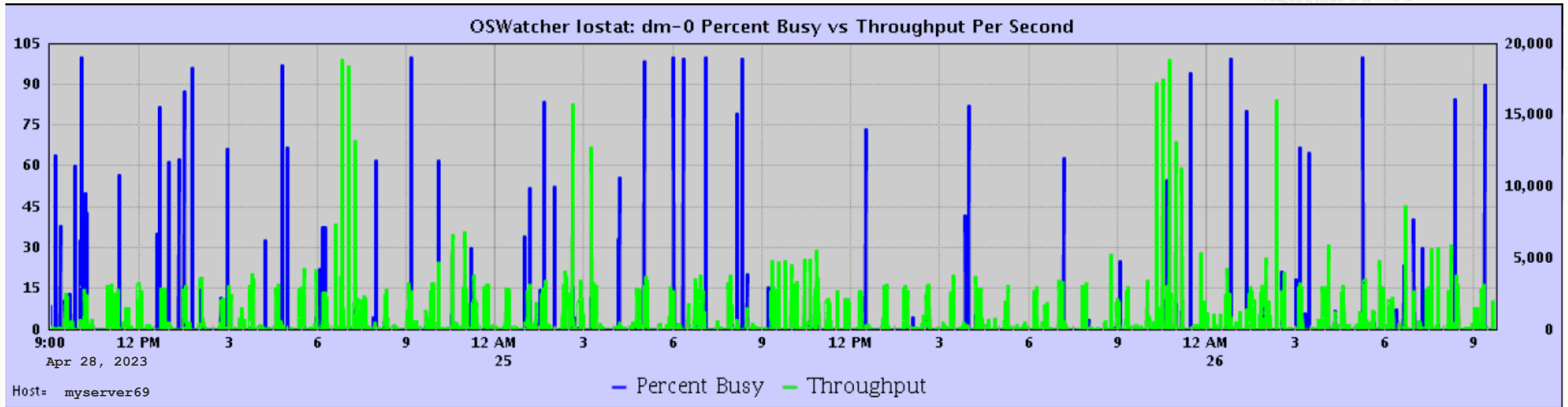
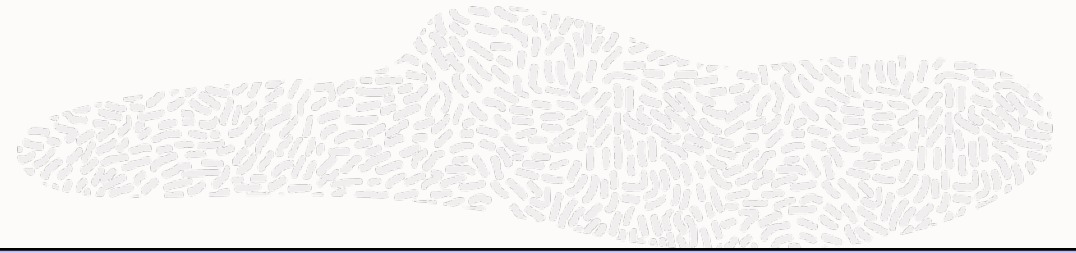
Enter Q to Quit Program

Please Select an Option:1

# Analyze OS metrics



# Analyze OS metrics



more info [301137.1](https://301137.1)





Keep track of the attributes of important files

# Track attribute changes on important files

Start tracking using `-fileattr start`

Automatically discovers Grid Infrastructure and Database directories and files

- Prevent discovery using `-excludediscovery`

Further configure the list of monitored directories using `-includedir`

```
tfactl <orachk|exachk> -fileattr start -includedir "/root/myapp/config"
```

```
...
```

```
List of directories(recursive) for checking file attributes:
```

```
  /u01/app/oradb/product/11.2.0/dbhome_11203
```

```
  /u01/app/oradb/product/11.2.0/dbhome_11204
```

```
  /root/myapp/config
```

```
orachk has taken snapshot of file attributes for above directories at:
```

```
/orahome/oradb/orachk/orachk_mysrv21_20170504_041214
```

## Track attribute changes on important files

Compare current attributes against first snapshot using `-fileattr check`

When checking, use the same include/exclude arguments you started with

```
tfact1 <orachk|exachk> -fileattr check -includedir "/root/myapp/config"  
...  
List of directories(recursive) for checking file attributes:  
    /u01/app/oradb/product/11.2.0/dbhome_11203  
    /u01/app/oradb/product/11.2.0/dbhome_11204  
    /root/myapp/config  
Checking file attribute changes...  
    "/root/myapp/config/myappconfig.xml" is different:  
Baseline :      0644      oracle      root      /root/myapp/config/myappconfig.xml  
Current  :      0644      root      root      /root/myapp/config/myappconfig.xml  
...
```

# Track attribute changes on important files

Automatically proceeds to run compliance checks after file attribute checks

- Only run attribute checks by using `-fileattronly`

File Attribute Changes are shown in HTML report output

## File Attribute Changes

```
Baseline Snapshot: /root/orachk/orachk_myserver18_20230428_033707/Snapshot_2023-04-28_03-37-07.txt
```

```
"/root/myapp/config/myappconfig.xml" is different:
```

```
Baseline      : 0644   oracle   root     /root/myapp/config/myappconfig.xml
Baseline      : 0644     root    root     /root/myapp/config/myappconfig.xml
```

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