主题：自动化运维中 cmdb 信息收集

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背景：

随着公司业务发展，IT 服务器资源申请越来越多，基于管理和成本的考虑，成立 IT 私有云部门对外提供虚拟服务器资源。

日常管理的过程中，对于服务器其上运行的程序，进程，以及版本一直没有统计和分析，同时在推进自动化运维的过程中发现需要服务器部署的程序以及其他信息作为辅助，那么如何收集这些 cmdb 信息成为必要的一项工作。

如何收集 cmdb 信息选择：

1 初期基于对 ansible 的理解，可以利用 ansible 远程批量登录服务器，获取服务器程序信息，然后在本地打印输出后，信息确认后手动批量入库。这种方式只要有账号授权或者账号秘钥，在 ansible 服务端可以随时发起请求，执行过程中基于 ansibel 远程登录的安全考虑，暂时被终止。

2 基于安全考虑，云平台开发人员提出，使用前端框架调用 ansible-api 接口+SA 登录秘钥认证，然后使用 playbook 下发收集脚本，本地执行收集脚本，执行结果在前端页面展示，基于结果进行确认保存入库。

cmdb 信息收集脚本逻辑：

1 基于目前已知的应用程序，在系统内搜索进程信息，然后对进程信息进行分析，获取应用进程的 cmdb 信息。

2 服务器基线默认 root 不能直接登录，所以脚本中采用了 sudo 的方式

3 项目执行过程中，我负责脚本的编写，前端架构由开发负责，故前端应用架构无法分享给大家。

4 脚本编写过程中，对于操作系统版本，以及应用多版本未全部测试，所以不足之处请大家补充。

备注

具体脚本如下，请大家参考。使用过程中如有问题，请指正。

ansible 版本:

oracle@GuolDB:[/home/oracle/guol/cmdb/remote/ansible_app] cat **ansible_app_cmdb_collect.sh**

```
#!/bin/bash
#
#auth : guol
#mail : guolora@163.com


check_dir=/home/oracle/guol/cmdb/remote/ansible_app
check_host=$check_dir/app_cmdb_hosts
app_cmdb_report=$check_dir/app_cmdb_info.txt

# connect test
ansible -i $check_host    all -o -m ping >$check_dir/tmp/ip_list.txt
unreachable_ip_list="`cat  $check_dir/tmp/ip_list.txt|grep  -i  UNREACHABLE|awk  '{print  $1}' |xargs echo |sed 's/ /,/g;s/ //g'`"
reachable_ip_list="`cat $check_dir/tmp/ip_list.txt|grep -i SUCCESS|awk '{print $1}' |xargs echo |sed 's/ /,/g;s/ //g'`"


#### start func : nginx_cmdb_info
nginx_cmdb_info(){

      echo "********** Nginx process check start : "
      nginx_process_num=`ansible -i $check_host $ip -m shell -o -a "ps -fe|grep nginx |grep -v grep|wc -l" |awk '{print $NF}' `

      if [ $nginx_process_num -ge 1 ];then
            #echo "nginx process status is running on $ip . check Success."  |tee  -a $nginx_status_report
            nginx_process_info_tmp=$check_dir/tmp/nginx_process_info_tmp.txt
            ansible -i $check_host $ip -m shell -o -a "ps -fe|grep nginx|grep -v grep|grep 'master process'"|awk '{print $1,$8,$9,$18,$19,$20}' >$nginx_process_info_tmp
            ##result  :10.1.1.2  root  16298  /usr/local/nginx/sbin/nginx  -c /usr/local/nginx/conf/nginx.conf
```

```
        nginx_process_dir=`cat $nginx_process_info_tmp|awk '{print $4}'`
        nginx_process_version=`ansible -i $check_host $ip -m shell -o -a "$nginx_process_dir -v"|awk '{print $NF}'|sed 's/\//_/g'`
        nginx_process_conf=`cat $nginx_process_info_tmp|awk '{print $NF}'`
        nginx_process_port=`ansible -i $check_host $ip -o -m shell -a "netstat -antpl|grep nginx"|awk '{print $11}'|awk -F':'    '{print $2}'`
        nginx_start_shell=`cat $nginx_process_info_tmp|awk '{print $4,$5,$6}'`
        nginx_start_user=`cat $nginx_process_info_tmp|awk '{print $2}'`
        nginx_start_pid=`cat $nginx_process_info_tmp|awk '{print $3}'`
        nginx_time_tmp=`ansible -i $check_host $ip -m shell -o -a "ps -eo pid,lstart,etime|grep $nginx_start_pid"|awk '{print $10,$11,$12,$13,$NF }'|xargs echo`
        nginx_start_time_tmp=`echo $nginx_time_tmp|awk '{print $1,$2,$3,$4}'`
        nginx_start_time=`date -d "$nginx_start_time_tmp" +"%Y%m%d_%H:%M:%S"`
        nginx_running_time=`echo $nginx_time_tmp|awk '{print $NF}'`
        nginx_start_shell_args=`cat $nginx_process_info_tmp|awk '{print $5,$6}'`
        nginx_process_comm=`ansible -i $check_host $ip -m shell -o -a "cat $nginx_process_conf|egrep -w 'worker_processes|worker_connections|access\.log|proxy_pass|upstream'|xargs echo"|awk -F')'    '{print $2}'`

        echo " collect_time         : `date +%Y%m%d_%H:%M:%S`"
        echo " app_ipaddr            : $ip"
        echo " app_name               : nginx "
        echo " app_home               : $nginx_process_dir"
        echo " app_version           : $nginx_process_version"
        echo " app_conf_file        : $nginx_process_conf"
        echo " app_port               : $nginx_process_port"
        echo " app_start_shell    : $nginx_start_shell"
        echo " app_sotp_shell      : kill -[QUIT | TERM | 9] $nginx_start_pid"
        echo " app_start_user      : $nginx_start_user"
        echo " app_start_pid       : $nginx_start_pid"
        echo " app_start_time      : $nginx_start_time"
        echo " app_running_time : $nginx_running_time"
        echo " app_start_args      : $nginx_start_shell_args"
        echo " app_notes              : $nginx_process_comm"

    else
        echo "nginx process status is shutdwon on $ip . check Failure,pls check."
    fi

}

#### end func : nginx_cmdb_info
```

```
#### start collect
ip_list=`ansible -i $check_host all    --list|sed '1d'`
>$app_cmdb_report

for ip in $ip_list
do
    connect_flag=`cat $check_dir/tmp/ip_list.txt|grep $ip |awk '{print $3}' `
    if [ $connect_flag = "SUCCESS" ];then

        nginx_cmdb_info


    else
        echo "Alert    : server ( $ip ) UNREACHABLE , pls check ."
    fi


done



#### end cmdb collect

oracle@GuolDB:[/home/oracle/guol/cmdb/remote/ansible_app]
```

本地收集版本：

```
oracle@GuolDB:[/home/oracle/guol/cmdb/remote] cat app_cmdb_collect.sh
#!/bin/bash
#
    #auth : guol
    #mail : guolora@163.com
    #comm : collect app cmdb info ,eg :nginx tomcat and others .
    #remark :
        # 1 not support nothing sudo
        # 2 not support RAC in oracle_cmdb_info
        # 3 tomcat process info ,when java_home is null and cat not collect tomcat infomation
    #update :
        #1 2018.7.9 mysql_cmdb_info modify
        #2 2018.7.10 tomcat_cmdb_info modify
```

```
        #3 2108.7.11 modify parameter ip_addr and redis_cmdb_info
        #4 2018.7.12 http_cmdb_info ; nfs_cmdb_info ; vsftp_cmdb_info ; nginx_cmdb_info ; zabbix_agent_cmdb_info
        #5 2018.7.12 add os_type(redhat suse ubuntu)
        #6 2018.7.18 modify tomcat version info ;auto set java_home env and add pos_tomcat
        #7 2018.7.25 add weblogic_cmdb_info
        #8 2018.7.26 add rabbitmq_cmdb_info
        #8 2018.7.27 add activemq_cmdb_info
        #9 2018.7.31 modify rabbitmq_cmdb_info of rabbitmq_version and add jboss_cmdb_info ; keepalive_cmdb_info

    #version : v3.17.0


check_dir=/tmp
os_type_redhat_num=`cat /proc/version|grep -i "Red Hat"|wc -l`
os_type_suse_num=`cat /proc/version|grep -i "suse"|wc -l`
os_type_ubuntu_num=`cat /proc/version|grep -i "ubuntu"|wc -l`

if [ $os_type_redhat_num -ge 1 ];then
    os_version=`uname -r|sed 's/.x86_64//g'|awk -F. '{print $NF}' `
    #type el5 el6 el6uek el7
    #ip_addr=`ip a |grep inet|egrep -v "inet6|127|docker"|awk '{print $2}'|awk -F'/' '{print $1}'`
    #ip_addr=`cat /etc/sysconfig/network-scripts/ifcfg-* |grep -v ^#|grep -i IPADDR|grep -v "127.0.0.1"|awk -F= '{print $2}'|xargs echo`
    >$check_dir/ifconfig.txt
    for net in `cat /proc/net/dev|grep -v \||awk '{print $1}'|awk -F: '{print $1}'`
    do
        if [ -e /etc/sysconfig/network-scripts/ifcfg-${net} ];then
            cat /etc/sysconfig/network-scripts/ifcfg-${net} |grep -v ^#|grep -i IPADDR|grep -v "127.0.0.1"|awk -F= '{print $2}' >>$check_dir/ifconfig.txt
        fi
    done

    ip_addr=`cat /tmp/ifconfig.txt|xargs echo`
    if [ ! "${ip_addr}" ];then
        ip_addr=`ip a |grep inet|egrep -v "inet6|127.0.0.1|docker"|awk '{print $2}'|awk -F'/' '{print $1}'|xargs echo`
    fi
    rm $check_dir/ifconfig.txt
fi

if [ $os_type_suse_num -ge 1 ];then
    os_version=`/usr/bin/lsb_release -r|awk '{print "suse"$2}'`
```

```
        #type suse11
fi

if [ $os_type_ubuntu_num -ge 1 ];then
        os_version=`/usr/bin/lsb_release -r|awk '{print "ubuntu"$2}'`
        #type
        >$check_dir/ifconfig.txt
        if [ -e /etc/network/interfaces ];then
                cat /etc/network/interfaces|grep -v ^#|grep -i address|grep -v "127.0.0.1"|awk '{print
$2}' >>$check_dir/ifconfig.txt
        fi

        ip_addr=`cat /tmp/ifconfig.txt|xargs echo`
        if [ ! "${ip_addr}" ];then
                ip_addr=`ip a |grep inet|egrep -v "inet6|127.0.0.1|docker"|awk '{print $2}'|awk -F'/'
'{print $1}'|xargs echo`
        fi
        rm $check_dir/ifconfig.txt
fi



#### start nginx_cmdb_info
nginx_cmdb_info(){

local nginx_process_info_tmp=$check_dir/nginx_process_info_tmp.txt
local nginx_process_num=`sudo ps -fe|grep nginx |grep -v grep|grep -v $0|wc -l`

if [ $nginx_process_num -gt 0 ];then
                echo "**************************"
        sudo ps -fe|grep nginx|grep -v grep|grep -v $0|grep "master process"|awk '{print
$1,$2,$8,$9,$10,$11,$12,$13}' >$nginx_process_info_tmp
        #root     16298     nginx:     master     process     /usr/local/nginx/sbin/nginx     -c
/usr/local/nginx/conf/nginx.conf

        while read line
        do
        nginx_process_dir=`echo $line|awk '{print $6}'`
        sudo $nginx_process_dir -v 2>$check_dir/nginx_version.txt
        nginx_process_version=`cat $check_dir/nginx_version.txt|awk '{print $NF}'|sed 's/\//_/g'`
        nginx_process_conf=`echo $line|awk '{print $NF}'`
        nginx_start_shell=`echo $line|awk '{print $6,$7,$8}'`
        nginx_start_user=`echo $line|awk '{print $1}'`
        nginx_start_pid=`echo $line|awk '{print $2}'`
        nginx_process_port=`sudo     netstat     -antpl|grep     nginx|grep     LISTEN|grep
```

```
$nginx_start_pid|awk '{print $4}'|awk -F':'    '{print $2}'`
        nginx_time_tmp=`sudo    ps    -eo    pid,lstart,etime|grep    $nginx_start_pid|awk    '{print
$3,$4,$5,$6}'`
        nginx_start_time=`date -d "$nginx_time_tmp" +"%Y-%m-%d %H:%M:%S"`
        nginx_running_time=`sudo ps -eo pid,lstart,etime|grep $nginx_start_pid|awk '{print $NF}'`
        nginx_start_shell_args=`echo $line|awk '{print $7,$8}'`
        nginx_process_comm=`cat                    $nginx_process_conf|egrep                    -w
'worker_processes|worker_connections|access\.log|proxy_pass|upstream'|xargs echo`


                echo " app_ipaddr             : $ip_addr"
                echo " collect_time          : `date +%Y-%m-%d_%H:%M:%S`"
                echo " app_name                : nginx "
                echo " app_home                : $nginx_process_dir"
                echo " app_version            : $nginx_process_version"
                echo " app_conf_file         : $nginx_process_conf"
                echo " app_port                : $nginx_process_port"
                echo " app_start_shell     : $nginx_start_shell"
                echo " app_sotp_shell      : kill -[QUIT | TERM | 9] $nginx_start_pid"
                echo " app_start_user      : $nginx_start_user"
                echo " app_start_pid       : $nginx_start_pid"
                echo " app_start_time      : $nginx_start_time"
                echo " app_running_time : $nginx_running_time"
                echo " app_start_args      : $nginx_start_shell_args"
                echo " app_notes               : $nginx_process_comm"

        done<$nginx_process_info_tmp
        rm -f    $nginx_process_info_tmp $check_dir/nginx_version.txt
else
        echo "**************************"
fi

}

#### end nginx_cmdb_info


#### start tomcat_cmdb_info
tomcat_cmdb_info(){

tomcat_process_info=$check_dir/tomcat_process_info.txt
tomcat_version_info=$check_dir/tomcat_version_info.txt
tomcat_process_num=`sudo ps -fe|grep tomcat |grep -v grep|grep -v $0|wc -l`
```

```
if [ $tomcat_process_num -gt 0 ];then
    sudo ps -fe|grep tomcat|grep -v grep|grep -v $0 >$tomcat_process_info
    while read line
    do
        echo "*************************"
        tomcat_process_dir=`echo $line|awk -F'Dcatalina.home=' '{print $2}'|awk '{print $1}'`
    sudo $tomcat_process_dir/bin/version.sh >$tomcat_version_info
        java_home_env_error_num=`cat $tomcat_version_info|grep "Neither the JAVA_HOME nor the JRE_HOME environment variable is defined"|wc -l`
        if [ $java_home_env_error_num -ge 1 -a -e "$tomcat_process_dir/bin/setenv.sh" ];then
                echo "JAVA_HOME=`which java|awk -F'/bin/java' '{print $1}'`" >>$tomcat_process_dir/bin/setenv.sh
                sudo $tomcat_process_dir/bin/version.sh >$tomcat_version_info
        elif [ $java_home_env_error_num -ge 1 -a ! -e "$tomcat_process_dir/bin/setenv.sh" ];then
                echo "JAVA_HOME=`which java|awk -F'/bin/java' '{print $1}'`" >$tomcat_process_dir/bin/setenv.sh
                sudo $tomcat_process_dir/bin/version.sh >$tomcat_version_info
        fi
    tomcat_process_version=`cat $tomcat_version_info|grep "Server version"|awk '{print $3"_"$4}'|sed 's/\//_/'`
    tomcat_process_conf=$tomcat_process_dir/conf/server.xml
    tomcat_start_shell="sudo $tomcat_process_dir/bin/startup.sh"
    tomcat_stop_shell="sudo $tomcat_process_dir/bin/shutdown.sh"
    tomcat_start_user=`echo $line|awk '{print $1}'`
    tomcat_start_pid=`echo $line|awk '{print $2}'`
        pos_tomcat_flag_num=`echo $tomcat_process_dir|grep "posas"|wc -l`
        if [ $pos_tomcat_flag_num -ge 1 ];then
            tomcat_process_port=`grep '<Connector port=' $tomcat_process_conf | tail -1 | awk -F\" '{print $2}'|xargs echo`
        else
            tomcat_process_port=`sudo netstat -anltp|grep LISTEN|grep java|grep $tomcat_start_pid|grep -v "127.0.0.1"|awk '{print $4}'|awk -F: '{print $NF}'|xargs echo`
        fi
    tomcat_time_tmp=`sudo ps -eo pid,lstart,etime|grep $tomcat_start_pid|awk '{print $3,$4,$5,$6}'`
    tomcat_start_time=`date -d "$tomcat_time_tmp" +"%Y-%m-%d %H:%M:%S"`
    tomcat_running_time=`sudo ps -eo pid,lstart,etime|grep $tomcat_start_pid|awk '{print $NF}'`
    tomcat_start_shell_args=""
    tomcat_process_comm=`cat $tomcat_version_info|egrep "JRE_HOME|JVM Version"|awk -F: '{print "-"$1$2}'|xargs echo`
```

```
            echo " app_ipaddr             : $ip_addr"
            echo " collect_time          : `date +%Y-%m-%d_%H:%M:%S`"
            echo " app_name                 : tomcat "
            echo " app_home                 : $tomcat_process_dir"
            echo " app_version            : $tomcat_process_version"
            echo " app_conf_file        : $tomcat_process_conf"
            echo " app_port                 : $tomcat_process_port"
            echo " app_start_shell    : $tomcat_start_shell"
            echo " app_sotp_shell      : kill -9 $tomcat_start_pid    or $tomcat_stop_shell"
            echo " app_start_user      : $tomcat_start_user"
            echo " app_start_pid        : $tomcat_start_pid"
            echo " app_start_time      : $tomcat_start_time"
            echo " app_running_time : $tomcat_running_time"
            echo " app_start_args      : $tomcat_start_shell_args"
            echo " app_notes               : $tomcat_process_comm"

        done<$tomcat_process_info
        rm -f    $tomcat_process_info $tomcat_version_info
else
        echo "*************************"

fi

}

#### end tomcat_cmdb_info

#### start redis_cmdb_info
redis_cmdb_info(){
redis_process_info_tmp=$check_dir/redis_process_info_tmp.txt
redis_process_conf_tmp=$check_dir/redis_process_conf_tmp.txt
redis_process_conf_list=$check_dir/redis_process_conf_list.txt
redis_process_conf_pass=$check_dir/redis_process_conf_pass.txt
redis_process_num=`sudo ps -fe|grep redis |grep -v grep|grep -v $0|wc -l`

if [ $redis_process_num -gt 0 ];then
        sudo ps -fe|grep redis|grep -v grep|grep "redis-server"|grep -v $0|awk '{print
$1,$2,$8,$9}' >$redis_process_info_tmp
        #root 19549 /usr/local/redis/bin/redis-server *:6379



        while read line
        do
            echo "*************************"
```

```
    redis_process_exe=`echo $line|awk '{print $3}'`
    redis_process_base=`echo $redis_process_exe|sed 's/redis-server//'`
    redis_process_dir=`dirname $redis_process_base`
    redis_process_version=`sudo $redis_process_exe -v|awk '{print $3}'|awk -F'[v=]' '{print "redis_"$3}'`
    redis_start_user=`echo $line|awk '{print $1}'`
    redis_start_pid=`echo $line|awk '{print $2}'`
    redis_process_port=`sudo netstat -antlp|grep LISTEN|grep -v grep|grep redis-server|grep $redis_start_pid|awk '{print $4}'|awk -F: '{print $2}'`


    $redis_process_base/redis-cli -h localhost -p $redis_process_port info server|egrep "config_file" >$redis_process_conf_tmp
    conf_file_num=`cat $redis_process_conf_tmp|grep "config_file"|grep -v grep|wc -l`
    if [ $conf_file_num -eq 1 ];then
        redis_process_conf="`cat $redis_process_conf_tmp|grep config_file|awk -F: '{print $2}'` "
        redis_start_shell="`echo ${redis_process_exe}  ${redis_process_conf}` "
    else
        >$redis_process_conf_list
        >$redis_process_conf_pass
        sudo find /etc -type f -name "redis.conf" >$redis_process_conf_list
        sudo find $redis_process_dir -type f -name "*.conf" >>$redis_process_conf_list
        for conf in `sudo cat $redis_process_conf_list`
        do
            sudo cat $conf|grep -v ^#|grep -i requirepass |awk '{print $2}'|sed 's/"//g' >>$redis_process_conf_pass
        done

        for pass in `cat  $redis_process_conf_pass|sed '/^$/d'|uniq`
        do
            $redis_process_base/redis-cli -h localhost -p $redis_process_port -a $pass info server|egrep "config_file" >$redis_process_conf_tmp
            conf_file_num=`cat $redis_process_conf_tmp|grep "config_file"|grep -v grep|wc -l`
            if [ $conf_file_num -eq 1 ];then
                redis_process_conf="`cat $redis_process_conf_tmp|grep config_file|awk -F: '{print $2}'` "
                redis_start_shell="`echo $redis_process_exe  $redis_process_conf` "
                break
            else
                continue
            fi
        done
```

```
        fi

        redis_conf=`echo $redis_process_conf|sed    's/\$//;s/\\r//'`
            #$/usr/local/redis/conf/6380.conf\r
        if [ -e $redis_conf ];then
            #echo " Notice : redis_process_conf : $redis_process_conf"
            redis_process_comm=`sudo  cat  $redis_conf  |grep  -v  ^#|sed  '/^$/d'|egrep  -w
'port|bind|daemonize|slaveof|slave-read-only'|xargs echo `
        else
            #echo " Alert : redis_process_conf : $redis_process_conf"
            redis_process_comm=""
        fi
        redis_stop_shell="kill  -9  $redis_start_pid  OR  $redis_process_dir/bin/redis-cli  -p
$redis_process_port shutdown "
        redis_time_tmp=`sudo  ps  -eo  pid,lstart,etime|grep  $redis_start_pid|awk  '{print
$3,$4,$5,$6}'`
        redis_start_time=`date -d "$redis_time_tmp" +"%Y-%m-%d %H:%M:%S"`
        redis_running_time=`sudo ps -eo pid,lstart,etime|grep $redis_start_pid|awk '{print $NF}'`
        redis_start_shell_args=""


            echo " app_ipaddr            : $ip_addr"
            echo " collect_time        : `date +%Y-%m-%d_%H:%M:%S`"
            echo " app_name              : redis "
            echo " app_home              : $redis_process_dir"
            echo " app_version         : $redis_process_version"
            echo " app_conf_file       : $redis_process_conf"
            echo " app_port              : $redis_process_port"
            echo " app_start_shell   : $redis_start_shell"
            echo " app_sotp_shell     : $redis_stop_shell"
            echo " app_start_user     : $redis_start_user"
            echo " app_start_pid      : $redis_start_pid"
            echo " app_start_time     : $redis_start_time"
            echo " app_running_time : $redis_running_time"
            echo " app_start_args     : $redis_start_shell_args"
            echo " app_notes             : $redis_process_comm"

        done<$redis_process_info_tmp
        rm  -f      $redis_process_info_tmp  $redis_process_conf_tmp  $redis_process_conf_list
$redis_process_conf_pass
else
        echo "************************"

fi
```

```
}
#### end redis_cmdb_info


#### start http_cmdb_info
http_cmdb_info(){
http_process_info_tmp=$check_dir/http_process_info_tmp.txt
http_process_info=$check_dir/http_process_info.txt
http_process_num=`sudo ps -fe|grep httpd |grep -v grep|grep -v $0|wc -l`

if [ $http_process_num -gt 0 ];then
        echo "**************************"
    sudo ps -fe|grep httpd|grep -v grep|grep -v $0|head -n1|awk '{print $1,$2,$8}' >$http_process_info_tmp
    #root 5205 /usr/sbin/httpd

    http_process_exe=`cat $http_process_info_tmp|awk '{print $NF}'`
    $http_process_exe -V >$http_process_info
    http_process_dir=`cat $http_process_info|grep -w "HTTPD_ROOT"|awk -F'["]+' '{print $2}'`
    http_process_version=`cat $http_process_info|grep -w "Server version"|awk '{print $3}'|sed 's/\//_/g'`
    http_process_conf_tmp=`cat $http_process_info |grep -w "SERVER_CONFIG_FILE"|awk -F'["]+' '{print $2}'`
    http_process_conf=$http_process_dir/$http_process_conf_tmp
    if [ $os_version = "el5" -o $os_version = "el6" -o $os_version = "el6uek" ];then
        http_start_shell="sudo /etc/init.d/httpd start"
        http_stop_shell="sudo /etc/init.d/httpd stop"
    elif [ $os_version = "el7" ];then
        http_start_shell="sudo systemctl start httpd"
        http_stop_shell="sudo systemctl stop httpd"
    fi
    http_start_user=`cat $http_process_info_tmp|awk '{print $1}'`
    http_start_pid=`cat $http_process_info_tmp|awk '{print $2}'`
    http_process_port=`sudo netstat -antlp|grep httpd|grep LISTEN|grep $http_start_pid|awk -F'[ :]+' '{print $4}'`
    http_time_tmp=`sudo ps -eo pid,lstart,etime|grep $http_start_pid|awk '{print $3,$4,$5,$6}'`
    http_start_time=`date -d "$http_time_tmp" +"%Y-%m-%d %H:%M:%S"`
    http_running_time=`sudo ps -eo pid,lstart,etime|grep $http_start_pid|awk '{print $NF}'`
    http_start_shell_args=""
    http_process_comm=`cat $http_process_conf|grep -v ^#|sed '/^$/d'|egrep -w 'Listen|ServerRoot|Timeout'|xargs echo`
```

```
            echo " app_ipaddr             : $ip_addr"
            echo " collect_time          : `date +%Y-%m-%d_%H:%M:%S`"
            echo " app_name                 : Apache"
            echo " app_home                 : $http_process_dir"
            echo " app_version            : $http_process_version"
            echo " app_conf_file         : $http_process_conf"
            echo " app_port                 : $http_process_port"
            echo " app_start_shell     : $http_start_shell"
            echo " app_sotp_shell       : $http_stop_shell"
            echo " app_start_user       : $http_start_user"
            echo " app_start_pid        : $http_start_pid"
            echo " app_start_time       : $http_start_time"
            echo " app_running_time : $http_running_time"
            echo " app_start_args       : $http_start_shell_args"
            echo " app_notes                : $http_process_comm"


            rm -f    $http_process_info $http_process_info_tmp
else
        echo "*************************"

fi

}
#### end http_cmdb_info

#### start mysql_cmdb_info
mysql_cmdb_info(){
mysql_process_info_tmp=$check_dir/mysql_process_info_tmp.txt
mysql_process_num=`sudo ps -fe|grep mysqld|grep -v grep|grep -v mysqld_safe|grep -v $0|wc -
l`

if [ $mysql_process_num -gt 0 ];then
        sudo ps -fe|grep mysqld|grep -v grep|grep -v mysqld_safe|grep -v $0|awk
'{$4="";$5="";$6="";$7="";print $0}' >$mysql_process_info_tmp
        #mysql 13603 13382          /usr/sbin/mysqld --basedir=/usr --datadir=/var/lib/mysql --plugin-
dir=/usr/lib64/mysql/plugin

        while read line
        do
                echo "*************************"
        mysql_process_pid=`echo $line|awk '{print $2}'`
        mysql_process_exe=`sudo ls -l /proc/${mysql_process_pid}/exe |awk '{print $NF}'`
        mysql_process_dir=`echo $line|awk -F'--basedir=' '{print $2}'|awk '{print $1}'`
```

```
        mysql_process_version=`$mysql_process_exe -V|awk '{print "mysql_"$3}'`
        mysql_defaults_conf_num=`echo $line|grep defaults-file|grep -v grep|wc -l`
        if [ $mysql_defaults_conf_num -eq 1 ];then
                mysql_process_conf=`echo $line|awk -F'defaults-file=' '{print $2}'|awk '{print $1}'`
        else
                mysql_process_conf_tmp="        /etc/my.cnf        /etc/mysql/my.cnf        /usr/etc/my.cnf
$mysql_process_dir/my.cnf"
                for mc in $mysql_process_conf_tmp
                do
                        if [ -e $mc ];then
                                mysql_process_conf=$mc
                                break
                        else
                                mysql_process_conf="No_configuration_file_my.cnf"
                        fi
                done
        fi
        mysql_process_port=`sudo        netstat        -natlp|grep        LISTEN|grep        mysqld|grep
$mysql_process_pid|awk -F'[ :]+' '{print $4}'`
        if [ $os_version = "el5" -o $os_version = "el6" -o $os_version = "el6uek" ];then
                mysql_start_shell="sudo /etc/init.d/mysqld start"
                mysql_stop_shell="sudo /etc/init.d/mysqld stop"
        elif [ $os_version = "el7" ];then
                mysql_start_shell="sudo systemctl start mysqld"
                mysql_stop_shell="sudo systemctl stop mysqld"
        fi
        mysql_start_user=`echo $line|awk '{print $1}'`
        mysql_start_pid=`echo $line|awk '{print $2}'`
        mysql_time_tmp=`sudo        ps        -eo        pid,lstart,etime|grep        $mysql_start_pid|awk        '{print
$3,$4,$5,$6}'`
        mysql_start_time=`date -d "$mysql_time_tmp" +"%Y-%m-%d %H:%M:%S"`
        mysql_running_time=`sudo ps -eo pid,lstart,etime|grep $mysql_start_pid|awk '{print $NF}'`
        mysql_start_shell_args=`echo $line|awk '{$1="";$2="";$3="";$4="";print $0}'`
        if [ ! $mysql_process_conf == "No_configuration_file_my.cnf" ];then
                mysql_process_comm=`cat     $mysql_process_conf|grep     -v     ^#|sed     '/^$/d'|egrep     -w
'port|datadir|log-bin|server-id'|xargs echo`
        fi


                echo " app_ipaddr             : $ip_addr"
                echo " collect_time          : `date +%Y-%m-%d_%H:%M:%S`"
                echo " app_name                 : mysql"
                echo " app_home                 : $mysql_process_dir"
                echo " app_version            : $mysql_process_version"
```

```
            echo " app_conf_file        : $mysql_process_conf"
            echo " app_port             : $mysql_process_port"
            echo " app_start_shell    : $mysql_start_shell"
            echo " app_sotp_shell      : $mysql_stop_shell"
            echo " app_start_user      : $mysql_start_user"
            echo " app_start_pid        : $mysql_start_pid"
            echo " app_start_time      : $mysql_start_time"
            echo " app_running_time : $mysql_running_time"
            echo " app_start_args      : $mysql_start_shell_args"
            echo " app_notes            : $mysql_process_comm"


        done <$mysql_process_info_tmp
        rm -f      $mysql_process_info_tmp
else
        echo "**************************"

fi

}
#### end mysql_cmdb_info

#### start zabbix_agent_cmdb_info
zabbix_agent_cmdb_info(){
zabbix_agent_process_info_tmp=$check_dir/zabbix_agent_process_info_tmp.txt
zabbix_agent_process_info=$check_dir/zabbix_agent_process_info.txt
zabbix_agent_process_num=`sudo ps -fe|grep zabbix_agentd |grep -v grep|grep -v $0|wc -l`

if [ $zabbix_agent_process_num -gt 0 ];then
        echo "**************************"
        sudo ps -fe|grep zabbix_agentd|grep -v grep|grep -v $0|head -n1|awk '{print $1,$2,$8,$9,$10}' >$zabbix_agent_process_info_tmp
        #zabbix 4730 /usr/sbin/zabbix_agentd -c /etc/zabbix/zabbix_agentd.conf

        zabbix_agent_process_dir=`cat $zabbix_agent_process_info_tmp|awk '{print $3}'`
        $zabbix_agent_process_dir -V >$zabbix_agent_process_info
        zabbix_agent_process_version=`cat  $zabbix_agent_process_info|grep  -i  "Zabbix"|grep  -i "Agent"|awk '{print "zabbix_"$4}'`
        zabbix_agent_process_conf=`cat $zabbix_agent_process_info_tmp|awk '{print $NF}'`
        if [ $os_version = "el5" -o $os_version = "el6" -o $os_version = "el6uek" ];then
                zabbix_agent_start_shell="sudo /etc/init.d/zabbix-agent start"
                zabbix_agent_stop_shell="sudo /etc/init.d/zabbix-agent stop"
        elif [ $os_version = "el7" ];then
                zabbix_agent_start_shell="sudo systemctl start zabbix-agent"
```

```
        zabbix_agent_stop_shell="sudo systemctl stop zabbix-agent"
    fi
    zabbix_agent_start_user=`cat $zabbix_agent_process_info_tmp|awk '{print $1}'`
    zabbix_agent_start_pid=`cat $zabbix_agent_process_info_tmp|awk '{print $2}'`
    zabbix_agent_process_port=`sudo netstat -anltp|grep "zabbix_agentd"|grep LISTEN|grep $zabbix_agent_start_pid|awk '{print $4}'|awk -F'[:]+' '{print $2}'|uniq`
    if [ ! $zabbix_agent_process_port ];then
        zabbix_agent_process_port=`cat /etc/services |grep zabbix-agent|grep tcp|awk '{print $2}'|awk -F/ '{print $1}'`
    fi
    zabbix_agent_time_tmp=`sudo ps -eo pid,lstart,etime|grep $zabbix_agent_start_pid|awk '{print $3,$4,$5,$6}'`
    zabbix_agent_start_time=`date -d "$zabbix_agent_time_tmp" +"%Y-%m-%d %H:%M:%S"`
    zabbix_agent_running_time=`sudo ps -eo pid,lstart,etime|grep $zabbix_agent_start_pid|awk '{print $NF}'`
    zabbix_agent_start_shell_args=`cat $zabbix_agent_process_info_tmp|awk '{print $3,$4,$5}'`
    zabbix_agent_process_comm=`cat $zabbix_agent_process_conf|grep -v ^#|sed '/^$/d'|egrep -w 'Server|Hostname'|xargs echo`


        echo " app_ipaddr          : $ip_addr"
        echo " collect_time        : `date +%Y-%m-%d_%H:%M:%S`"
        echo " app_name              : zabbix_agentd"
        echo " app_home              : $zabbix_agent_process_dir"
        echo " app_version         : $zabbix_agent_process_version"
        echo " app_conf_file       : $zabbix_agent_process_conf"
        echo " app_port              : $zabbix_agent_process_port"
        echo " app_start_shell   : $zabbix_agent_start_shell"
        echo " app_sotp_shell     : $zabbix_agent_stop_shell"
        echo " app_start_user     : $zabbix_agent_start_user"
        echo " app_start_pid      : $zabbix_agent_start_pid"
        echo " app_start_time     : $zabbix_agent_start_time"
        echo " app_running_time : $zabbix_agent_running_time"
        echo " app_start_args     : $zabbix_agent_start_shell_args"
        echo " app_notes             : $zabbix_agent_process_comm"


        rm -f   $zabbix_agent_process_info $zabbix_agent_process_info_tmp
else
    echo "*************************"

fi

}
```

```
#### end zabbix_agent_cmdb_info

#### start docker_cmdb_info
docker_cmdb_info(){
docker_process_info=$check_dir/docker_process_info.txt
docker_process_num=`sudo ps -fe|grep dockerd |grep -v grep|grep -v $0|wc -l`

if [ $docker_process_num -gt 0 ];then
    echo "**************************"
    sudo ps -fe|grep dockerd|grep -v grep|grep -v $0|head -n1|awk '{print $1,$2,$8}' >$docker_process_info
    #root 11748 /usr/bin/dockerd-current

    docker_process_dir=`cat $docker_process_info|awk '{print $3}'`
    docker_process_version=`$docker_process_dir --version|awk -F'[ ,]' '{print $1"_"$3}'`
    docker_process_conf=`systemctl show --property=FragmentPath docker|awk -F'=' '{print $2}'`
    docker_process_port=""
    docker_start_shell="sudo systemctl start docker"
    docker_start_user=`cat $docker_process_info|awk '{print $1}'`
    docker_start_pid=`cat $docker_process_info|awk '{print $2}'`
    docker_stop_shell="sudo systemctl stop docker"
    docker_time_tmp=`sudo ps -eo pid,lstart,etime|grep $docker_start_pid|awk '{print $3,$4,$5,$6}'`
    docker_start_time=`date -d "$docker_time_tmp" +"%Y-%m-%d %H:%M:%S"`
    docker_running_time=`sudo ps -eo pid,lstart,etime|grep $docker_start_pid|awk '{print $NF}'`
    docker_start_shell_args=""
    kernel_version=`sudo uname -r`
    docker_image_num=`sudo docker image ls|sed '1d'|wc -l`
    docker_container_num=`sudo docker ps -a|sed '1d'|wc -l`
    docker_process_comm="os_kernel($kernel_version)
docker_container_num($docker_container_num)  docker_image_num($docker_image_num) "


        echo " app_ipaddr          : $ip_addr"
        echo " collect_time        : `date +%Y-%m-%d_%H:%M:%S`"
        echo " app_name              : docker"
        echo " app_home              : $docker_process_dir"
        echo " app_version         : $docker_process_version"
        echo " app_conf_file       : $docker_process_conf"
        echo " app_port              : $docker_process_port"
        echo " app_start_shell   : $docker_start_shell"
        echo " app_sotp_shell    : $docker_stop_shell"
```

```
            echo " app_start_user      : $docker_start_user"
            echo " app_start_pid       : $docker_start_pid"
            echo " app_start_time      : $docker_start_time"
            echo " app_running_time : $docker_running_time"
            echo " app_start_args      : $docker_start_shell_args"
            echo " app_notes               : $docker_process_comm"


            rm -f    $docker_process_info
else
      echo "**************************"

fi

}
#### end docker_cmdb_info

#### start vsftp_cmdb_info
vsftp_cmdb_info(){
vsftp_process_info=$check_dir/vsftp_process_info.txt
vsftp_process_num=`sudo ps -fe|grep vsftpd |grep -v grep|grep -v $0|wc -l`

if [ $vsftp_process_num -gt 0 ];then
      echo "**************************"
      sudo ps -fe|grep vsftpd|grep -v grep|grep -v $0|head -n1|awk '{print $1,$2,$8,$9}' >$vsftp_process_info
      #root 6344 /usr/sbin/vsftpd /etc/vsftpd/vsftpd.conf

      vsftp_process_dir=`cat $vsftp_process_info|awk '{print $3}'`
      vsftp_process_version=`rpm -qa |grep vsftpd|awk -F'_' '{print $1}'`
      vsftp_process_conf=`cat $vsftp_process_info|awk '{print $4}'`
      vsftp_process_port=`sudo netstat -anltp|grep vsftpd|grep LISTEN|awk '{print $4}'|awk -F'[:]+' '{print $2}'|uniq`
      if [ $os_version = "el5" -o $os_version = "el6" -o $os_version = "el6uek" ];then
            vsftp_stop_shell="sudo /etc/init.d/vsftpd stop"
            vsftp_start_shell="sudo /etc/init.d/vsftpd start"
      elif [ $os_version = "el7" ];then
            vsftp_stop_shell="sudo systemctl stop vsftpd"
            vsftp_start_shell="sudo systemctl start vsftpd"
      fi
      vsftp_start_user=`cat $vsftp_process_info|awk '{print $1}'`
      vsftp_start_pid=`cat $vsftp_process_info|awk '{print $2}'`
      vsftp_time_tmp=`sudo ps -eo pid,lstart,etime|grep $vsftp_start_pid|awk '{print $3,$4,$5,$6}'`
```

```
        vsftp_start_time=`date -d "$vsftp_time_tmp" +"%Y-%m-%d %H:%M:%S"`
        vsftp_running_time=`sudo ps -eo pid,lstart,etime|grep $vsftp_start_pid|awk '{print $NF}'`
        vsftp_start_shell_args=""
        vsftp_process_comm=`cat $vsftp_process_conf|grep -v ^#|sed '/^$/d'|egrep -w "local_root|download_enable|listen|anonymous_enable|chroot_local_user"|xargs echo`


                echo " app_ipaddr              : $ip_addr"
                echo " collect_time          : `date +%Y-%m-%d_%H:%M:%S`"
                echo " app_name                 : vsftp"
                echo " app_home                 : $vsftp_process_dir"
                echo " app_version            : $vsftp_process_version"
                echo " app_conf_file         : $vsftp_process_conf"
                echo " app_port                 : $vsftp_process_port"
                echo " app_start_shell     : $vsftp_start_shell"
                echo " app_sotp_shell       : $vsftp_stop_shell"
                echo " app_start_user       : $vsftp_start_user"
                echo " app_start_pid        : $vsftp_start_pid"
                echo " app_start_time       : $vsftp_start_time"
                echo " app_running_time : $vsftp_running_time"
                echo " app_start_args       : $vsftp_start_shell_args"
                echo " app_notes                : $vsftp_process_comm"

                rm -f    $vsftp_process_info
else
        echo "**************************"

fi

}
#### end vsftp_cmdb_info


oracle_cmdb_info(){
oracle_process_info=$check_dir/oracle_process_info.txt
oracle_process_num=`ps -fe|grep ora_|grep -v grep|grep -v $0|wc -l`

if [ $oracle_process_num -gt 0 ];then

        oracle_sid=`ps -fe|grep ora_pmon|egrep -v "ASM|grep"|awk '{print $NF}'|awk -F'_pmon_' '{print $2}'`

        for sid in $oracle_sid
        do
```

```
        echo "**************************"
        ps -fe|grep ora_pmon_${sid}|grep -v grep|grep -v $0|awk '{print $1,$2,$8}' >$oracle_process_info
        #oracle    13902     ora_pmon_guoldb

        oracle_sid_process=`ps -fe|grep ora_pmon_${sid}|grep -v grep |awk '{print $2}'`
        oracle_process_dir=`sudo ls -l /proc/${oracle_sid_process}/exe |awk '{print $11}'|awk -F'/bin/oracle' '{print $1}'`
        export ORACLE_SID=$sid
        export ORACLE_HOME=$oracle_process_dir
        oracle_process_version=`$oracle_process_dir/bin/sqlplus -v|awk {'print $3'}| sed "/^$/d"`
        oracle_process_conf="$oracle_process_dir/dbs/spfile${sid}.ora"
        if [ -e $oracle_process_dir/network/admin/listener.ora ];then
                oracle_listener=`cat $oracle_process_dir/network/admin/listener.ora |grep -v ^#|sed -n '/^LIST/,/^$/p'|xargs echo|awk -F=' '{print $1}'`
        else
                oracle_listener=""
        fi
        oracle_process_port=`$oracle_process_dir/bin/lsnrctl status $oracle_listener|grep DESCRIPTION|egrep -v "Connecting|ipc|tcps"|awk -F'[()]' '{print $8}'|awk -F'=' '{print $2}'|uniq`
        oracle_start_shell="sqlplus : startup"
        oracle_start_user=`cat $oracle_process_info|awk '{print $1}'`
        oracle_start_pid=`cat $oracle_process_info|awk '{print $2}'`
        oracle_stop_shell="sqlplus : shutdown immediate"
        oracle_time_tmp=`ps -eo pid,lstart,etime|grep $oracle_start_pid|awk '{print $3,$4,$5,$6}'`
        oracle_start_time=`date -d "$oracle_time_tmp" +"%Y-%m-%d %H:%M:%S"`
        oracle_running_time=`ps -eo pid,lstart,etime|grep $oracle_start_pid|awk '{print $NF}'`
        oracle_start_shell_args=""
        oracle_kernel_args=`sudo sysctl -p|egrep "kernel.shmall|kernel.shmmax|kernel.shmmni"|xargs echo`

        oracle_process_comm=" kernel_args($oracle_kernel_args)"


                echo " app_ipaddr          : $ip_addr"
                echo " collect_time        : `date +%Y-%m-%d_%H:%M:%S`"
                echo " app_name            : oracle"
                echo " app_home            : $oracle_process_dir"
                echo " app_version         : $oracle_process_version"
                echo " app_conf_file       : $oracle_process_conf"
                echo " app_port            : $oracle_process_port"
                echo " app_start_shell     : $oracle_start_shell"
                echo " app_sotp_shell      : $oracle_stop_shell"
                echo " app_start_user      : $oracle_start_user"
```

```
            echo " app_start_pid        : ora_pmon_${sid}($oracle_start_pid)"
            echo " app_start_time       : $oracle_start_time"
            echo " app_running_time : $oracle_running_time"
            echo " app_start_args       : $oracle_start_shell_args"
            echo " app_notes                : $oracle_process_comm"

        done
            rm -f    $oracle_process_info
        else
            echo "**************************"

        fi


}
#### end oracle_cmdb_info

#### start mongo_cmdb_info
mongo_cmdb_info(){

local mongo_process_info_tmp=$check_dir/mongo_process_info_tmp.txt
local mongo_process_num=`sudo ps -fe|grep mongod |grep -v grep|grep -v $0|wc -l`

if [ $mongo_process_num -gt 0 ];then
        sudo ps -fe|grep -v grep|grep -v $0|grep mongod|awk '{print $1,$2,$8,$9,$10}' >$mongo_process_info_tmp
        #oracle                3353                /u01/app/mongodb_v3.6/bin/mongod -f /u01/app/mongodb_v3.6/conf/mongod.conf

        while read line
        do
            echo "**************************"
        mongo_process_dir=`echo $line|awk '{print $3}'`
        mongo_process_version=`$mongo_process_dir --version|grep "db version"|awk -F'-' '{print $1}'|awk '{print "mongo_"$3}'`
        mongo_process_conf=`echo $line|awk '{print $NF}'`
        mongo_start_shell=`echo $line|awk '{print $3,$4,$5}'`
        mongo_start_user=`echo $line|awk '{print $1}'`
        mongo_start_pid=`echo $line|awk '{print $2}'`
        mongo_process_port=`sudo netstat -antpl|grep mongod|grep LISTEN|grep $mongo_start_pid|awk '{print $4}'|awk -F':'    '{print $2}'`
        mongo_time_tmp=`sudo ps -eo pid,lstart,etime|grep $mongo_start_pid|awk '{print $3,$4,$5,$6}'`
        mongo_start_time=`date -d "$mongo_time_tmp" +"%Y-%m-%d %H:%M:%S"`
```

```
	mongo_running_time=`sudo ps -eo pid,lstart,etime|grep $mongo_start_pid|awk '{print $NF}'`
	mongo_start_shell_args=`echo $line|awk '{print $(NF-1),$NF}'`
	mongo_process_comm=` cat $mongo_process_conf|egrep -w 'dbpath|logpath|logappend|fork'|xargs echo`


		echo " app_ipaddr : $ip_addr"
		echo " collect_time : `date +%Y-%m-%d_%H:%M:%S`"
		echo " app_name : mongodb "
		echo " app_home : $mongo_process_dir"
		echo " app_version : $mongo_process_version"
		echo " app_conf_file : $mongo_process_conf"
		echo " app_port : $mongo_process_port"
		echo " app_start_shell : $mongo_start_shell"
		echo " app_sotp_shell : kill -2 $mongo_start_pid"
		echo " app_start_user : $mongo_start_user"
		echo " app_start_pid : $mongo_start_pid"
		echo " app_start_time : $mongo_start_time"
		echo " app_running_time : $mongo_running_time"
		echo " app_start_args : $mongo_start_shell_args"
		echo " app_notes : $mongo_process_comm"

	done<$mongo_process_info_tmp
	rm -f $mongo_process_info_tmp $check_dir/mongo_version.txt
else
	echo "**************************"
fi

}

#### end mongo_cmdb_info

#### start nfs_cmdb_info
nfs_cmdb_info(){

local nfs_process_info_tmp=$check_dir/nfs_process_info_tmp.txt
local nfs_process_num=`sudo ps -fe|grep nfsd |grep -v grep|grep -v $0|wc -l`

if [ $nfs_process_num -gt 0 ];then
		echo "**************************"
	sudo ps -fe|grep -v grep|grep -v $0|grep nfsd|head -n1|awk '{print $1,$2,$8}' >$nfs_process_info_tmp
	#root 18519 [nfsd4]
```

```
nfs_process_dir=`which showmount`
nfs_process_version=`nfsstat --version|awk '{print "nfs_"$2}'`
nfs_process_conf="/etc/exports"
nfs_port=`cat /etc/services |grep -w nfs|grep tcp|awk -F'/' '{print $1}'|awk '{print $1"_port("$2")"}'`
rpc_port=`cat /etc/services |grep -w rpcbind|grep tcp|awk '{print $4,$2}'|awk -F'/' '{print $1}'|awk '{print $1"_port("$2")"}'`
nfs_process_port="$nfs_port    $rpc_port"
if [ $os_version = "el5" ];then
        nfs_start_shell="sudo /etc/init.d/nfs start ; /etc/init.d/portmap start "
        nfs_stop_shell="sudo /etc/init.d/nfs stop ; /etc/init.d/portmap stop"
elif [    $os_version = "el6" -o $os_version = "el6uek" ];then
        nfs_start_shell="sudo /etc/init.d/nfs start ;    /etc/init.d/rpcbind start"
        nfs_stop_shell="sudo /etc/init.d/nfs stop ; /etc/init.d/rpcbind stop"
elif [ $os_version = "el7" ];then
        nfs_start_shell="sudo systemctl start nfs"
        nfs_stop_shell="sudo systemctl stop nfs"
fi
nfs_start_user=`cat $nfs_process_info_tmp|awk '{print $1}'`
nfs_start_pid=`cat $nfs_process_info_tmp|awk '{print $2}'`
nfs_time_tmp=`sudo ps -eo pid,lstart,etime|grep $nfs_start_pid|awk '{print $3,$4,$5,$6}'`
nfs_start_time=`date -d "$nfs_time_tmp" +"%Y-%m-%d %H:%M:%S"`
nfs_running_time=`sudo ps -eo pid,lstart,etime|grep $nfs_start_pid|awk '{print $NF}'`
nfs_start_shell_args=""
nfs_process_comm=`showmount -e localhost|xargs echo`


        echo " app_ipaddr            : $ip_addr"
        echo " collect_time        : `date +%Y-%m-%d_%H:%M:%S`"
        echo " app_name              : nfs "
        echo " app_home              : $nfs_process_dir"
        echo " app_version          : $nfs_process_version"
        echo " app_conf_file       : $nfs_process_conf"
        echo " app_port              : $nfs_process_port"
        echo " app_start_shell    : $nfs_start_shell"
        echo " app_sotp_shell     : $nfs_stop_shell"
        echo " app_start_user     : $nfs_start_user"
        echo " app_start_pid      : $nfs_start_pid"
        echo " app_start_time     : $nfs_start_time"
        echo " app_running_time : $nfs_running_time"
        echo " app_start_args     : $nfs_start_shell_args"
        echo " app_notes             : $nfs_process_comm"
```

```
            rm -f    $nfs_process_info_tmp
else
        echo "*************************"
fi

}

#### end nfs_cmdb_info

#### start weblogic_cmdb_info
weblogic_cmdb_info(){

local weblogic_process_info_tmp=$check_dir/weblogic_process_info_tmp.txt
local weblogic_process_num=`sudo ps -fe|grep weblogic|grep -v grep|grep -v $0|wc -l`

if [ $weblogic_process_num -gt 0 ];then
        sudo ps -fe|grep -v grep|grep -v $0|grep java|grep weblogic >$weblogic_process_info_tmp

        while read line
        do
                echo "*************************"
        weblogic_process_dir=`echo  $line|grep  -i  "Dweblogic.home"|awk  -F'Dweblogic.home='
'{print $2}'|awk '{print $1}'|uniq|xargs dirname|xargs dirname`
        weblogic_process_version=`sudo  cat  $weblogic_process_dir/registry.xml|grep  "WebLogic
Server"|grep -v Clients|awk '{print $4}'|awk -F'["]+' '{print $2}'`
        weblogic_process_conf=""
        weblogic_start_shell=""
        weblogic_start_user=`echo $line|awk '{print $1}'`
        weblogic_start_pid=`echo $line|awk '{print $2}'`
        weblogic_process_port=`sudo  netstat  -antpl|grep  java|grep  LISTEN|grep
$weblogic_start_pid|grep $ip_addr|awk '{print $4}'|awk -F':'    '{print $2}'`
        weblogic_time_tmp=`sudo  ps  -eo  pid,lstart,etime|grep  $weblogic_start_pid|awk  '{print
$3,$4,$5,$6}'`
        weblogic_start_time=`date -d "$weblogic_time_tmp" +"%Y-%m-%d %H:%M:%S"`
        weblogic_running_time=`sudo ps -eo pid,lstart,etime|grep $weblogic_start_pid|awk '{print
$NF}'`
        weblogic_start_shell_args=`echo $line|awk '{print $8,$9,$10,$11,$12}'`
                #rose_flag=`echo      $line|grep      -i      "Dweblogic.management.discover="|awk      -
F'Dweblogic.management.discover=' '{print $2}'|awk '{print $1}'`
                Dweb_name=`echo $line|grep -i "Dweblogic.Name="|awk -F'Dweblogic.Name=' '{print
$2}'|awk '{print $1}'`
                manage_server=`echo      $line|grep           "Dweblogic.management.server="|awk      -
F'Dweblogic.management.server=' '{print $2}'|awk '{print $1}'`
        weblogic_process_comm="weblogic_rose                :                $Dweb_name                ;
```

```
management.server=$manage_server"


            echo " app_ipaddr             : $ip_addr"
            echo " collect_time          : `date +%Y-%m-%d_%H:%M:%S`"
            echo " app_name                : weblogic"
            echo " app_home                : $weblogic_process_dir"
            echo " app_version           : $weblogic_process_version"
            echo " app_conf_file        : $weblogic_process_conf"
            echo " app_port                : $weblogic_process_port"
            echo " app_start_shell    : $weblogic_start_shell"
            echo " app_sotp_shell      : kill -9 $weblogic_start_pid"
            echo " app_start_user      : $weblogic_start_user"
            echo " app_start_pid       : $weblogic_start_pid"
            echo " app_start_time      : $weblogic_start_time"
            echo " app_running_time : $weblogic_running_time"
            echo " app_start_args      : $weblogic_start_shell_args"
            echo " app_notes              : $weblogic_process_comm"

        done<$weblogic_process_info_tmp
        rm -f    $weblogic_process_info_tmp
else
        echo "*************************"
fi

}

#### end weblogic_cmdb_info

#### start memcache_cmdb_info
memcache_cmdb_info(){

local memcache_process_info_tmp=$check_dir/memcache_process_info_tmp.txt
local memcache_process_num=`sudo ps -fe|grep memcached |grep -v grep|grep -v $0|wc -l`

if [ $memcache_process_num -gt 0 ];then
        sudo ps -fe|grep -v grep|grep -v $0|grep memcached|awk '{$4="";$5="";$6="";$7="";print
$0}' >$memcache_process_info_tmp
        #root         15332         1      /usr/local/memcached/bin/memcached -d -m 256 -u root -l
10.150.29.101 -p 11211 -c 1024 -P /tmp/memcached.pid

        while read line
        do
                echo "*************************"
```

```
        memcache_process_dir=`echo $line|awk '{print $4}'`
        memcache_process_version=`$memcache_process_dir -V|awk '{print $1"_"$2}'`
        memcache_process_conf=""
        memcache_start_shell=`echo $line|awk '{$1="";$2="";$3="";print $0}'`
        memcache_start_user=`echo $line|awk '{print $1}'`
        memcache_start_pid=`echo $line|awk '{print $2}'`
        memcache_process_port=`sudo netstat -antpl|grep LISTEN|grep $memcache_start_pid|awk '{print $4}'|awk -F':'    '{print $2}'`
        memcache_time_tmp=`sudo ps -eo pid,lstart,etime|grep $memcache_start_pid|awk '{print $3,$4,$5,$6}'`
        memcache_start_time=`date -d "$memcache_time_tmp" +"%Y-%m-%d %H:%M:%S"`
        memcache_running_time=`sudo ps -eo pid,lstart,etime|grep $memcache_start_pid|awk '{print $NF}'`
        memcache_start_shell_args=`echo $line|awk '{$1="";$2="";$3="";$4="";print $0}'`
        memcache_process_comm=""


                echo " app_ipaddr             : $ip_addr"
                echo " collect_time         : `date +%Y-%m-%d_%H:%M:%S`"
                echo " app_name               : memcache"
                echo " app_home               : $memcache_process_dir"
                echo " app_version          : $memcache_process_version"
                echo " app_conf_file       : $memcache_process_conf"
                echo " app_port               : $memcache_process_port"
                echo " app_start_shell    : $memcache_start_shell"
                echo " app_sotp_shell     : kill -9 $memcache_start_pid"
                echo " app_start_user     : $memcache_start_user"
                echo " app_start_pid      : $memcache_start_pid"
                echo " app_start_time     : $memcache_start_time"
                echo " app_running_time : $memcache_running_time"
                echo " app_start_args     : $memcache_start_shell_args"
                echo " app_notes              : $memcache_process_comm"

        done<$memcache_process_info_tmp
        rm -f    $memcache_process_info_tmp $check_dir/memcache_version.txt
else
        echo "**************************"
fi

}

#### end memcache_cmdb_info
```

```
#### start rabbitmq_cmdb_info
rabbitmq_cmdb_info(){

local rabbitmq_process_info_tmp=$check_dir/rabbitmq_process_info_tmp.txt
local rabbitmq_process_status_info=$check_dir/rabbitmq_process_status.txt
local rabbitmq_process_num=`sudo ps -fe|grep rabbitmq|grep -v grep|grep -v $0|wc -l`

if [ $rabbitmq_process_num -gt 0 ];then
    sudo ps -fe|grep -v grep|grep -v $0|grep rabbitmq|awk '{$4="";$5="";$6="";$7="";print $0}' >$rabbitmq_process_info_tmp
    #root 16920 1 /usr/erlang/lib/erlang/erts-7.3/bin/beam.smp -W w -A 64 -P 1048576 -t 5000000 -stbt db -K true -- -root /usr/erlang/lib/erlang

    while read line
    do
        echo "**************************"
    rabbitmq_process_dir=`echo $line|awk '{print $4}'|awk -F'/bin' '{print $1}'`
    rabbitmq_process_log=`echo $line|awk -F'-rabbit error_logger ' '{print $2}'|awk '{print $1}'|awk -F'"' '{print $2}'`
        #rabbitmqctl status>$rabbitmq_process_status_info
        #rabbitmq_process_version=`cat $rabbitmq_process_status_info|grep 'rabbit,"RabbitMQ"'|sed -e 's/{//' -e 's/}//' -e 's/"//g'|awk -F, '{print $(NF-1)}'`
    rabbitmq_process_version=`sudo cat $rabbitmq_process_log|grep "Starting RabbitMQ"|uniq |awk '{print $2"_"$3}'`
        rabbitmq_process_conf_tmp="/etc/rabbitmq/rabbitmq.config $rabbitmq_process_dir/etc/rabbitmq/rabbitmq.config"
        for rc in $rabbitmq_process_conf_tmp
        do
            if [ -e $rc ];then
                rabbitmq_process_conf=$rc
                break
            else
                rabbitmq_process_conf="No_configuration_file_rabbitmq.config"
            fi
        done
    rabbitmq_start_shell="rabbitmq-server -detached"
    rabbitmq_stop_shell="rabbitmqctl stop"
    rabbitmq_start_user=`echo $line|awk '{print $1}'`
    rabbitmq_start_pid=`echo $line|awk '{print $2}'`
    rabbitmq_process_port=`sudo netstat -antpl|grep LISTEN|grep $rabbitmq_start_pid|awk '{print $4}'|awk -F':' '{print $NF}'|xargs echo`
    rabbitmq_time_tmp=`sudo ps -eo pid,lstart,etime|grep $rabbitmq_start_pid|awk '{print $3,$4,$5,$6}'`
    rabbitmq_start_time=`date -d "$rabbitmq_time_tmp" +"%Y-%m-%d %H:%M:%S"`
```

```
	rabbitmq_running_time=`sudo ps -eo pid,lstart,etime|grep $rabbitmq_start_pid|awk '{print $NF}'`
	rabbitmq_start_shell_args=""
	rabbitmq_process_comm=`sudo cat $rabbitmq_process_log|grep "Starting RabbitMQ"|uniq |awk '{print $5"_"$6}'`


		echo " app_ipaddr             : $ip_addr"
		echo " collect_time         : `date +%Y-%m-%d_%H:%M:%S`"
		echo " app_name               : rabbitmq"
		echo " app_home               : $rabbitmq_process_dir"
		echo " app_version          : $rabbitmq_process_version"
		echo " app_conf_file       : $rabbitmq_process_conf"
		echo " app_port               : $rabbitmq_process_port"
		echo " app_start_shell    : $rabbitmq_start_shell"
		echo " app_sotp_shell     : $rabbitmq_stop_shell"
		echo " app_start_user     : $rabbitmq_start_user"
		echo " app_start_pid      : $rabbitmq_start_pid"
		echo " app_start_time     : $rabbitmq_start_time"
		echo " app_running_time : $rabbitmq_running_time"
		echo " app_start_args     : $rabbitmq_start_shell_args"
		echo " app_notes              : $rabbitmq_process_comm"

	done<$rabbitmq_process_info_tmp
	rm -f    $rabbitmq_process_info_tmp
else
	echo "**************************"
fi

}

#### end rabbitmq_cmdb_info


#### start activemq_cmdb_info
activemq_cmdb_info(){

local activemq_process_info_tmp=$check_dir/activemq_process_info_tmp.txt
local activemq_process_status_info=$check_dir/activemq_process_status.txt
local activemq_process_num=`sudo ps -fe|grep activemq |grep -v grep|grep -v $0|wc -l`

if [ $activemq_process_num -gt 0 ];then
	sudo ps -fe|grep -v grep|grep -v $0|grep activemq|awk '{$4="";$5="";$6="";$7="";print $0}' >$activemq_process_info_tmp
```

```
#bestsel+ 2246 1 /usr/bin/java -Xms64M -Xmx1G -Djava.util.logging.config.file=logging.properties -Djava.security.auth.login.config=/home/bestseller/guol/apacheactivemq-5.15.4//conf/login.config

while read line
do
    echo "**************************"
activemq_process_dir=`echo $line|awk -F'Dactivemq.home=' '{print $2}'|awk '{print $1}'`
sudo $activemq_process_dir/bin/activemq --version >$activemq_process_status_info
activemq_process_version=`cat $activemq_process_status_info|grep "ActiveMQ"|awk '{print $1"_"$2}'`
activemq_process_conf_dir=`cat $activemq_process_status_info|grep ACTIVEMQ_CONF|awk -F: '{print $2}'`
activemq_process_conf="$activemq_process_conf_dir/activemq.xml"
activemq_start_shell="$activemq_process_dir/bin/activemq start"
activemq_stop_shell="$activemq_process_dir/bin/activemq stop"
activemq_start_user=`echo $line|awk '{print $1}'`
activemq_start_pid=`echo $line|awk '{print $2}'`
activemq_process_port=`sudo netstat -antpl|grep LISTEN|grep $activemq_start_pid|awk '{print $4}'|awk -F'[:]+' '{print $2}'|xargs echo`
activemq_time_tmp=`sudo ps -eo pid,lstart,etime|grep $activemq_start_pid|awk '{print $3,$4,$5,$6}'`
activemq_start_time=`date -d "$activemq_time_tmp" +"%Y-%m-%d %H:%M:%S"`
activemq_running_time=`sudo ps -eo pid,lstart,etime|grep $activemq_start_pid|awk '{print $NF}'`
activemq_start_shell_args=`echo $line|awk '{print $4,$5,$6}'`
activemq_process_comm=""


    echo " app_ipaddr          : $ip_addr"
    echo " collect_time        : `date +%Y-%m-%d_%H:%M:%S`"
    echo " app_name            : activemq"
    echo " app_home            : $activemq_process_dir"
    echo " app_version         : $activemq_process_version"
    echo " app_conf_file       : $activemq_process_conf"
    echo " app_port            : $activemq_process_port"
    echo " app_start_shell     : $activemq_start_shell"
    echo " app_sotp_shell      : $activemq_stop_shell"
    echo " app_start_user      : $activemq_start_user"
    echo " app_start_pid       : $activemq_start_pid"
    echo " app_start_time      : $activemq_start_time"
    echo " app_running_time    : $activemq_running_time"
    echo " app_start_args      : $activemq_start_shell_args"
```

```
            echo " app_notes                : $activemq_process_comm"

        done<$activemq_process_info_tmp
        rm -f    $activemq_process_info_tmp $activemq_process_status_info
else
        echo "**************************"
fi

}

#### end activemq_cmdb_info


#### start jboss_cmdb_info
jboss_cmdb_info(){

local jboss_process_info_tmp=$check_dir/jboss_process_info_tmp.txt
local jboss_process_status_info=$check_dir/jboss_process_status.txt
local jboss_process_num=`sudo ps -fe|grep jboss |grep -v grep|grep -v $0|wc -l`

if [ $jboss_process_num -gt 0 ];then
        sudo ps -fe|grep -v grep|grep -v $0|grep jboss|awk '{$4="";$5="";$6="";$7="";print $0}' >$jboss_process_info_tmp
        #bestsel+ 3716 3655 /usr/jdk1.7.0_80/bin/java -D[Standalone] -server -XX:+UseCompressedOops -XX:+TieredCompilation -Xms64m -Xmx512m -XX:MaxPermSize=256m

        while read line
        do
            echo "***************************"
        jboss_process_dir=`echo $line|awk '{print $NF}'|awk -F= '{print $2}'`
        $jboss_process_dir/bin/standalone.sh --version >$jboss_process_status_info
        jboss_process_version=`cat $jboss_process_status_info|grep "JBoss AS"|awk '{print $1"_"$2"_"$3}'`
        jboss_process_conf="$jboss_process_dir/standalone/configuration/standalone.xml"
        jboss_start_shell="nohup $jboss_process_dir/bin/standalone.sh & or nohup $jboss_process_dir/bin/run.sh -b $ip_addr &"
        jboss_start_user=`echo $line|awk '{print $1}'`
        jboss_start_pid=`echo $line|awk '{print $2}'`
        jboss_stop_shell="kill -9 $jboss_start_pid"
        jboss_process_port=`sudo netstat -antpl|grep LISTEN|grep $jboss_start_pid|awk '{print $4}'|awk -F'[:]+'    '{print $2}'|xargs echo`
        jboss_time_tmp=`sudo ps -eo pid,lstart,etime|grep $jboss_start_pid|awk '{print $3,$4,$5,$6}'`
        jboss_start_time=`date -d "$jboss_time_tmp" +"%Y-%m-%d %H:%M:%S"`
```

```
	jboss_running_time=`sudo ps -eo pid,lstart,etime|grep $jboss_start_pid|awk '{print $NF}'`
	jboss_start_shell_args=`cat $jboss_process_status_info|grep "JAVA_OPTS"|awk '{$1="";print $0}'`
	jboss_process_comm=`cat $jboss_process_status_info|grep java|grep -v JAVA_OPTS|xargs echo`


		echo " app_ipaddr             : $ip_addr"
		echo " collect_time         : `date +%Y-%m-%d_%H:%M:%S`"
		echo " app_name               : jboss"
		echo " app_home               : $jboss_process_dir"
		echo " app_version          : $jboss_process_version"
		echo " app_conf_file       : $jboss_process_conf"
		echo " app_port               : $jboss_process_port"
		echo " app_start_shell    : $jboss_start_shell"
		echo " app_sotp_shell     : $jboss_stop_shell"
		echo " app_start_user     : $jboss_start_user"
		echo " app_start_pid      : $jboss_start_pid"
		echo " app_start_time     : $jboss_start_time"
		echo " app_running_time : $jboss_running_time"
		echo " app_start_args     : $jboss_start_shell_args"
		echo " app_notes              : $jboss_process_comm"

	done<$jboss_process_info_tmp
	rm -f    $jboss_process_info_tmp $jboss_process_status_info
else
	echo "**************************"
fi

}

#### end jboss_cmdb_info

#### start keepalive_cmdb_info
keepalive_cmdb_info(){

local keepalive_process_info_tmp=$check_dir/keepalive_process_info_tmp.txt
local keepalive_version_info=$check_dir/keepalive_version_info.txt
local keepalive_process_num=`sudo ps -fe|grep keepalived|grep -v grep|grep -v $0|wc -l`

if [ $keepalive_process_num -gt 0 ];then
	sudo ps -fe|grep -v grep|grep -v $0|grep keepalived|head -n 1|awk '{$4="";$5="";$6="";$7="";print $0}' >$keepalive_process_info_tmp
	#root         31748         1    /usr/sbin/keepalived
```

```
while read line
do
        echo "*************************"
keepalive_process_dir=`echo $line|awk '{print $NF}'`
keepalived -v    2>$keepalive_version_info
keepalive_process_version=`cat $keepalive_version_info|awk '{print $1"_"$2}'`
keepalive_process_conf="/etc/keepalived/keepalived.conf"
keepalive_start_shell="/etc/init.d/keepalived start"
keepalive_stop_shell="/etc/init.d/keepalived stop"
keepalive_start_user=`echo $line|awk '{print $1}'`
keepalive_start_pid=`echo $line|awk '{print $2}'`
keepalive_process_port=""
keepalive_time_tmp=`sudo ps -eo pid,lstart,etime|grep $keepalive_start_pid|awk '{print $3,$4,$5,$6}'`
keepalive_start_time=`date -d "$keepalive_time_tmp" +"%Y-%m-%d %H:%M:%S"`
keepalive_running_time=`sudo ps -eo pid,lstart,etime|grep $keepalive_start_pid|awk '{print $NF}'`
keepalive_start_shell_args=""
keepalive_role=`cat $keepalive_process_conf|grep -v ^#|sed '/^$/d'|xargs echo|awk -F'state' '{print $2}'|awk '{print $1}'`
keepalive_vip=`cat $keepalive_process_conf |grep -v ^#|sed '/^$/d'|xargs echo|awk -F'virtual_ipaddress' '{print $2}'|awk -F'}' '{print $1}'|awk -F'{' '{print $2}'|awk '{print $1}'`
keepalive_process_comm="(role:$keepalive_role)(vip:$keepalive_vip)"


        echo " app_ipaddr            : $ip_addr"
        echo " collect_time        : `date +%Y-%m-%d_%H:%M:%S`"
        echo " app_name              : keepalive"
        echo " app_home              : $keepalive_process_dir"
        echo " app_version         : $keepalive_process_version"
        echo " app_conf_file       : $keepalive_process_conf"
        echo " app_port              : $keepalive_process_port"
        echo " app_start_shell    : $keepalive_start_shell"
        echo " app_sotp_shell     : $keepalive_stop_shell"
        echo " app_start_user     : $keepalive_start_user"
        echo " app_start_pid      : $keepalive_start_pid"
        echo " app_start_time     : $keepalive_start_time"
        echo " app_running_time : $keepalive_running_time"
        echo " app_start_args     : $keepalive_start_shell_args"
        echo " app_notes             : $keepalive_process_comm"

done<$keepalive_process_info_tmp
rm -f    $keepalive_process_info_tmp $keepalive_version_info
```

```
else
        echo "*************************"
fi

}

#### end keepalive_cmdb_info



#### help page
help_page(){
echo -e "
Usage       : `basename $0` [ app_name | all ]
app_name :
        nginx           tomcat          weblogic  apache
        vsftp       nfs         docker          zabbix_agent
        rabbitmq activemq memcache      jboss
        redis       mysql           oracle          mongodb
        keepalive
"
}

if [ $# -lt 1 ];then
     help_page
     exit    1

fi
#### end help page

#### collect start :
collect_app=$1

case $collect_app in
   nginx)
        nginx_cmdb_info
        ;;
   tomcat)
        tomcat_cmdb_info
        ;;
   redis)
        redis_cmdb_info
        ;;
   apache)
```

```
        http_cmdb_info
        ;;
    mysql)
        mysql_cmdb_info
        ;;
    zabbix_agent)
        zabbix_agent_cmdb_info
        ;;
    docker)
        docker_cmdb_info
        ;;
    vsftp)
        vsftp_cmdb_info
        ;;
    nfs)
        nfs_cmdb_info
        ;;
    oracle)
        oracle_cmdb_info
        ;;
    mongodb)
        mongo_cmdb_info
        ;;
weblogic)
        weblogic_cmdb_info
        ;;
memcache)
        memcache_cmdb_info
        ;;
rabbitmq)
        rabbitmq_cmdb_info
        ;;
activemq)
        activemq_cmdb_info
        ;;
jboss)
        jboss_cmdb_info
        ;;
keepalive)
        keepalive_cmdb_info
        ;;
    all)
        nginx_cmdb_info
        tomcat_cmdb_info
```

```
        redis_cmdb_info
        memcache_cmdb_info
        http_cmdb_info
        mysql_cmdb_info
        zabbix_agent_cmdb_info
        docker_cmdb_info
        vsftp_cmdb_info
        nfs_cmdb_info
        oracle_cmdb_info
        mongo_cmdb_info
        weblogic_cmdb_info
        rabbitmq_cmdb_info
        activemq_cmdb_info
        jboss_cmdb_info
        keepalive_cmdb_info
        ;;
    *)
      #echo "                                                    Usage: `basename $0`
[nginx|tomcat|redis|apache|zabbix_agent|docker|vsftp|mysql|oracle and all]"
        help_page
        exit 1

esac



#### end shell


oracle@GuolDB:[/home/oracle/guol/cmdb/remote]
```

收集脚本测试效果：

```
oracle@GuolDB:[/home/oracle/guol/cmdb/remote] sh app_cmdb_collect.sh

Usage    : app_cmdb_collect.sh [ app_name | all ]
app_name :
        nginx           tomcat          weblogic        apache
        vsftp           nfs             docker          zabbix_agent
        rabbitmq        activemq        memcache        jboss
        redis           mysql           oracle          mongodb
        keepalive

oracle@GuolDB:[/home/oracle/guol/cmdb/remote] sh app_cmdb_collect.sh oracle
**************************
 app_ipaddr       : 10.150.27.17
 collect_time     : 2018-08-24_15:53:12
 app_name         : oracle
 app_home         : /u01/app/oracle/product/11.2.0/db_1
 app_version      : 11.2.0.4.0
 app_conf_file    : /u01/app/oracle/product/11.2.0/db_1/dbs/spfileguoldb.ora
 app_port         : 1521
 app_start_shell  : sqlplus : startup
 app_sotp_shell   : sqlplus : shutdown immediate
 app_start_user   : oracle
 app_start_pid    : ora_pmon_guoldb(13902)
 app_start_time   : 2018-01-29 14:27:54
 app_running_time : 207-01:25:18
 app_start_args   :
 app_notes        :  kernel_args(kernel.shmall = 2097152 kernel.shmmax = 4127393792 kernel.shmmni = 4096)
oracle@GuolDB:[/home/oracle/guol/cmdb/remote]
```