```
================================================================================
sadmlib_std_demo.sh v3.6 - Library v2.52
User Var. that affect SADMIN behavior  Description                    This System Result
================================================================================
[001] $SADM_VER                    Script Version Number            : 3.6
[002] $SADM_PN                     Script Name                      : sadmlib_std_demo.sh
[003] $SADM_INST                   Script Name Without Extension    : sadmlib_std_demo
[004] $SADM_USERNAME               Current User Name                : root
[005] $SADM_TPID                   Current Process ID               : 23907
[006] $SADM_MULTIPLE_EXEC          Allow running multiple copy      : Y
[007] $SADM_USE_RCH                Gen. entry in .rch file          : N
[008] $SADM_LOG_TYPE               Set Output to [S]creen [L]og [B]oth : B
[009] $SADM_LOG_APPEND             Append Log or Create New One     : N
[010] $SADM_LOG_HEADER             Generate Header in log           : N
[011] $SADM_LOG_FOOTER             Generate or not Footer in log    : N
[012] $SADM_EXIT_CODE              Script Exit Return Code          : 0
[013] $SADM_ALERT_TYPE             0=No 1=OnError 2=OnSuccess 3=Allways: 1
[014] $SADM_ALERT_GROUP            Alert Group (alert_group.cfg)    : default
[015] $SADM_MAIL_ADDR              SysAdmin Email                   : batman@batcave.com


================================================================================
sadmlib_std_demo.sh v3.6 - Library v2.52
Calling Functions                  Description                      This System Result
================================================================================
[001] $(sadm_get_release)          SADMIN Release Number (XX.XX)    : 0.94.0
[002] $(sadm_get_ostype)           OS Type (Uppercase,LINUX,AIX,DARWIN): LINUX
[003] $(sadm_get_osversion)        Return O/S Version (Ex: 7.2, 6.5) : 7.5.1804
[004] $(sadm_get_osmajorversion)   Return O/S Major Version (Ex 7, 6) : 7
[005] $(sadm_get_osminorversion)   Return O/S Minor Version (Ex 2, 3) : 5
[006] $(sadm_get_osname)           O/S Name (REDHAT,CENTOS,UBUNTU,...) : CENTOS
[007] $(sadm_get_oscodename)       O/S Project Code Name            : Core
[008] $(sadm_get_kernel_version)   O/S Running Kernel Version       : 3.10.0-862.14.4.el7.x86_64
[009] $(sadm_get_kernel_bitmode)   O/S Kernel Bit Mode (32 or 64)   : 64
[010] $(sadm_get_hostname)         Current Host Name                : holmes
[011] $(sadm_get_host_ip)          Current Host IP Address          : 192.168.1.12
[012] $(sadm_get_domainname)       Current Host Domain Name         : maison.ca
[013] $(sadm_get_fqdn)             Fully Qualified Domain Host Name  : holmes.maison.ca
[014] $(sadm_get_epoch_time)       Get Current Epoch Time           : 1543850813
[015] $(sadm_epoch_to_date 1543850813) Convert epoch time to date   : 2018.12.3 10:26:53
      WDATE='2018.12.3 10:26:53'
[016] $(sadm_date_to_epoch "$WDATE")  Convert Date to epoch time    : 1543850813
      DATE1='2016.01.30 10:00:44'
      DATE2='2016.01.30 10:00:03'
[017] $(sadm_elapse "$DATE1" "$DATE2") Elapse Time between two timestamps : 00:00:41


================================================================================
sadmlib_std_demo.sh v3.6 - Library v2.52
SADMIN Bash Shell Specific Functions  Description                    This System Result
```

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=====================================================================================
[001] $(sadm_server_type)           Host is Physical or Virtual (P/V)   : P
[002] $(sadm_server_model)          Server model (Ex: HP ProLiant DL580): OptiPlex 7020
[003] $(sadm_server_serial)         Server serial number (Ex: 4S7GYF1)  : BJSV942
[004] $(sadm_server_memory)         Server total memory in MB (Ex: 3790): 7730
[005] $(sadm_server_hardware_bitmode) CPU Hardware capable of 32/64 bits : 64
[006] $(sadm_server_nb_logical_cpu) Number of Logical CPU on server     : 4
[007] $(sadm_server_nb_cpu)         Number of Physical CPU on server    : 1
[008] $(sadm_server_nb_socket)      Number of socket on server          : 1
[009] $(sadm_server_core_per_socket) Number of Core per Socket          : 4
[010] $(sadm_server_thread_per_core) Number of Thread per Core          : 1
[011] $(sadm_server_cpu_speed)      Server CPU Speed in MHz             : 3452
[012] $(sadm_server_disks)          Disks list(MB) (DISKNAME|SIZE,...)  : sda|512000,sdb|1024000
[013] $(sadm_server_vg)             VG list(MB) (VGNAME|SIZE|USED|FREE) : rootvg|476426|381266|95160
[014] $(sadm_server_ips)            Network IP(Name|IP|Netmask|MAC)     : em1|192.168.1.12|255.255.255.0|98:90:96:b7:64:a2,
                                                                          em1:1|192.168.1.20|255.255.255.0|98:90:96:b7:64:a2
[015] sadm_toupper string           Return string uppercase             : STRING
[016] sadm_tolower STRING           Return string lowercase             : string


=====================================================================================
sadmlib_std_demo.sh v3.6 - Library v2.52
Overview of sadm_start and sadm_stop function
=====================================================================================
Example of utilisation:

 # sadm_start                                  # Init Env Dir & RC/Log File
 # if [ $? -ne 0 ] ; then sadm_stop 1 ; exit 1 ;fi   # Exit if Problem
 # main_process                                # Main Process
 # SADM_EXIT_CODE=$?                           # Save Error Code
 # sadm_stop $SADM_EXIT_CODE                   # Close SADM Tool & Upd RCH
 # exit $SADM_EXIT_CODE                        # Exit With Global Err (0/1)

sadm_start
    Start and initialize sadm environment - Accept no Parameter
    If SADMIN root directory is not /sadmin, make sure the SADMIN Env. variable is set to proper dir.
    Please call this function when your script is starting
    What this function will do for us :
        1) Make sure all directories & sub-directories exist and have proper permissions.
        2) Make sure log file exist with proper permission (/sadmin/log/holmes_sadmlib_std_demo.log)
        3) Make sure Return Code History (.rch) exist and have the right permission
        4) If PID file exist, show error message and abort.
           Unless user allow more than one copy to run simultaniously (SADM_MULTIPLE_EXEC='Y')
        5) Add line in the [R]eturn [C]ode [H]istory file stating script is started (Code 2)
        6) Write HostName - Script name and version - O/S Name and version to the Log file (SADM_LOG)

sadm_stop
    Accept one parameter - Either 0 (Successfull) or non-zero (Error Encountered)
    Please call this function just before your script end
    What this function do.
```

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            1) If Exit Code is not zero, change it to 1.
            2) Get Actual Time and Calculate the Execution Time.
            3) Writing the Script Footer in the Log (Script Return code, Execution Time, ...)
            4) Update the RCH File (Start/End/Elapse Time and the Result Code)
            5) Trim The RCH File Based on User choice in sadmin.cfg
            6) Write to Log the user mail alerting type choose by user (sadmin.cfg)
            7) Trim the Log based on user selection in sadmin.cfg
            8) Send Email to sysadmin (if user selected that option in sadmin.cfg)
            9) Delete the PID File of the script (SADM_PID_FILE)
           10) Delete the User 3 TMP Files (SADM_TMP_FILE1, SADM_TMP_FILE2, SADM_TMP_FILE3)
```

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==================================================================================================
sadmlib_std_demo.sh v3.6 - Library v2.52
SADMIN CONFIG FILE VARIABLES          Description                       This System Result
==================================================================================================
[001] $SADM_SERVER                    SADMIN SERVER NAME (FQDN)         : holmes.maison.ca
[002] $SADM_HOST_TYPE                  SADMIN [C]lient or [S]erver       : S
[003] $SADM_MAIL_ADDR                  SADMIN Administrator Default Email : batman@batcave.com
[004] $SADM_ALERT_TYPE                 0=NoMail 1=OnError 2=OnSuccess 3=All: 1
[005] $SADM_ALERT_GROUP                Default Alert Group               : default
[006] $SADM_CIE_NAME                   Your Company Name                 : Your Cie Name
[007] $SADM_DOMAIN                     Server Creation Default Domain    : maison.ca
[008] $SADM_USER                       SADMIN User Name                  : sadmin
[009] $SADM_GROUP                      SADMIN Group Name                 : sadmin
[010] $SADM_WWW_USER                   User that Run Apache Web Server    : apache
[011] $SADM_WWW_GROUP                  Group that Run Apache Web Server   : apache
[012] $SADM_DBNAME                     SADMIN Database Name              : sadmin
[013] $SADM_DBHOST                     SADMIN Database Host              : sadmin.maison.ca
[014] $SADM_DBPORT                     SADMIN Database Host TCP Port     : 3306
[015] $SADM_RW_DBUSER                  SADMIN Database Read/Write User   : sadmin
[016] $SADM_RW_DBPWD                   SADMIN Database Read/Write User Pwd : Blabla17!
[017] $SADM_RO_DBUSER                  SADMIN Database Read Only User    : squery
[018] $SADM_RO_DBPWD                   SADMIN Database Read Only User Pwd : Bloblo18!
[019] $SADM_RRDTOOL                    RRDTOOL Binary Location           : /bin/rrdtool
[020] $SADM_SSH_PORT                   SSH Port to communicate with client : 32
[021] $SADM_NMON_KEEPDAYS              Nb. of days to keep nmon perf. file : 60
[022] $SADM_RCH_KEEPDAYS               Nb. days to keep unmodified rch file: 60
[023] $SADM_LOG_KEEPDAYS               Nb. days to keep unmodified log file: 60
[024] $SADM_MAX_RCLINE                 Trim rch file to this max. of lines : 125
[025] $SADM_MAX_LOGLINE                Trim log to this maximum of lines : 2000
[026] $SADM_NETWORK1                   Network/Netmask 1 inv. IP/Name/Mac  : 192.168.1.0/24
[027] $SADM_NETWORK2                   Network/Netmask 2 inv. IP/Name/Mac  :
[028] $SADM_NETWORK3                   Network/Netmask 3 inv. IP/Name/Mac  :
[029] $SADM_NETWORK4                   Network/Netmask 4 inv. IP/Name/Mac  :
[030] $SADM_NETWORK5                   Network/Netmask 5 inv. IP/Name/Mac  :
[031] $SADM_MKSYSB_NFS_SERVER          AIX MKSYSB NFS Server IP or Name    : batnfs.maison.ca
[032] $SADM_MKSYSB_NFS_MOUNT_POINT     AIX MKSYSB NFS Mount Point        : /volume1/mksysb
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[033] $SADM_MKSYSB_BACKUP_TO_KEEP      AIX MKSYSB NFS Backup - Nb. to keep : 2
[034] $SADM_REAR_NFS_SERVER            Rear NFS Server IP or Name          : batnas.maison.ca
[035] $SADM_REAR_NFS_MOUNT_POINT       Rear NFS Mount Point                : /volume1/Linux_DR
[036] $SADM_REAR_BACKUP_TO_KEEP        Rear NFS Backup - Nb. to keep       : 3
[037] $SADM_BACKUP_NFS_SERVER          NFS Backup IP or Server Name        : batnas.maison.ca
[038] $SADM_BACKUP_NFS_MOUNT_POINT     NFS Backup Mount Point              : /volume1/backup_linux
[039] $SADM_DAILY_BACKUP_TO_KEEP       Nb. of Daily Backup to keep         : 3
[040] $SADM_WEEKLY_BACKUP_TO_KEEP      Nb. of Weekly Backup to keep        : 3
[041] $SADM_MONTHLY_BACKUP_TO_KEEP     Nb. of Monthly Backup to keep       : 3
[042] $SADM_YEARLY_BACKUP_TO_KEEP      Nb. of Yearly Backup to keep        : 2
[043] $SADM_WEEKLY_BACKUP_DAY          Weekly Backup Day (1=Mon,...,7=Sun) : 5
[044] $SADM_MONTHLY_BACKUP_DATE        Monthly Backup Date (1-28)          : 1
[045] $SADM_YEARLY_BACKUP_MONTH        Month to take Yearly Backup (1-12)  : 12
[046] $SADM_YEARLY_BACKUP_DATE         Date to do Yearly Backup(1-DayInMth): 31


===========================================================================================
sadmlib_std_demo.sh v3.6 - Library v2.52
Client Directories Var. Avail.        Description                    This System Result
===========================================================================================
[001] $SADM_BASE_DIR                   SADMIN Root Directory          : /sadmin
[002] $SADM_BIN_DIR                    SADMIN Scripts Directory       : /sadmin/bin
[003] $SADM_TMP_DIR                    SADMIN Temporary file(s) Directory : /sadmin/tmp
[004] $SADM_LIB_DIR                    SADMIN Shell & Python Library Dir. : /sadmin/lib
[005] $SADM_LOG_DIR                    SADMIN Script Log Directory    : /sadmin/log
[006] $SADM_CFG_DIR                    SADMIN Configuration Directory : /sadmin/cfg
[007] $SADM_SYS_DIR                    Server Startup/Shutdown Script Dir. : /sadmin/sys
[008] $SADM_DOC_DIR                    SADMIN Documentation Directory : /sadmin/doc
[009] $SADM_PKG_DIR                    SADMIN Packages Directory      : /sadmin/pkg
[010] $SADM_DAT_DIR                    Server Data Directory          : /sadmin/dat
[011] $SADM_NMON_DIR                   Server NMON - Data Collected Dir.  : /sadmin/dat/nmon
[012] $SADM_DR_DIR                     Server Disaster Recovery Info Dir. : /sadmin/dat/dr
[013] $SADM_RCH_DIR                    Server Return Code History Dir.    : /sadmin/dat/rch
[014] $SADM_NET_DIR                    Server Network Info Dir.       : /sadmin/dat/net
[015] $SADM_RPT_DIR                    SYStem MONitor Report Directory    : /sadmin/dat/rpt
[016] $SADM_DBB_DIR                    Database Backup Directory      : /sadmin/dat/dbb
[017] $SADM_SETUP_DIR                  SADMIN Installation/Update Dir.    : /sadmin/setup
[018] $SADM_USR_DIR                    User/System specific directory     : /sadmin/usr
[019] $SADM_UBIN_DIR                   User/System specific bin/script Dir.: /sadmin/usr/bin
[020] $SADM_ULIB_DIR                   User/System specific library Dir.  : /sadmin/usr/lib
[021] $SADM_UDOC_DIR                   User/System specific documentation : /sadmin/usr/doc
[022] $SADM_UMON_DIR                   User/System specific SysMon Scripts : /sadmin/usr/mon


===========================================================================================
sadmlib_std_demo.sh v3.6 - Library v2.52
Server Directories Var. Avail.        Description                    This System Result
===========================================================================================
[001] $SADM_WWW_DIR                    SADMIN Web Site Root Directory : /sadmin/www
```

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[002] $SADM_WWW_DOC_DIR              SADMIN Web Documentation Dir.      : /sadmin/www/doc
[003] $SADM_WWW_DAT_DIR              SADMIN Web Site Systems Data Dir.  : /sadmin/www/dat
[004] $SADM_WWW_LIB_DIR              SADMIN Web Site PHP Library Dir.   : /sadmin/www/lib
[005] $SADM_WWW_TMP_DIR              SADMIN Web Temp Working Directory  : /sadmin/www/tmp
[006] $SADM_WWW_PERF_DIR             SADMIN Web Performance Graph Dir.  : /sadmin/www/tmp/perf


===========================================================================================
sadmlib_std_demo.sh v3.6 - Library v2.52
SADMIN FILES VARIABLES AVAIL.       Description                        This System Result
===========================================================================================
[001] $SADM_PID_FILE                 Current script PID file            : /sadmin/tmp/sadmlib_std_demo.pid
[002] $SADM_CFG_FILE                 SADMIN Configuration File          : /sadmin/cfg/sadmin.cfg
[003] $SADM_CFG_HIDDEN               SADMIN Initial Configuration File  : /sadmin/cfg/.sadmin.cfg
[004] $SADM_ALERT_FILE               SADMIN Alert Group File            : /sadmin/cfg/alert_group.cfg
[005] $SADM_ALERT_INIT               SADMIN Initial Alert Group File    : /sadmin/cfg/.alert_group.cfg
[006] $SADM_SLACK_FILE               SADMIN Slack Channel WebHook File  : /sadmin/cfg/alert_slack.cfg
[007] $SADM_SLACK_INIT               SADMIN Initial Slack WebHook File  : /sadmin/cfg/.alert_slack.cfg
[008] $SADM_ALERT_HIST               SADMIN Alert History File          : /sadmin/cfg/alert_history.txt
[009] $SADM_ALERT_HINI               SADMIN Initial Alert History File  : /sadmin/cfg/.alert_history.txt
[010] $SADM_ALERT_SEQ                SADMIN Alert Reference Number File : /sadmin/cfg/alert_history.seq
[011] $SADM_TMP_FILE1                User usable Temp Work File 1       : /sadmin/tmp/sadmlib_std_demo_1.23907
[012] $SADM_TMP_FILE2                User usable Temp Work File 2       : /sadmin/tmp/sadmlib_std_demo_2.23907
[013] $SADM_TMP_FILE3                User usable Temp Work File 3       : /sadmin/tmp/sadmlib_std_demo_3.23907
[014] $SADM_LOG                      Script Log File                    : /sadmin/log/holmes_sadmlib_std_demo.log
[015] $SADM_RCHLOG                   Script Return Code History File    : /sadmin/dat/rch/holmes_sadmlib_std_demo.rch
[016] $DBPASSFILE                    SADMIN Database User Password File : /sadmin/cfg/.dbpass
[017] $SADM_RPT_FILE                 SYStem MONitor Report File         : /sadmin/dat/rpt/holmes.rpt


===========================================================================================
sadmlib_std_demo.sh v3.6 - Library v2.52
COMMAND PATH USE BY SADMIN STD. LIBR.  Description                     This System Result
===========================================================================================
[001] $SADM_LSB_RELEASE              Cmd. 'lsb_release', Get O/S Version : /bin/lsb_release
[002] $SADM_DMIDECODE                Cmd. 'dmidecode', Get model & type  : /sbin/dmidecode
[003] $SADM_FACTER                   Cmd. 'facter', Get System Info      : /bin/facter
[004] $SADM_BC                       Cmd. 'bc', Do some Math.            : /bin/bc
[005] $SADM_FDISK                    Cmd. 'fdisk', Get Partition Info    : /sbin/fdisk
[006] $SADM_WHICH                    Cmd. 'which', Get Command location  : /bin/which
[007] $SADM_PERL                     Cmd. 'perl', epoch time Calc.       : /bin/perl
[008] $SADM_MAIL                     Cmd. 'mail', Send SysAdmin Email    : /bin/mail
[009] $SADM_MUTT                     Cmd. 'mutt', Used to Send Email     : /bin/mutt
[010] $SADM_CURL                     Used to send alert to Slack         : /bin/curl
[011] $SADM_LSCPU                    Cmd. 'lscpu', Socket & thread info  : /bin/lscpu
[012] $SADM_NMON                     Cmd. 'nmon', Collect Perf Statistic : /bin/nmon
[013] $SADM_PARTED                   Cmd. 'parted', Get Disk Real Size   : /sbin/parted
[014] $SADM_ETHTOOL                  Cmd. 'ethtool', Get System IP Info  : /sbin/ethtool
[015] $SADM_SSH                      Cmd. 'ssh', SSH to SADMIN client    : /bin/ssh
[016] $SADM_SSH_CMD                  Cmd. 'ssh', SSH to Connect to client: /bin/ssh -qnp32
```