```
================================================================================
sadmlib_std_demo.sh v3.0 - Library v2.24
User Var. that affect SADMIN behavior  Description                     This System Result
================================================================================
[001] $SADM_VER                        Script Version Number           : .3.0.
[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              : .26171.
[006] $SADM_MULTIPLE_EXEC              Allow running multiple copy     : .N.
[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 Footer in  log         : .N.
[012] $SADM_EXIT_CODE                  Script Exit Return Code         : .0.


================================================================================
sadmlib_std_demo.sh v3.0 - Library v2.24
Calling Functions                      Description                     This System Result
================================================================================
[001] $(sadm_get_release)              SADMIN Release Number (XX.XX)   : .0.86.
[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.
[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          : .1527379048.
[015] $(sadm_epoch_to_date 1527379048) Convert epoch time to date      : .2018.05.26 19:57:28.
      WDATE='2018.05.26 19:57:28'
[016] $(sadm_date_to_epoch "$WDATE")   Convert Date to epoch time      : .1527379048.
      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.


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sadmlib_std_demo.sh v3.0 - Library v2.24
SADMIN Bash Shell Specific Functions    Description                          This System Result
================================================================================================
[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             : .3370.
[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|374999|101427.
[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,em1:2|192.168.1.68|255.255.255.0|
98:90:96:b7:64:a2,em1:3|192.168.1.13|255.255.255.0|98:90:96:b7:64:a2,em1:4|192.168.1.6|255.255.255.0|
98:90:96:b7:64:a2,em1:5|192.168.1.23|255.255.255.0|98:90:96:b7:64:a2,em1:6|192.168.1.126|255.255.255.0|
98:90:96:b7:64:a2,em1:7|192.168.1.28|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 v3.0 - Library v2.24
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)
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        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.
        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)




====================================================================================
sadmlib_std_demo.sh v3.0 - Library v2.24
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  : .duplessis.jacques@gmail.com.
[004] $SADM_MAIL_TYPE                  0=NoMail 1=OnError 3=OnSuccess 4=All: .1.
[005] $SADM_CIE_NAME                   Your Company Name                 : .Batcave.
[006] $SADM_DOMAIN                     Server Creation Default Domain    : .maison.ca.
[007] $SADM_USER                       SADMIN User Name                  : .sadmin.
[008] $SADM_GROUP                      SADMIN Group Name                 : .sadmin.
[009] $SADM_WWW_USER                   User that Run Apache Web Server    : .apache.
[010] $SADM_WWW_GROUP                  Group that Run Apache Web Server   : .apache.
[011] $SADM_DBNAME                     SADMIN Database Name              : .sadmin.
[012] $SADM_DBHOST                     SADMIN Database Host              : .sadmin.maison.ca.
[013] $SADM_DBPORT                     SADMIN Database Host TCP Port     : .3306.
[014] $SADM_RW_DBUSER                  SADMIN Database Read/Write User    : .sadmin.
[015] $SADM_RW_DBPWD                   SADMIN Database Read/Write User Pwd : .Nimdas17!.
[016] $SADM_RO_DBUSER                  SADMIN Database Read Only User     : .squery.
[017] $SADM_RO_DBPWD                   SADMIN Database Read Only User Pwd : .Query18!.
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[018] $SADM_RRDTOOL                  RRDTOOL Binary Location            : ./bin/rrdtool.
[019] $SADM_SSH_PORT                 SSH Port to communicate with client : .32.
[020] $SADM_NMON_KEEPDAYS            Nb. of days to keep nmon perf. file : .60.
[021] $SADM_RCH_KEEPDAYS             Nb. days to keep unmodified rch file: .60.
[022] $SADM_LOG_KEEPDAYS             Nb. days to keep unmodified log file: .60.
[023] $SADM_MAX_RCLINE               Trim rch file to this max. of lines : .125.
[024] $SADM_MAX_LOGLINE              Trim log to this maximum of lines   : .2000.
[025] $SADM_NETWORK1                 Network/Netmask 1 inv. IP/Name/Mac  : .192.168.1.0/24.
[026] $SADM_NETWORK2                 Network/Netmask 2 inv. IP/Name/Mac  : ..
[027] $SADM_NETWORK3                 Network/Netmask 3 inv. IP/Name/Mac  : ..
[028] $SADM_NETWORK4                 Network/Netmask 4 inv. IP/Name/Mac  : ..
[029] $SADM_NETWORK5                 Network/Netmask 5 inv. IP/Name/Mac  : ..
[030] $SADM_MKSYSB_NFS_SERVER        AIX MKSYSB NFS Server IP or Name    : .batnfs.maison.ca.
[031] $SADM_MKSYSB_NFS_MOUNT_POINT   AIX MKSYSB NFS Mount Point          : ./volume1/mksysb.
[032] $SADM_MKSYSB_BACKUP_TO_KEEP    AIX MKSYSB NFS Backup - Nb. to keep : .2.
[033] $SADM_REAR_NFS_SERVER          Rear NFS Server IP or Name          : .batnas.maison.ca.
[034] $SADM_REAR_NFS_MOUNT_POINT     Rear NFS Mount Point                : ./volume1/Linux_DR.
[035] $SADM_REAR_BACKUP_TO_KEEP      Rear NFS Backup - Nb. to keep       : .3.
[036] $SADM_BACKUP_NFS_SERVER        NFS Backup IP or Server Name        : .batnas.maison.ca.
[037] $SADM_BACKUP_NFS_MOUNT_POINT   NFS Backup Mount Point              : ./volume1/linux.
[038] $SADM_BACKUP_NFS_TO_KEEP       NFS Backup - Nb. to keep            : .3.
[039] $SADM_STORIX_NFS_SERVER        Storix NFS Server IP or Name        : .batnas.maison.ca.
[040] $SADM_STORIX_NFS_MOUNT_POINT   Storix NFS Mount Point              : ./volume1/storix.
[041] $SADM_STORIX_BACKUP_TO_KEEP    Storix NFS Backup - Nb. to Keep     : .3.


================================================================================
sadmlib_std_demo.sh v3.0 - Library v2.24
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.
```

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===============================================================================
sadmlib_std_demo.sh v3.0 - Library v2.24
Server Directories Var. Avail.      Description                    This System Result
===============================================================================
[001] $SADM_WWW_DIR                 SADMIN Web Site Root Directory : ./sadmin/www.
[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.


===============================================================================
sadmlib_std_demo.sh v3.0 - Library v2.24
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_TMP_FILE1               User usable Temp Work File 1   : ./sadmin/tmp/sadmlib_std_demo_1.26171.
[005] $SADM_TMP_FILE2               User usable Temp Work File 2   : ./sadmin/tmp/sadmlib_std_demo_2.26171.
[006] $SADM_TMP_FILE3               User usable Temp Work File 3   : ./sadmin/tmp/sadmlib_std_demo_3.26171.
[007] $SADM_LOG                     Script Log File               : ./sadmin/log/holmes_sadmlib_std_demo.log.
[008] $SADM_RCHLOG                  Script Return Code History File : ./sadmin/dat/rch/
holmes_sadmlib_std_demo.rch.
[009] $DBPASSFILE                   SADMIN Database User Password File : ./sadmin/cfg/.dbpass.
[010] $SADM_RPT_FILE                SYStem MONitor Report File     : ./sadmin/dat/rpt/holmes.rpt.


===============================================================================
sadmlib_std_demo.sh v3.0 - Library v2.24
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_LSCPU                   Cmd. 'lscpu', Socket & thread info : ./bin/lscpu.
[010] $SADM_NMON                    Cmd. 'nmon', Collect Perf Statistic : ./bin/nmon.
[011] $SADM_PARTED                  Cmd. 'parted', Get Disk Real Size : ./sbin/parted.
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[012] $SADM_ETHTOOL                    Cmd. 'ethtool', Get System IP Info  : ./sbin/ethtool.
[013] $SADM_SSH                        Cmd. 'ssh', SSH to SADMIN client    : ./bin/ssh.
[014] $SADM_SSH_CMD                    Cmd. 'ssh', SSH to Connect to client: ./bin/ssh -qnp32.
```