



accenture

Sybase DB Patch

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1. Planning

1.1 Analyze Release Specific SAP Notes and recommendations

1.2 Prerequisite for DB upgrade

- Check DB consistency before the upgrade

1.3 Space requirement

- Check the space in file systems

```
Have a lot of fun...
arshdeep.singh@imperial.local:~> sudo su - pgwadm
isappgw00:pgwadm 53> df -h
Filesystem              Size  Used Avail Use% Mounted on
/dev/tmpfs                7.9G  8.0K  7.9G  1% /dev
tmpfs                     12G     0   12G  0% /dev/shm
tmpfs                     7.9G  1.3M  7.9G  1% /run
tmpfs                     7.9G     0   7.9G  0% /sys/fs/cgroup
/dev/sda4                 63G   39G   25G  61% /
/dev/mapper/vg_backup-lv_backup    128G  165M  128G  1% /backup
/dev/mapper/vg_sybasepgw-lv_sybasepgw  64G   23G   42G  35% /sybase/PGW
/dev/mapper/vg_usrssap-lv_sapmntPGW  10G   6.7G   3.4G  67% /sapmnt/PGW
/dev/mapper/vg_usrssap-lv_usrssap    10G   1.8G   8.3G  18% /usr/sap
/dev/mapper/vg_sybasepgwsaplog-lv_sybasepgwsaplog  128G   26G   103G  20% /sybase/PGW/saplog_1
/dev/mapper/vg_sybasepgwsapdata-lv_sybasepgwsapdata  128G   70G   59G  55% /sybase/PGW/sapdata_1
/dev/mapper/vg_usrssap-lv_usrssapPGW  30G   5.8G   25G  20% /usr/sap/PGW
/dev/sda3                 1014M  109M  906M  11% /boot
/dev/sda2                  512M  288K  512M  1% /boot/efi
172.31.34.5:/nfsshare      512G  453G   60G  89% /nfsshare
172.31.34.6:/usr/sap/trans  50G   33G   18G  65% /usr/sap/trans
/dev/sdb1                  32G   28G   2.4G  93% /mnt
tmpfs                     1.6G     0   1.6G  0% /run/user/1003
tmpfs                     1.6G     0   1.6G  0% /run/user/1001
tmpfs                     1.6G     0   1.6G  0% /run/user/1004
tmpfs                     1.6G     0   1.6G  0% /run/user/1741236901
tmpfs                     1.6G     0   1.6G  0% /run/user/468
tmpfs                     1.6G     0   1.6G  0% /run/user/1741251177
tmpfs                     1.6G     0   1.6G  0% /run/user/1741236741
isappgw00:pgwadm 54>
```

1.4 Get root access and disable auto logout parameters.

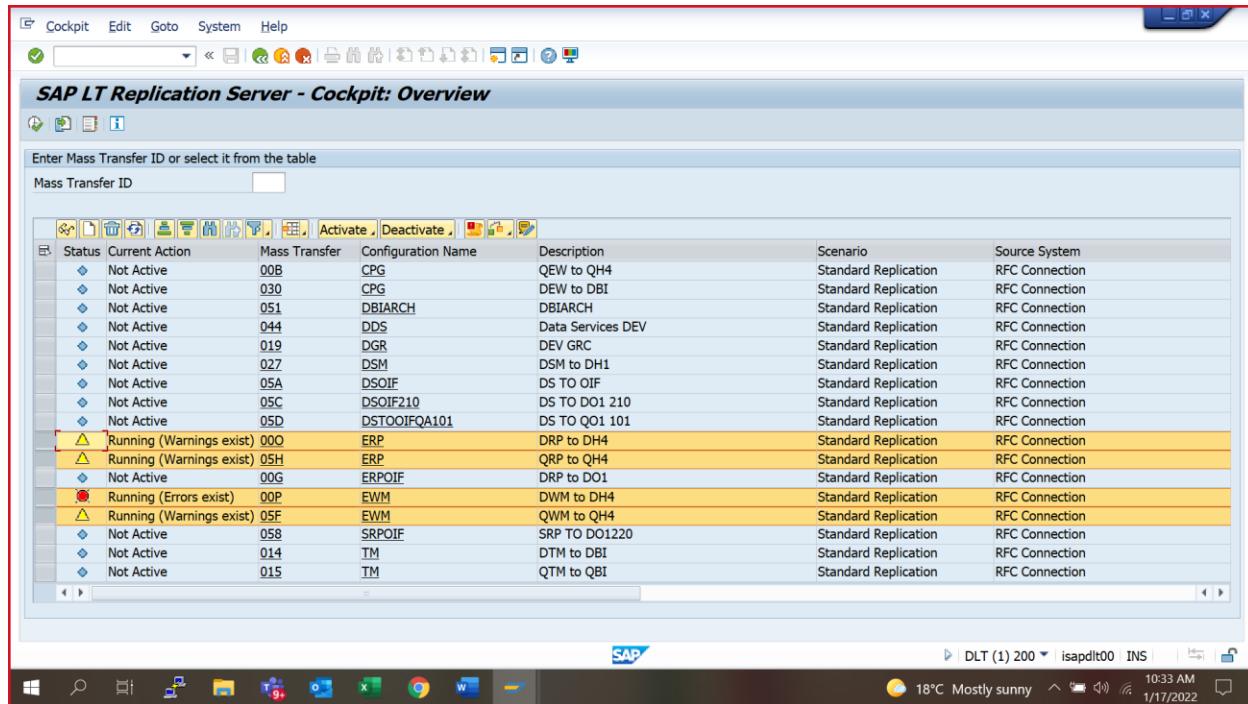
- BASIS team will send mail to CMS team to provide root access and for disabling auto logout parameters in the respective servers.

1.5 Check if /nfsshare mount point is mounted on the systems.

- If /nfsshare is not mounted, mount it with below command:
mount 172.31.34.5:/nfsshare /nfsshare

2. Sybase Upgrade phase

2.1 Stop Replication in DLT



2.2 Disable backups

- Disable all crontab backup scripts

2.3 Stop the Sybase system

```

# YOUR ACTIVITY IS BEING MONITORED
#####
Using keyboard-interactive authentication.
Password:
Last login: Thu Dec  2 11:45:43 2021 from 172.31.254.24
SUSE Linux Enterprise Server 15 SP1 for SAP Applications x86_64 (64-bit)

As "root" (sudo or sudo -i) use the:
- zypper command for package management
- yast command for configuration management

If you are using extensions consider to enable the auto-update feature
of the extension agent and restarting the service. As root execute:
- sed -i s/AutoUpdate.Enabled=n/AutoUpdate.Enabled=y/ /etc/waagent.conf
- rcwaagent restart

Management and Config: https://www.suse.com/suse-in-the-cloud-basics
Documentation: http://www.suse.com/documentation/sles-15/
Forum: https://forums.suse.com/categories/suse-public-cloud

Have a lot of fun...
purushottam.narayan@imperial.local@isapdpo00:~> sudo su - dpoadm
isapdpo00:~#dpoadm 54> stopsap
Checking sys Database

J2EE Database is running
See logfile /home/dpoadm/JdbcCon.log
stopping the SAP instance J00
Shutdown-Log is written to /home/dpoadm/stopsap_J00.log

/usr/sap/DPO/J00/exe/sapcontrol -prot NI_HTTP -nr 00 -function Stop
Instance on host isapdpo00 stopped
Waiting for cleanup of resources
.....
stopping the SAP instance SCS01
Shutdown-Log is written to /home/dpoadm/stopsap_SCS01.log

/usr/sap/DPO/SCS01/exe/sapcontrol -prot NI_HTTP -nr 01 -function Stop
Instance on host isapdpo00 stopped
Waiting for cleanup of resources
...
Running /usr/sap/DPO/SYS/exe/run/stopj2eedb
stopping database DPO ...
isapdpo00:~#

```

```

login as: purushottam.narayan@imperiallogistics.com
#####
# WELCOME TO IMPERIAL
# IF you are not a Valid User
# PLEASE DONT LOGIN & LOGOUT
# YOUR ACTIVITY IS BEING MONITORED
#####
Using keyboard-interactive authentication.
Password:
Last login: Mon Jan 17 07:04:52 2022 from 172.31.254.43
SUSE Linux Enterprise Server 15 SP1 for SAP Applications x86_64 (64-bit)

As "root" (sudo or sudo -i) use the:
- zypper command for package management
- yast command for configuration management

If you are using extensions consider to enable the auto-update feature
of the extension agent and restarting the service. As root execute:
- sed -i s/AutoUpdate.Enabled=n/AutoUpdate.Enabled=y/ /etc/waagent.conf
- rcwaagent restart

Management and Config: https://www.suse.com/suse-in-the-cloud-basics
Documentation: http://www.suse.com/documentation/sles-15/
Forum: https://forums.suse.com/categories/suse-public-cloud

Have a lot of fun...
purushottam.narayan@imperial.local@isapdpo00:~> sudo su - gwaadm
isapdpo00:~#gwaadm 54> stopsap
stopping the SAP instance G02
Shutdown-Log is written to /home/gwaadm/stopsap_G02.log

/usr/sap/GWA/SYS/exe/uc/linuxx86_64/sapcontrol -prot NI_HTTP -nr 02 -function Stop
Instance on host isapdpo00 stopped
Waiting for cleanup of resources
isapdpo00:~#gwaadm 55>

```

2.4 Perform Hostagent Upgrade

- Stop DB and application and start hostagent upgrade

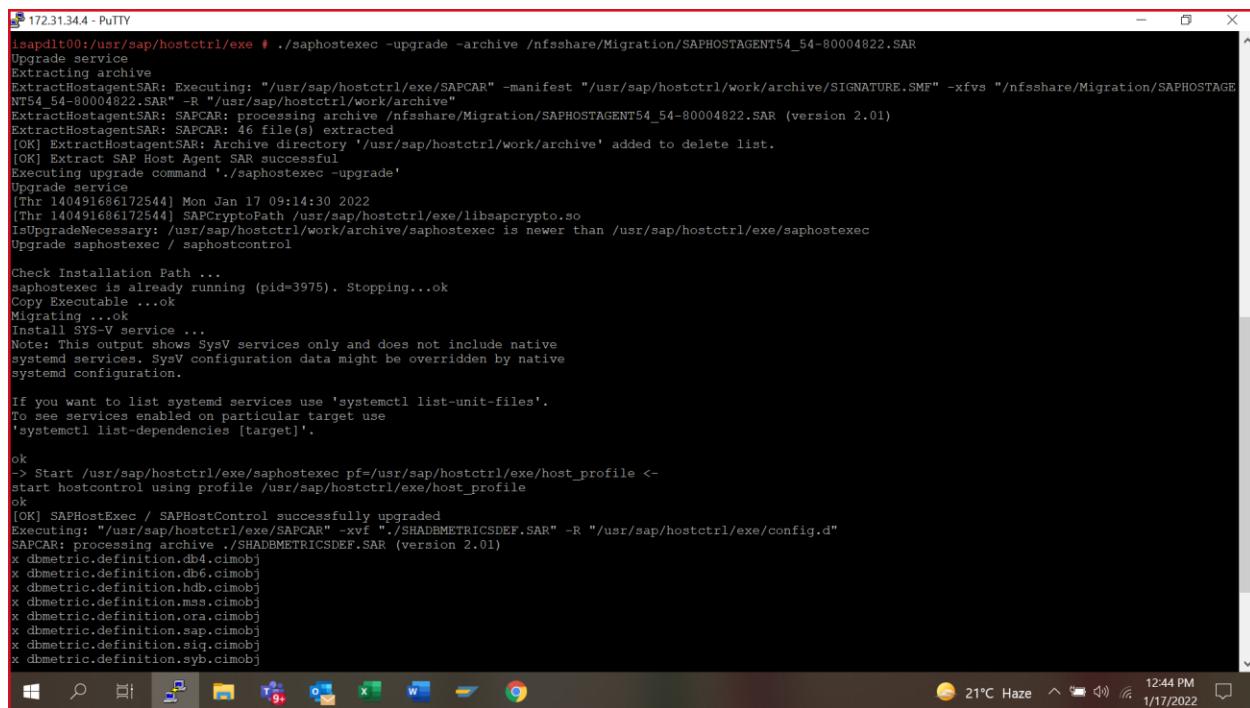
./saphostexec -upgrade -archive /nfsshare/Migration/SAPHOSTAGENT54_54-80004822.SAR

SYBASE DB PATCH

```
172.31.34.4 - PuTTY
isapdlt00:/usr/sap/hostctrl/exe # pwd
/usr/sap/hostctrl/exe
isapdlt00:/usr/sap/hostctrl/exe #
```

```
172.31.34.4 - PuTTY
-----  
/usr/sap/hostctrl/exe./libsapdbadactrl.so: 721, patch 1400, changelist 2051609, linuxx86_64, opt (Feb 20 2021, 06:05:55)  
/usr/sap/hostctrl/exe./libsapdbadasql.so: 721, patch 1400, changelist 2051609, linuxx86_64, opt (Feb 20 2021, 06:05:55)  
/usr/sap/hostctrl/exe./libsapdbadspwrt.so: 721, patch 1400, changelist 2051609, linuxx86_64, opt (Feb 20 2021, 06:05:55)  
/usr/sap/hostctrl/exe./libsapdbbbctrl.so: 721, patch 1400, changelist 2051609, linuxx86_64, opt (Feb 20 2021, 06:05:55)  
/usr/sap/hostctrl/exe./libsapdboractrl.so: 721, patch 1400, changelist 2051609, linuxx86_64, opt (Feb 20 2021, 06:05:55)  
/usr/sap/hostctrl/exe./libsapdboractrl.so: 721, patch 1400, changelist 2051609, linuxx86_64, opt (Feb 20 2021, 06:05:55)  
/usr/sap/hostctrl/exe./libsapdbhsyctrl.so: 721, patch 1400, changelist 2051609, linuxx86_64, opt (Feb 20 2021, 06:05:55)  
/usr/sap/hostctrl/exe./libsapdbhsigctrl.so: 721, patch 1400, changelist 2051609, linuxx86_64, opt (Feb 20 2021, 06:05:55)  
/usr/sap/hostctrl/exe./libsapdbhdbctrl.so: 721, patch 1400, changelist 2051609, linuxx86_64, opt (Feb 20 2021, 06:05:55)  
/usr/sap/hostctrl/exe./libsapdbhdbctrl.so: 721, patch 1400, changelist 2051609, linuxx86_64, opt (Feb 20 2021, 06:05:55)  
/usr/sap/hostctrl/exe./sapcimb: 721, patch 1400, changelist 2051609, linuxx86_64, opt (Feb 20 2021, 06:05:55)  
/usr/sap/hostctrl/exe./convertoccfILTER: 721, patch 1400, changelist 2051609, linuxx86_64, opt (Feb 20 2021, 06:05:55)  
/usr/sap/hostctrl/exe./sapmcmt: 721, patch 1400, changelist 2051609, linuxx86_64, opt (Feb 20 2021, 06:05:55)  
*****  
-----  
SAPHOSTAGENT information  
-----  
kernel release          721  
kernel make variant     721_REL  
compiled on              Linux GNU SLES-9 x86_64 cc4.1.2  for linuxx86_64  
compiled for            64 BIT  
compilation mode        Non-Unicode  
compile time             Feb 20 2021 05:58:04  
patch number             51  
latest change number    2051609  
-----  
supported environment  
-----  
operating system  
Linux 2.6  
Linux 3  
Linux  
isapdlt00:/usr/sap/hostctrl/exe #
```

SYBASE DB PATCH

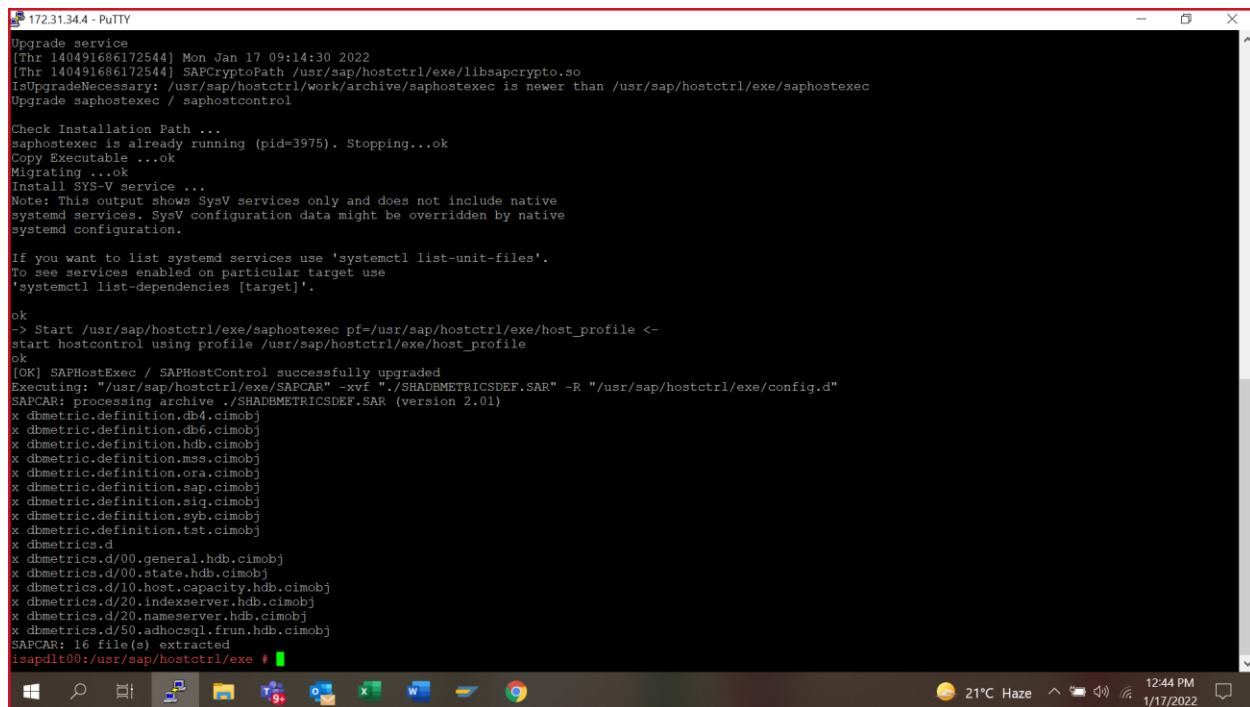


```
isapdit00:/usr/sap/hostctrl/exe # ./saphostexec -upgrade -archive /nfsshare/Migration/SAPHOSTAGENT54_54-80004822.SAR
Upgrade service
Extracting archive
ExtractHostagentSAR: Executing: "/usr/sap/hostctrl/exe/SAPCAR" -manifest "/usr/sap/hostctrl/work/archive/SIGNATURE.SMF" -xvfs "/nfsshare/Migration/SAPHOSTAGENT54_54-80004822.SAR" -R "/usr/sap/hostctrl/work/archive"
ExtractHostagentSAR: SAPCAR: processing archive /nfsshare/Migration/SAPHOSTAGENT54_54-80004822.SAR (version 2.01)
ExtractHostagentSAR: SAPCAR: 46 file(s) extracted
[OK] ExtractHostagentSAR: Archive directory '/usr/sap/hostctrl/work/archive' added to delete list.
[OK] Extract SAP Host Agent SAR successful
Executing upgrade command './saphostexec -upgrade'
Upgrade service
[Thr 140491686172544] Mon Jan 17 09:14:30 2022
[Thr 140491686172544] SAPCryptoPath /usr/sap/hostctrl/exe/libsapcrypto.so
IsUpgradeNecessary: /usr/sap/hostctrl/work/archive/saphostexec is newer than /usr/sap/hostctrl/exe/saphostexec
Upgrade saphostexec / saphostcontrol

Check Installation Path ...
saphostexec is already running (pid=3975). Stopping...ok
Copy Executable ...ok
Migrating ...ok
Install SYS-V service ...
Note: This output shows SysV services only and does not include native
systemd services. SysV configuration data might be overridden by native
systemd configuration.

If you want to list systemd services use 'systemctl list-unit-files'.
To see services enabled on particular target use
'systemctl list-dependencies [target]'.

ok
-> Start /usr/sap/hostctrl/exe/saphostexec pf=/usr/sap/hostctrl/exe/host_profile <-
start hostcontrol using profile /usr/sap/hostctrl/exe/host_profile
ok
[OK] SAPHostExec / SAPHostControl successfully upgraded
Executing: "/usr/sap/hostctrl/exe/SAPCAR" -xvf "/SHADEMETRICSDEF.SAR" -R "/usr/sap/hostctrl/exe/config.d"
SAPCAR: processing archive ./SHADEMETRICSDEF.SAR (version 2.01)
x dmetric.definition.db4.cimobj
x dmetric.definition.db6.cimobj
x dmetric.definition.hdb.cimobj
x dmetric.definition.mss.cimobj
x dmetric.definition.ora.cimobj
x dmetric.definition.sap.cimobj
x dmetric.definition.siql.cimobj
x dmetric.definition.syb.cimobj
```



```
isapdit00:/usr/sap/hostctrl/exe # ./saphostexec -upgrade -archive /nfsshare/Migration/SAPHOSTAGENT54_54-80004822.SAR
Upgrade service
[Thr 140491686172544] Mon Jan 17 09:14:30 2022
[Thr 140491686172544] SAPCryptoPath /usr/sap/hostctrl/exe/libsapcrypto.so
IsUpgradeNecessary: /usr/sap/hostctrl/work/archive/saphostexec is newer than /usr/sap/hostctrl/exe/saphostexec
Upgrade saphostexec / saphostcontrol

Check Installation Path ...
saphostexec is already running (pid=3975). Stopping...ok
Copy Executable ...ok
Migrating ...ok
Install SYS-V service ...
Note: This output shows SysV services only and does not include native
systemd services. SysV configuration data might be overridden by native
systemd configuration.

If you want to list systemd services use 'systemctl list-unit-files'.
To see services enabled on particular target use
'systemctl list-dependencies [target]'.

ok
-> Start /usr/sap/hostctrl/exe/saphostexec pf=/usr/sap/hostctrl/exe/host_profile <-
start hostcontrol using profile /usr/sap/hostctrl/exe/host_profile
ok
[OK] SAPHostExec / SAPHostControl successfully upgraded
Executing: "/usr/sap/hostctrl/exe/SAPCAR" -xvf "/SHADEMETRICSDEF.SAR" -R "/usr/sap/hostctrl/exe/config.d"
SAPCAR: processing archive ./SHADEMETRICSDEF.SAR (version 2.01)
x dmetric.definition.db4.cimobj
x dmetric.definition.db6.cimobj
x dmetric.definition.hdb.cimobj
x dmetric.definition.mss.cimobj
x dmetric.definition.ora.cimobj
x dmetric.definition.sap.cimobj
x dmetric.definition.siql.cimobj
x dmetric.definition.syb.cimobj
x dmetric.definition.tst.cimobj
x dmetrics.d
x dmetrics.d/00.general.hdb.cimobj
x dmetrics.d/00.state.hdb.cimobj
x dmetrics.d/10.host.capacity.hdb.cimobj
x dmetrics.d/20.indexserver.hdb.cimobj
x dmetrics.d/20.nameserver.hdb.cimobj
x dmetrics.d/50.adhocsql.frun.hdb.cimobj
SAPCAR: 16 file(s) extracted
isapdit00:/usr/sap/hostctrl/exe #
```

- Run **./saphostexec -version**

SYBASE DB PATCH

The screenshot shows a PuTTY terminal window titled "172.31.34.4 - PuTTY". The window contains a log of patch installation commands and their results. It includes sections for "SAPHOSTAGENT information" and "supported environment". The operating system is identified as Linux. The terminal prompt is "isapdlt00:/usr/sap/hostctrl/exe #". The status bar at the bottom right shows the date and time as 1/17/2022 12:45 PM.

```
/usr/sap/hostctrl/exe./xml71d.so: 722, patch 1113, changelist 2094160, linuxx86_64, opt (Oct 15 2021, 20:57:38)
/usr/sap/hostctrl/exe./sapdbctrl: 722, patch 1113, changelist 2094160, linuxx86_64, opt (Oct 16 2021, 02:28:08)
/usr/sap/hostctrl/exe./libsapdbadactrl.so: 722, patch 1113, changelist 2094160, linuxx86_64, opt (Oct 16 2021, 02:28:08)
/usr/sap/hostctrl/exe./libsapdbadasql.so: 722, patch 1113, changelist 2094160, linuxx86_64, opt (Oct 16 2021, 02:28:08)
/usr/sap/hostctrl/exe./libsapdbadapwrt.so: 722, patch 1113, changelist 2094160, linuxx86_64, opt (Oct 16 2021, 02:28:08)
/usr/sap/hostctrl/exe./libsapdbctrl.so: 722, patch 1113, changelist 2094160, linuxx86_64, opt (Oct 16 2021, 02:28:08)
/usr/sap/hostctrl/exe./libsapdboractrl.so: 722, patch 1113, changelist 2094160, linuxx86_64, opt (Oct 16 2021, 02:28:08)
/usr/sap/hostctrl/exe./libsapdbosctrl.so: 722, patch 1113, changelist 2094160, linuxx86_64, opt (Oct 16 2021, 02:28:08)
/usr/sap/hostctrl/exe./libsapdbsigctrl.so: 722, patch 1113, changelist 2094160, linuxx86_64, opt (Oct 16 2021, 02:28:08)
/usr/sap/hostctrl/exe./libsapdbhdctrl.so: 722, patch 1113, changelist 2094160, linuxx86_64, opt (Oct 16 2021, 02:28:08)
/usr/sap/hostctrl/exe./libsapdbhdbssql.so: 722, patch 1113, changelist 2094160, linuxx86_64, opt (Oct 16 2021, 02:28:08)
/usr/sap/hostctrl/exe./sapcimb: 722, patch 1113, changelist 2094160, linuxx86_64, opt (Oct 16 2021, 02:28:08)
/usr/sap/hostctrl/exe./converttosqlfilter: 722, patch 1113, changelist 2094160, linuxx86_64, opt (Oct 16 2021, 02:28:08)
/usr/sap/hostctrl/exe./sapcmc: 722, patch 1113, changelist 2094160, linuxx86_64, opt (Oct 16 2021, 02:28:08)
*****
-----  
SAPHOSTAGENT information  
-----  
kernel release 722  
kernel make variant 722_REL  
compiled on Linux GNU SLES-9 x86_64 cc4.1.2 for linuxx86_64  
compiled for 64 BIT  
compilation mode Non-Unicode  
compile time Oct 16 2021 02:19:15  
patch number 54  
latest change number 2096097  
-----  
supported environment  
-----  
operating system Linux  
isapdlt00:/usr/sap/hostctrl/exe #
```

2.5 Perform the ASE upgrade

- Start ASE DB only dataserver (don't start backupserver)

The screenshot shows a PuTTY terminal window titled "172.31.34.4 - PuTTY". The window displays a log of ASE upgrade commands and their results. The log includes messages from SySAM about license checks and kernel configuration. The terminal prompt is "isapdlt00 ASE-16_0/install%". The status bar at the bottom right shows the date and time as 1/17/2022 12:55 PM.

```
isapdlt00 ASE-16_0/install% startserver -f RUN_DLT
isapdlt00 ASE-16_0/install% 00:0000:0000:00000:00000:2022/01/17 09:24:33.88 kernel SySAM: Using licenses from: /sybase/DLT/SYSAM-2_0/licenses/SYBASE.lic:/sybase/DLT/SYSAM-2_0/licenses/SYBASE_ASE_XE.lic
00:0000:0000:00000:00000:2022/01/17 09:24:33.93 kernel SySAM: Checked out license for 2 ASE_CORE (2020.1231/permanent/0A1A 1A20 16D1 8E93).
00:0000:0000:00000:00000:2022/01/17 09:24:33.93 kernel This product is licensed to: SAP, for use with SAP Business Applications.
00:0000:0000:00000:00000:2022/01/17 09:24:33.93 kernel Checked out license ASE_CORE
00:0000:0000:00000:00000:2022/01/17 09:24:33.93 kernel Adaptive Server Enterprise (Enterprise Edition)
00:0000:0000:00000:00000:2022/01/17 09:24:33.93 kernel Using config area from primary master device.
00:0000:0000:00000:00000:2022/01/17 09:24:33.94 kernel SySAM: Checked out license for 2 ASE_PARTITIONS (2020.1231/permanent/0A1A 1A20 16D1 8E93).
00:0000:0000:00000:00000:2022/01/17 09:24:33.94 kernel Checked out license ASE_PARTITIONS
Checked out License : ASE_PARTITIONS as OK
00:0000:0000:00000:00000:2022/01/17 09:24:33.95 kernel SySAM: Checked out license for 2 ASE_COMPRESSION (2020.1231/permanent/0A1A 1A20 16D1 8E93).
00:0000:0000:00000:00000:2022/01/17 09:24:33.95 kernel Checked out license ASE_COMPRESSION
Checked out License : ASE_COMPRESSION as OK
00:0000:0000:00000:00000:2022/01/17 09:24:34.05 kernel SySAM: Checked out license for 2 ASE_ASM (2020.1231/permanent/0A1A 1A20 16D1 8E93).
00:0000:0000:00000:00000:2022/01/17 09:24:34.05 kernel Checked out license ASE_ASM
Checked out License : ASE_ASM as OK
00:0000:0000:00000:00000:2022/01/17 09:24:34.06 kernel Could not allocate memory using Huge Pages. Allocated using regular pages. For better performance, reboot the server after configuring enough Huge Pages.
00:0000:0000:00000:00000:2022/01/17 09:24:34.06 kernel Internal run-time model set for Linux - Native
00:0000:0000:00000:00000:2022/01/17 09:24:34.06 kernel Adaptive Server is using the threaded kernel mode.
00:0000:0000:00000:00000:2022/01/17 09:24:34.06 kernel Using 4096 file descriptors.
00:0000:0000:00000:00000:2022/01/17 09:24:34.07 kernel Adaptive Server Enterprise/16.0 SP03 PL08 HFL/EBF 29398 SMP/P/x86_64/SLES 11.1.ase160sp03pl08x/3777/64-bit
#Tue Mar 31 03:24:47 2020
00:0000:0000:00000:00000:2022/01/17 09:24:34.07 kernel Confidential property of SAP AG or an SAP affiliate company.
00:0000:0000:00000:00000:2022/01/17 09:24:34.07 kernel Copyright 2020
00:0000:0000:00000:00000:2022/01/17 09:24:34.07 kernel SAP AG or an SAP affiliate company. All rights reserved.
00:0000:0000:00000:00000:2022/01/17 09:24:34.07 kernel Unpublished rights reserved under U.S. copyright laws.
00:0000:0000:00000:00000:2022/01/17 09:24:34.07 kernel This software contains confidential and trade secret information of SAP AG or an SAP affiliate company. Use, duplication or disclosure of the software and documentation by the U.S. Government is subject to restrictions set forth in a license agreement between the Government and SAP AG or an SAP affiliate company, or other written agreement specifying the Government's rights to use the software and any applicable FAR provisions, for example, FAR 52.227-19.
00:0000:0000:00000:00000:2022/01/17 09:24:34.07 kernel SAP AG or an SAP affiliate company
00:0000:0000:00000:00000:2022/01/17 09:24:34.07 kernel Using /sybase/DLT as the 'SYBASE' environment variable, found during startup.
00:0000:0000:00000:00000:2022/01/17 09:24:34.07 kernel Using OCS-16_0 as the 'SYBASE_OCS' environment variable, found during startup.
00:0000:0000:00000:00000:2022/01/17 09:24:34.07 kernel Using ASE-16_0 as the 'SYBASE_ASE' environment variable, found during startup.
00:0000:0000:00000:00000:2022/01/17 09:24:34.07 kernel ASE booted on host 'isapdlt00' running Linux release 4.12.14-197.99-default version #1 SMP Thu Jul 15 13:52:56 UTC 2021 (a15b9f6).
00:0000:00000:00000:2022/01/17 09:24:34.07 kernel Using '/sybase/DLT/ASE-16_0.DLT.cfg' for configuration information.
00:0000:00000:00000:2022/01/17 09:24:34.07 kernel Logging ASE messages in file '/sybase/DLT/ASE-16_0/install/DLT.log'.
00:0000:00000:00000:2022/01/17 09:24:34.07 kernel Disk Controller Manager is online.
```

SYBASE DB PATCH

```

172.31.34.4 - PuTTY
00:0002:0000:0002:2022/01/17 09:24:50.22 server Cleanup of preallocated pages for database 'sybmgmtdb' completed, 0 extents cleaned.
00:0002:0000:0002:2022/01/17 09:24:50.22 server The transaction log in the database 'sybmgmtdb' will use I/O size of 16 Kb.
00:0002:0000:0002:2022/01/17 09:24:50.23 server Database 'sybmgmtdb' is now online.
00:0002:0000:0002:2022/01/17 09:24:50.23 server Recovery has restored the value of 'local async prefetch limit' for '128K' pool in 'default data cache' from '80' to 'DEFAULT'.
00:0002:0000:0002:2022/01/17 09:24:50.23 server Recovery has restored the value of 'local async prefetch limit' for '16K' pool in 'default data cache' from '80' to 'DEFAULT'.
00:0002:0000:0002:2022/01/17 09:24:50.23 server Info: data caches with large pools are not supported for databases bound to NV cache
00:0002:0000:0002:2022/01/17 09:24:50.24 server Recovery has restored the original size for '128K' pool and '16K' pool in 'default data cache'.
00:0002:0000:0002:2022/01/17 09:24:50.24 server Recovery complete.
00:0002:0000:0002:2022/01/17 09:24:50.24 server ASE's default unicode sort order is 'binary'.
00:0002:0000:0002:2022/01/17 09:24:50.24 server ASE's default sort order is:
00:0002:0000:0002:2022/01/17 09:24:50.24 server 'binary' (ID = 25)
00:0002:0000:0002:2022/01/17 09:24:50.24 server on top of default character set:
00:0002:0000:0002:2022/01/17 09:24:50.24 server 'utf8' (ID = 190).
00:0002:0000:0002:2022/01/17 09:24:50.24 server Master device size: 650 megabytes, or 332800 virtual pages. (A virtual page is 2048 bytes.)
00:0002:0000:0001:2022/01/17 09:24:53.16 kernel Initializing Job Scheduler Task
00:0002:0000:0001:2022/01/17 09:24:53.17 kernel Installed Job Scheduler sequencer code version 0.29 - 29 tokens
.

00:0002:0000:0001:2022/01/17 09:24:55.24 kernel Job Scheduler Agent errorlog : /sybase/DLT/ASE-16_0/install/DLT_JSAGENT.log.
00:0002:0000:0001:2022/01/17 09:24:55.24 kernel Job Scheduler Task state set to running, startcount 1.
ASE jsagent/16.0 SP03 PL08 HF1/EFB 29398 SMP/P/x86_64/SLES 11.1/ase160sp03pl08x/3777/64-bit/OPT/Tue Mar 31 09:52:26 2020

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00:0002:0000:0001:2022/01/17 09:24:56.16 kernel Job Scheduler Task connected with Agent on port 4903.
00:0002:0000:0000:2022/01/17 09:24:56.28 kernel Warning: Cannot set console to nonblocking mode, switching to blocking mode.
00:0002:0000:0000:2022/01/17 09:24:56.28 kernel Console logging is disabled. This is controlled via the 'enable console logging' configuration parameter.

isapdit00 ASE-16_0/install% showserver
F S UID          PID  PPID C PRI  NI ADDR SZ WCHAN  STIME TTY          TIME CMD
0 S sybdt    29350 29346 92  80  0 - 2290358 - 09:24 ? 00:00:50 /sybase/DLT/ASE-16_0/bin/dataserver -d/sybase/DLT/sybsystem/master.dat -e/sybase/DLT/ASE-16_0/install/DTL.log -c/sybase/DLT/ASE-16_0/DTL.cfg -M/sybase/DLT/ASE-16_0 -N/sybase/DLT/ASE-16_0/sysam/DTL.properties -i/sybase/DLT -sDLT
isapdit00 ASE-16_0/install% 

```

2.6 Run CHECK_UPDATE_ASE

```

./saphostctrl -function LiveDatabaseUpdate -dbname DLT -dbtype syb -updatemethod Check -
updateoption TASK=CHECK_UPDATE_ASE -updateoption
DROP_LOCATION=/nfsshare/Migration/ASEBS16004P_1-10013280/

```

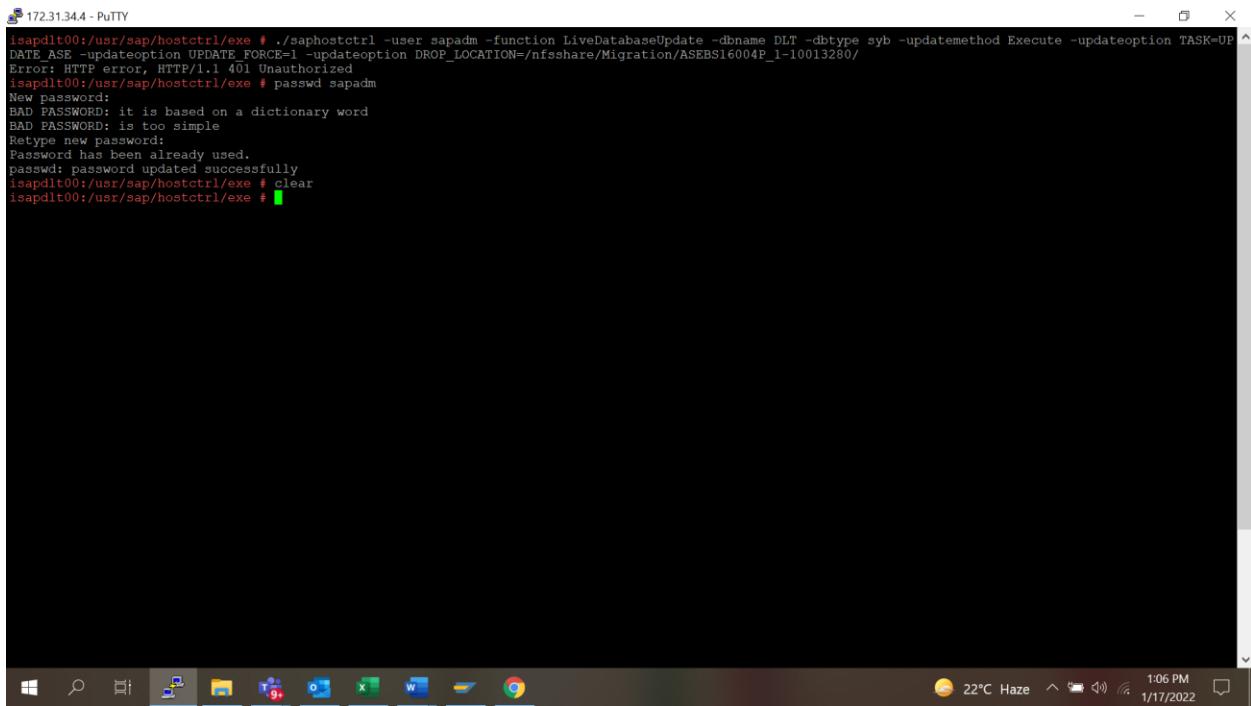
```

172.31.34.4 - PuTTY
isapdit00:/usr/sap/hostctrl/exe # ./saphostctrl -function LiveDatabaseUpdate -dbname DLT -dbtype syb -updatemethod Check -updateoption DROP_LOCATION=/nfsshare/Migration/ASEBS16004P_1-10013280/
Webmethod returned successfully
Operation ID: 000D3A2CBAE81EEC9DECDD757C810681

----- Response data -----
TASK_NAME=CHECK_UPDATE_ASE
CHECK_DROP_LOCATION=OK
CHECK_TMP_MOUNT=OK
CHECK_DB_IN_USE=OK
CHECK_SAPSA_USER=OK
CHECK_SAPSSO_USER=OK
CHECK_SA_USER=OK
CHECK_SYBSID_USER=OK
CHECK_SAPSID_USER=OK
CHECK_REPLICATION_SITE=OK
CHECK_SYS_STACK=OK
CHECK_MU_PATCHSAR=OK
CHECK_DBS_ONLINE=OK
CHECK_CDS_OBJS=OK
CHECK_DB_SIZE=OK
CHECK_MAX_MEM=OK
CHECK_UPDATE_ASE=OK
----- Log messages -----
Info: saphostcontrol: Executing LiveDatabaseUpdate
Info: saphostcontrol: LiveDatabaseUpdate successfully executed
isapdit00:/usr/sap/hostctrl/exe # 

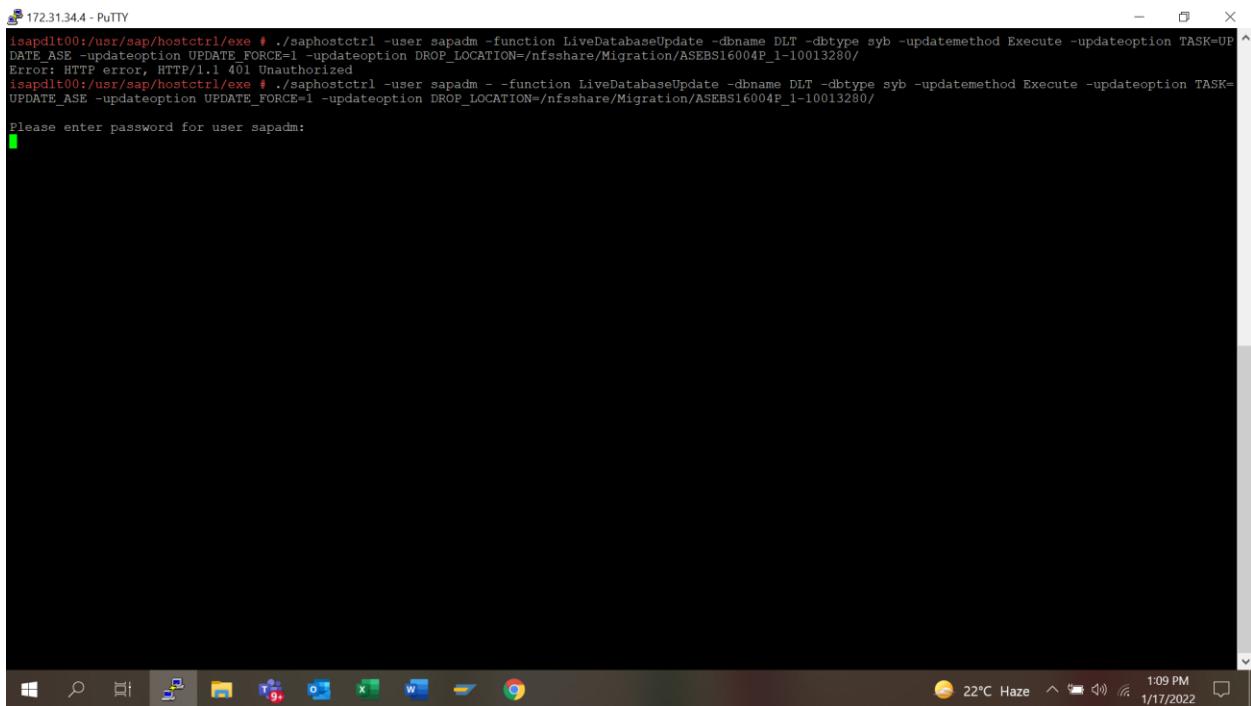
```

SYBASE DB PATCH



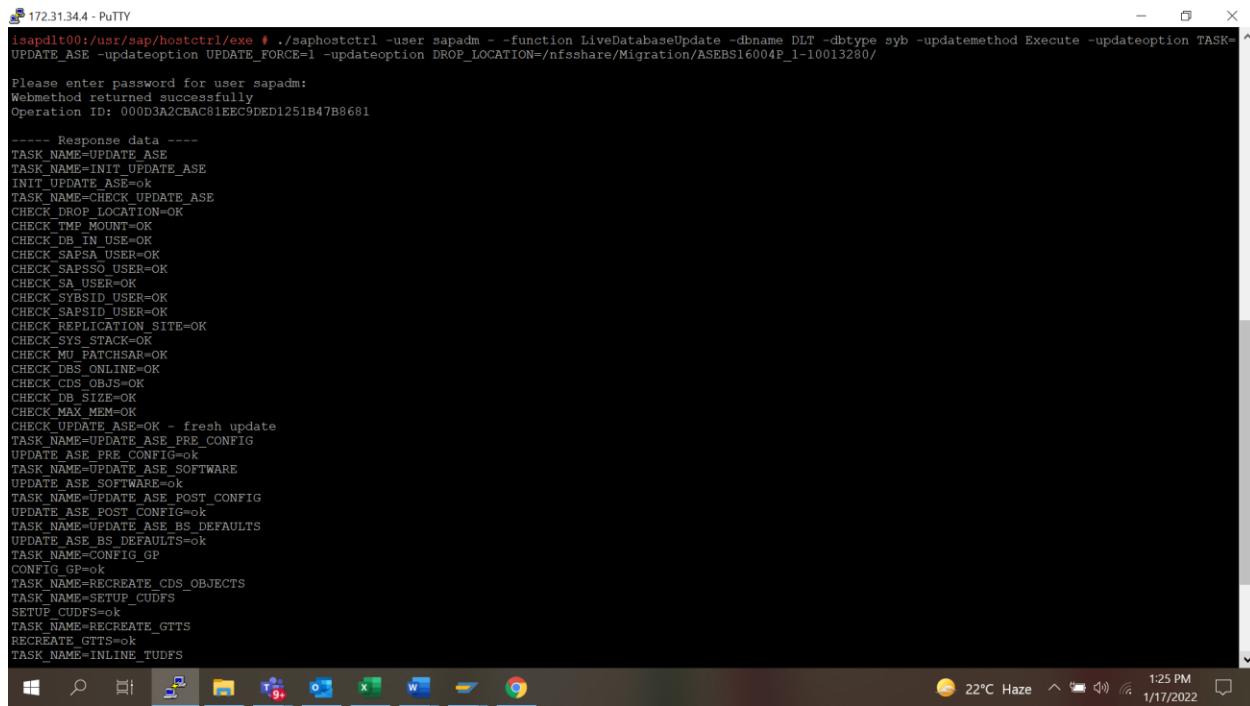
```
172.31.34.4 - PuTTY
isapdit00:/usr/sap/hostctrl/exe # ./saphostctrl -user sapadm -function LiveDatabaseUpdate -dbname DLT -dbtype syb -updatemethod Execute -updateoption TASK=UPDATE_ASE -updateoption UPDATE_FORCE=1 -updateoption DROP_LOCATION=/nfsshare/Migration/ASEBS16004P_1-10013280/
Error: HTTP error, HTTP/1.1 401 Unauthorized
isapdit00:/usr/sap/hostctrl/exe # passwd sapadm
New password:
BAD PASSWORD: it is based on a dictionary word
BAD PASSWORD: is too simple
Retype new password:
Password has been already used.
passwd: password updated successfully
isapdit00:/usr/sap/hostctrl/exe # clear
isapdit00:/usr/sap/hostctrl/exe #
```

./saphostctrl -user sapadm -function LiveDatabaseUpdate -dbname DLT -dbtype syb -updatemethod Execute -updateoption TASK=UPDATE_ASE -updateoption UPDATE_FORCE=1 -updateoption DROP_LOCATION=/nfsshare/Migration/ASEBS16004P_1-10013280/



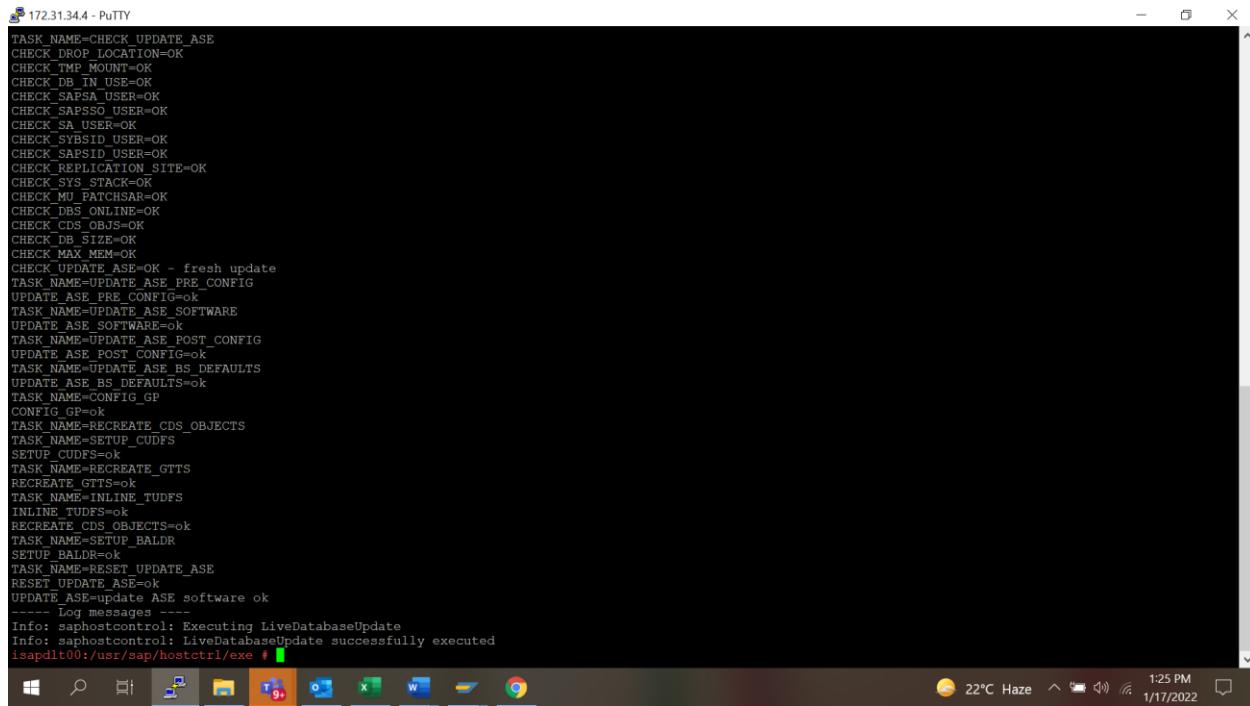
```
172.31.34.4 - PuTTY
isapdit00:/usr/sap/hostctrl/exe # ./saphostctrl -user sapadm -function LiveDatabaseUpdate -dbname DLT -dbtype syb -updatemethod Execute -updateoption TASK=UPDATE_ASE -updateoption UPDATE_FORCE=1 -updateoption DROP_LOCATION=/nfsshare/Migration/ASEBS16004P_1-10013280/
Error: HTTP error, HTTP/1.1 401 Unauthorized
isapdit00:/usr/sap/hostctrl/exe # ./saphostctrl -user sapadm -function LiveDatabaseUpdate -dbname DLT -dbtype syb -updatemethod Execute -updateoption TASK=UPDATE_ASE -updateoption UPDATE_FORCE=1 -updateoption DROP_LOCATION=/nfsshare/Migration/ASEBS16004P_1-10013280/
Please enter password for user sapadm:
```

SYBASE DB PATCH



```
172.31.34.4 - PuTTY
isapdit00:/usr/sap/hostctrl/exe # ./saphostctrl -user sapadm - -function LiveDatabaseUpdate -dbname DLT -dbtype syb -updatemethod Execute -updateoption TASK=UPDATE_ASE -updateoption UPDATE_FORCE=1 -updateoption DROP_LOCATION=/nfsshare/Migration/ASEBS16004P_1-10013280/
Please enter password for user sapadm:
Webmethod returned successfully
Operation ID: 000D3A2CBAC81EEC9DED1251B47B8681

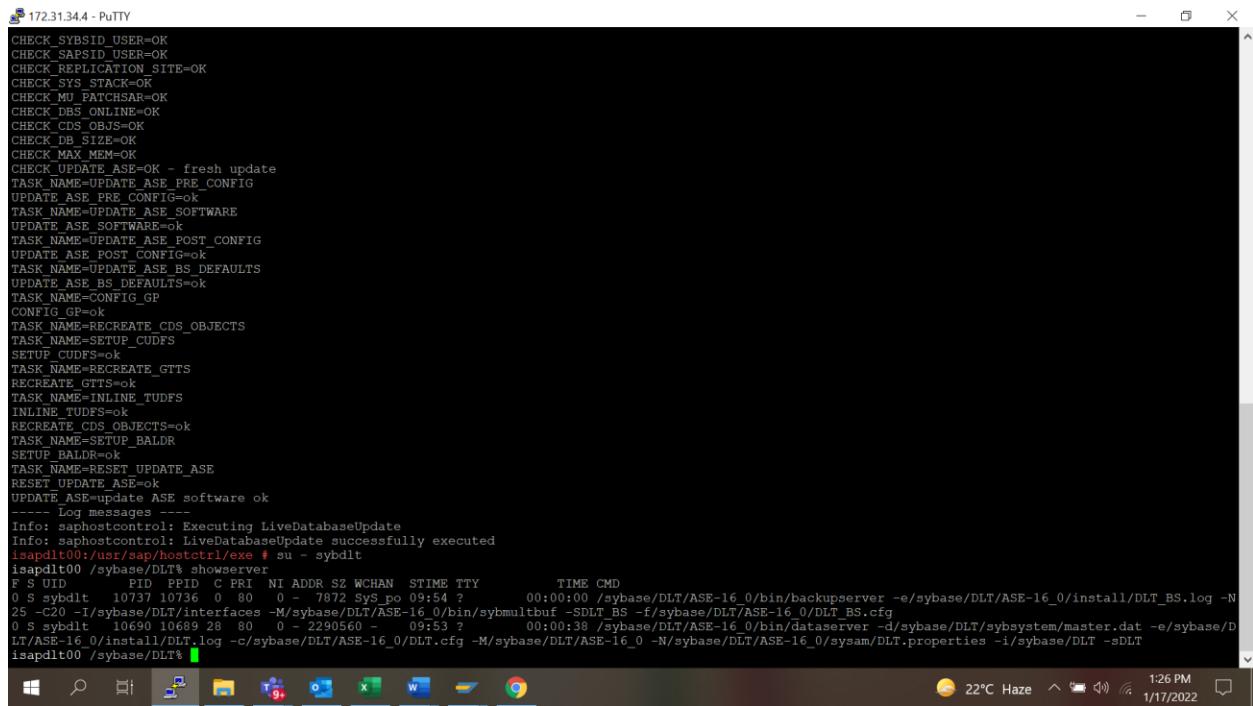
----- Response data -----
TASK_NAME=UPDATE_ASE
TASK_NAME=INIT_UPDATE_ASE
INIT_UPDATE_ASE=ok
TASK_NAME=CHECK_UPDATE_ASE
CHECK_DROP_LOCATION=OK
CHECK_TMP_MOUNT=OK
CHECK_DB_IN_USE=OK
CHECK_SAPSA_USER=OK
CHECK_SAPSSO_USER=OK
CHECK_SA_USER=OK
CHECK_SYBSID_USER=OK
CHECK_SAPSID_USER=OK
CHECK_REPLICATION_SITE=OK
CHECK_SYS_STACK=OK
CHECK_MU_PATCHSAR=OK
CHECK_DBS_ONLINE=OK
CHECK_CDS_OBJS=OK
CHECK_DB_SIZE=OK
CHECK_MAX_MEM=OK
CHECK_UPDATE_ASE=OK - fresh update
TASK_NAME=UPDATE_ASE_PRE_CONFIG
UPDATE_ASE_PRE_CONFIG=ok
TASK_NAME=UPDATE_ASE_SOFTWARE
UPDATE_ASE_SOFTWARE=ok
TASK_NAME=UPDATE_ASE_POST_CONFIG
UPDATE_ASE_POST_CONFIG=ok
TASK_NAME=UPDATE_ASE_BS_DEFAULTS
UPDATE_ASE_BS_DEFAULTS=ok
TASK_NAME=CONFIG_GP
CONFIG_GP=ok
TASK_NAME=RECREATE_CDS_OBJECTS
TASK_NAME=SETUP_CUDFS
SETUP_CUDFS=ok
TASK_NAME=RECREATE_GTTS
RECREATE_GTTS=ok
TASK_NAME=INLINE_TUDFS
172.31.34.4 - PuTTY
```



```
TASK_NAME=CHECK_UPDATE_ASE
CHECK_DROP_LOCATION=OK
CHECK_TMP_MOUNT=OK
CHECK_DB_IN_USE=OK
CHECK_SAPSA_USER=OK
CHECK_SAPSSO_USER=OK
CHECK_SA_USER=OK
CHECK_SYBSID_USER=OK
CHECK_SAPSID_USER=OK
CHECK_REPLICATION_SITE=OK
CHECK_SYS_STACK=OK
CHECK_MU_PATCHSAR=OK
CHECK_DBS_ONLINE=OK
CHECK_CDS_OBJS=OK
CHECK_DB_SIZE=OK
CHECK_MAX_MEM=OK
CHECK_UPDATE_ASE=OK - fresh update
TASK_NAME=UPDATE_ASE_PRE_CONFIG
UPDATE_ASE_PRE_CONFIG=ok
TASK_NAME=UPDATE_ASE_SOFTWARE
UPDATE_ASE_SOFTWARE=ok
TASK_NAME=UPDATE_ASE_POST_CONFIG
UPDATE_ASE_POST_CONFIG=ok
TASK_NAME=UPDATE_ASE_BS_DEFAULTS
UPDATE_ASE_BS_DEFAULTS=ok
TASK_NAME=CONFIG_GP
CONFIG_GP=ok
TASK_NAME=RECREATE_CDS_OBJECTS
TASK_NAME=SETUP_CUDFS
SETUP_CUDFS=ok
TASK_NAME=RECREATE_GTTS
RECREATE_GTTS=ok
TASK_NAME=INLINE_TUDFS
INLINE_TUDFS=ok
RECREATE_CDS_OBJECTS=ok
TASK_NAME=SETUP_BALDR
SETUP_BALDR=ok
TASK_NAME=RESET_UPDATE_ASE
RESET_UPDATE_ASE=ok
UPDATE_ASE=update ASE software ok
----- Log messages -----
Info: saphostcontrol: Executing LiveDatabaseUpdate
Info: saphostcontrol: LiveDatabaseUpdate successfully executed
isapdit00:/usr/sap/hostctrl/exe #
```

- Database and backupserver is automatically restarted after the upgrade

SYBASE DB PATCH



The screenshot shows a PuTTY terminal window titled "172.31.34.4 - PuTTY". The window displays a log of a database patch process. The log includes various system checks (e.g., CHECK SYSBSID, CHECK SAPSID, CHECK REPLICATION SITE=OK), configuration updates (e.g., UPDATE ASE PRE CONFIG=ok, UPDATE ASE SOFTWARE=ok), and task executions (e.g., TASK NAME=UPDATE ASE_POST_CONFIG). It also shows the execution of a script named "saphostcontrol" to execute a "LiveDatabaseUpdate". The log concludes with a command to show the server status ("isapdlt00 /sybase/DTL% showserver"). The terminal window has a standard Windows-style taskbar at the bottom.

```
172.31.34.4 - PuTTY
CHECK_SYSBSID USER=OK
CHECK_SAPSID USER=OK
CHECK_REPLICATION SITE=OK
CHECK_SYS_STACK=OK
CHECK_MU_PATCHSAR=OK
CHECK_DBS_ONLINE=OK
CHECK_CDS_OBJS=OK
CHECK_DB_SIZE=OK
CHECK_MAX_MEM=OK
CHECK_UPDATE_ASE=OK - fresh update
TASK_NAME=UPDATE_ASE_PRE_CONFIG
UPDATE_ASE_PRE_CONFIG=ok
TASK_NAME=UPDATE_ASE_SOFTWARE
UPDATE_ASE_SOFTWARE=ok
TASK_NAME=UPDATE_ASE_POST_CONFIG
UPDATE_ASE_POST_CONFIG=ok
TASK_NAME=UPDATE_ASE_BS_DEFAULTS
UPDATE_ASE_BS_DEFAULTS=ok
TASK_NAME=CONFIG_GP
CONFIG_GP=ok
TASK_NAME=RECREATE_CDS_OBJECTS
TASK_NAME=SETUP_CUDFS
SETUP_CUDFS=ok
TASK_NAME=RECREATE_GTTS
RECREATE_GTTS=ok
TASK_NAME=INLINE_TUDFS
INLINE_TUDFS=ok
RECREATE_CDS_OBJECTS=ok
TASK_NAME=SETUP_BALDR
SETUP_BALDR=ok
TASK_NAME=RESET_UPDATE_ASE
RESET_UPDATE_ASE=ok
UPDATE_ASE=update ASE software ok
----- Log messages -----
Info: saphostcontrol: Executing LiveDatabaseUpdate
Info: saphostcontrol: LiveDatabaseUpdate successfully executed
isapdlt00:/usr/sap/hostctrl/exe # su - sybdt
isapdlt00 /sybase/DTL% showserver
F S UID PID PPID C PRI NI ADDR SZ WCHAN STIME TTY TIME CMD
0 S sybdt 10737 10736 0 80 0 - 7872 Sys_po 09:54 ? 00:00:00 /sybase/DTL/ASE-16_0/bin/backupserver -e/sybase/DTL/ASE-16_0/install/DTL_BS.log -N
25 -C20 -I/sybase/DTL/interfaces -M/sybase/DTL/ASE-16_0/bin/sybmultbuf -SDLT_BS -f/sybase/DTL/ASE-16_0/DTL_BS.cfg
0 S sybdt 10690 10689 28 80 0 - 2290560 - 09:53 ? 00:00:38 /sybase/DTL/ASE-16_0/bin/dataserver -d/sybase/DTL/sybsystem/master.dat -e/sybase/DTL/ASE-16_0/install/DTL.log -c/sybase/DTL/ASE-16_0/DTL.cfg -M/sybase/DTL/ASE-16_0 -N/sybase/DTL/ASE-16_0/sysam/DTL.properties -i/sybase/DTL -sDTL
isapdlt00 /sybase/DTL%
```

2.7 Update of the Sybase Client on the SAP Application Servers

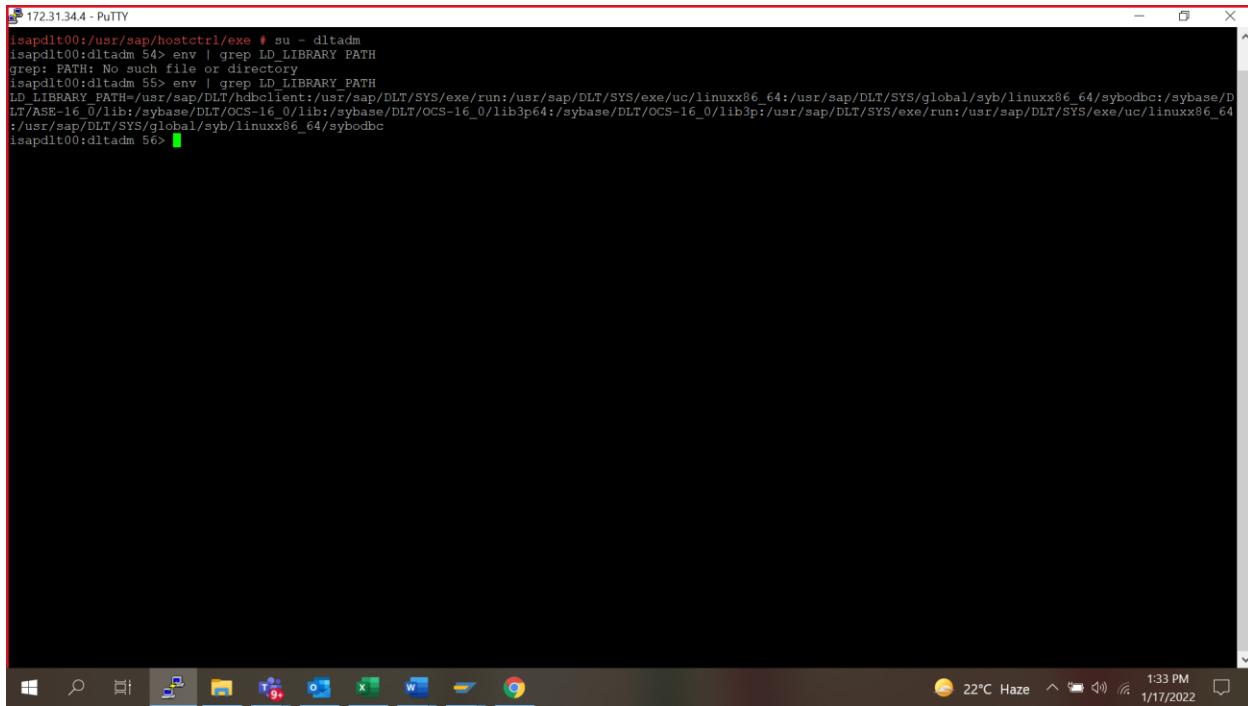
- Check target location from LD_LIBRARY_PATH

```
isapdlt00:dltadm 55> env | grep LD_LIBRARY_PATH
```

```
LD_LIBRARY_PATH=/usr/sap/DTL/hdbcclient:/usr/sap/DTL/SYS/exe/run:/usr/sap/DTL/SYS/exe/uc/lin
uxx86_64:/usr/sap/DTL/SYS/global/syb/linuxx86_64/sybodbc:/sybase/DTL/ASE-
16_0/lib:/sybase/DTL/OCS-16_0/lib:/sybase/DTL/OCS-16_0/lib3p64:/sybase/DTL/OCS-
16_0/lib3p:/usr/sap/DTL/SYS/exe/run:/usr/sap/DTL/SYS/exe/uc/linuxx86_64:/usr/sap/DTL/SYS/glob
al/syb/linuxx86_64/sybodbc
```

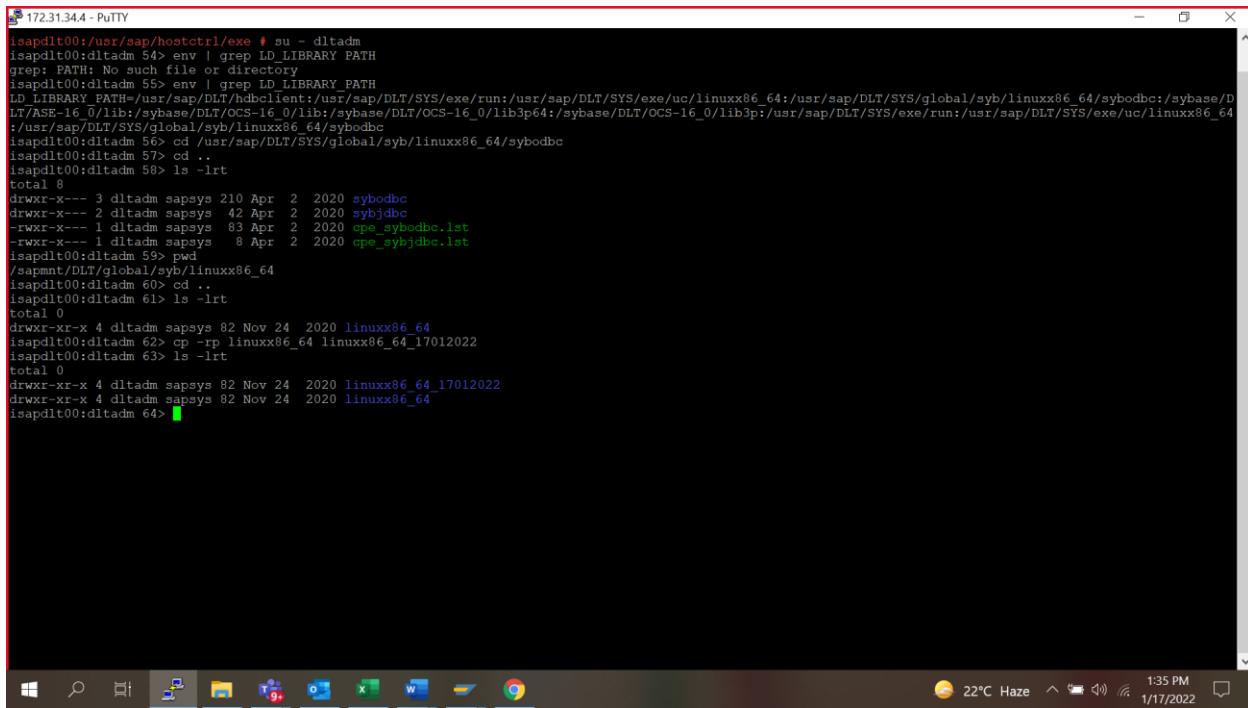
```
isapdlt00:dltadm 56>
```

SYBASE DB PATCH



```
172.31.34.4 - PuTTY
isapdit00:/usr/sap/hostctrl/exe # su - dltadm
isapdit00: dltadm 54> env | grep LD_LIBRARY_PATH
grep: PATH: No such file or directory
isapdit00: dltadm 55> env | grep LD_LIBRARY_PATH
LD_LIBRARY_PATH=/usr/sap/DLT/hdbcclient:/usr/sap/DLT/SYS/exe/run:/usr/sap/DLT/SYS/exe/uc/linuxx86_64:/usr/sap/DLT/SYS/global/syb/linuxx86_64/sybodbc:/sybase/D
LT/ASE-16_0/lib:/sybase/DLT/OCS-16_0/lib:/sybase/DLT/OCS-16_0/lib3p64:/sybase/DLT/OCS-16_0/lib3p:/usr/sap/DLT/SYS/exe/run:/usr/sap/DLT/SYS/exe/uc/linuxx86_64
:/usr/sap/DLT/SYS/global/syb/linuxx86_64/sybodbc
isapdit00: dltadm 56>
```

- Take backup of existing Linux Directory



```
172.31.34.4 - PuTTY
isapdit00:/usr/sap/hostctrl/exe # su - dltadm
isapdit00: dltadm 54> env | grep LD_LIBRARY_PATH
grep: PATH: No such file or directory
isapdit00: dltadm 55> env | grep LD_LIBRARY_PATH
LD_LIBRARY_PATH=/usr/sap/DLT/hdbcclient:/usr/sap/DLT/SYS/exe/run:/usr/sap/DLT/SYS/exe/uc/linuxx86_64:/usr/sap/DLT/SYS/global/syb/linuxx86_64/sybodbc:/sybase/D
LT/ASE-16_0/lib:/sybase/DLT/OCS-16_0/lib:/sybase/DLT/OCS-16_0/lib3p64:/sybase/DLT/OCS-16_0/lib3p:/usr/sap/DLT/SYS/exe/run:/usr/sap/DLT/SYS/exe/uc/linuxx86_64
:/usr/sap/DLT/SYS/global/syb/linuxx86_64/sybodbc
isapdit00: dltadm 56> cd ..
isapdit00: dltadm 57> ls -lrt
total 8
drwxr-x--- 3 dltadm sapsys 210 Apr  2  2020 sybodbc
drwxr-x--- 2 dltadm sapsys  42 Apr  2  2020 sybjdbc
-rwxr-x--- 1 dltadm sapsys  83 Apr  2  2020 cpe_sybodbc.lst
-rwxr-x--- 1 dltadm sapsys   8 Apr  2  2020 cpe_sybjdbc.lst
isapdit00: dltadm 58> pwd
/sapmnt/DLT/global/syb/linuxx86_64
isapdit00: dltadm 59> cd ..
isapdit00: dltadm 60> ls -lrt
total 0
drwxr-xr-x  4 dltadm sapsys 82 Nov 24  2020 linuxx86_64
isapdit00: dltadm 61> cp -rp linuxx86_64 linuxx86_64_17012022
isapdit00: dltadm 62> ls -lrt
total 0
drwxr-xr-x  4 dltadm sapsys 82 Nov 24  2020 linuxx86_64_17012022
drwxr-xr-x  4 dltadm sapsys 82 Nov 24  2020 linuxx86_64
isapdit00: dltadm 63>
```

> Replace the files

Copy the files to /usr/sap/DLT/SYS/global/syb/linuxx86_64 directory.

SYBASE DB PATCH

```
isapdit00:/usr/sap/hostctrl/exe # cd /nfsshare/Migration/ASEBS16004P_1-10013280/
isapdit00:/nfsshare/Migration/ASEBS16004P_1-10013280 # ls -lrt
total 122172
-rw-r--r-- 1 dltadm sapsys 60 Aug 10 15:28 LABEL.ASC
-rw-r--r-- 1 dltadm sapsys 9260842 Aug 10 15:28 DBCLIENT.SAR
drwxr-xr-x 3 dltadm sapsys 66 Aug 10 15:29 sysam_setup
-rwxr-xr-x 1 dltadm sapsys 22179 Aug 10 15:29 sample_response_primary.txt
-rwxr-xr-x 1 dltadm sapsys 16641 Aug 10 15:29 sample_response.txt
drwxr-xr-x 44 dltadm sapsys 4096 Aug 10 15:29 archives
drwxr-xr-x 2 dltadm sapsys 4096 Aug 10 15:29 ThirdPartyLegal
drwxr-xr-x 3 dltadm sapsys 66 Aug 10 15:29 FaultManager
drwxr-xr-x 1 dltadm sapsys 12886 Aug 10 15:29 upgrade_bs_rdbms.sh
-rwxr-xr-x 1 dltadm sapsys 22154 Aug 10 15:29 sample_response_companion.txt
-rwxr-xr-x 1 dltadm sapsys 30498 Aug 10 15:29 SIGNATURE.SMF
-rw-r--r-- 1 dltadm sapsys 685948 Aug 10 15:29 PATCH.SAR
drwxr-xr-x 4 dltadm sapsys 32 Aug 10 15:29 sysam_utilities
-rwxr-xr-x 1 dltadm sapsys 113378406 Aug 10 15:29 setup.bin
-rwxr-xr-x 1 dltadm sapsys 1640816 Aug 10 15:29 preupgrade
drwxr-xr-x 4 root root 82 Nov 1 17:29 DBCLIENT
isapdit00:/nfsshare/Migration/ASEBS16004P_1-10013280 # cp -rp DBCLIENT.SAR /usr/sap/DLT/SYS/global/syb/linuxx86_64
isapdit00:/nfsshare/Migration/ASEBS16004P_1-10013280 #
```

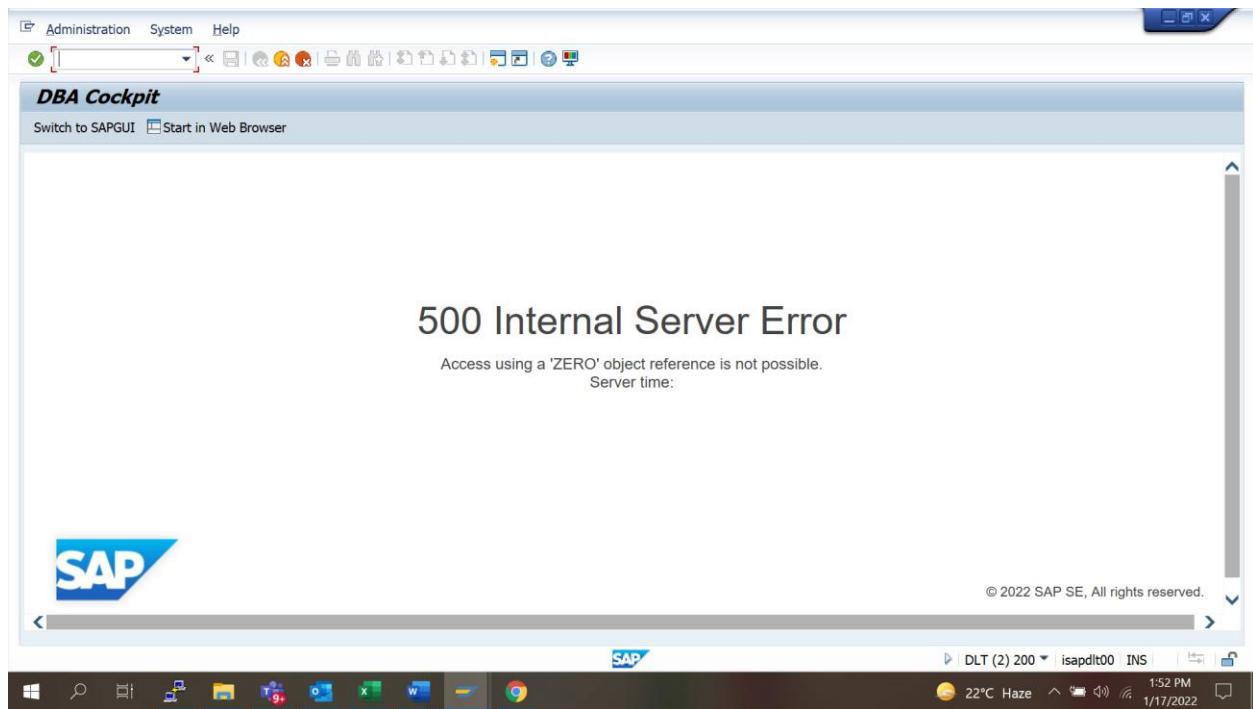
SAPCAR -xvf DBCLIENT.SAR

```
17.23.134.4 - PuTTY
drwxr-xr-x 2 dltadm sapsys 4096 Aug 10 15:29 ThirdPartyLegal
drwxr-xr-x 3 dltadm sapsys 66 Aug 10 15:29 FaultManager
drwxr-xr-x 1 dltadm sapsys 12886 Aug 10 15:29 upgrade_bs_rdbms.sh
-rwxr-xr-x 1 dltadm sapsys 22154 Aug 10 15:29 sample_response_companion.txt
-rwxr-xr-x 1 dltadm sapsys 30498 Aug 10 15:29 SIGNATURE.SMF
-rw-r--r-- 1 dltadm sapsys 685948 Aug 10 15:29 PATCH.SAR
drwxr-xr-x 4 dltadm sapsys 32 Aug 10 15:29 sysam_utilities
-rwxr-xr-x 1 dltadm sapsys 113378406 Aug 10 15:29 setup.bin
-rwxr-xr-x 1 dltadm sapsys 1640816 Aug 10 15:29 preupgrade
drwxr-xr-x 4 root root 82 Nov 1 17:29 DBCLIENT
isapdit00:/nfsshare/Migration/ASEBS16004P_1-10013280 # cp -rp DBCLIENT.SAR /usr/sap/DLT/SYS/global/syb/linuxx86_64
isapdit00:/nfsshare/Migration/ASEBS16004P_1-10013280 # su - dltadm
isapdit00: dltadm 54> cd /usr/sap/DLT/SYS/global/syb/linuxx86_64
isapdit00: dltadm 55> ls -lrt
total 9052
drwxr-x--- 3 dltadm sapsys 210 Apr 2 2020 sybodbc
drwxr-x--- 2 dltadm sapsys 42 Apr 2 2020 sybjdbc
-rwxr-x--- 1 dltadm sapsys 83 Apr 2 2020 cpe_sybodbc.lst
-rwxr-x--- 1 dltadm sapsys 8 Apr 2 2020 cpe_sybjdbc.lst
-rw-r--r-- 1 dltadm sapsys 9260842 Aug 10 15:28 DBCLIENT.SAR
isapdit00: dltadm 56> SAPCAR -xvf DBCLIENT.SAR
SAPCAR: processing archive DBCLIENT.SAR (version 2.01)
x cpe_sybjdbc.lst
x cpe_sybodbc.lst
x sybjdbc
x sybodbc/jconn3.jar
x sybodbc/jconn4.jar
x sybodbc/jconn42.jar
x sybodbc
x sybodbc/locales
x sybodbc/locales/us_english
x sybodbc/locales/us_english/sybdrv.lcu
x sybodbc/locales/chinese
x sybodbc/locales/chinese/sybdrv.lcu
x sybodbc/locales/japanese
x sybodbc/locales/japanese/sybdrv.lcu
x sybodbc/libsapssfs.so
x sybodbc/libsapcrypto.so
x sybodbc/libsybdrvdb.so
x sybodbc/libsicryptokernel.so
x sybodbc/libsybdrvdb8.so
SAPCAR: 20 file(s) extracted
isapdit00: dltadm 57>
```

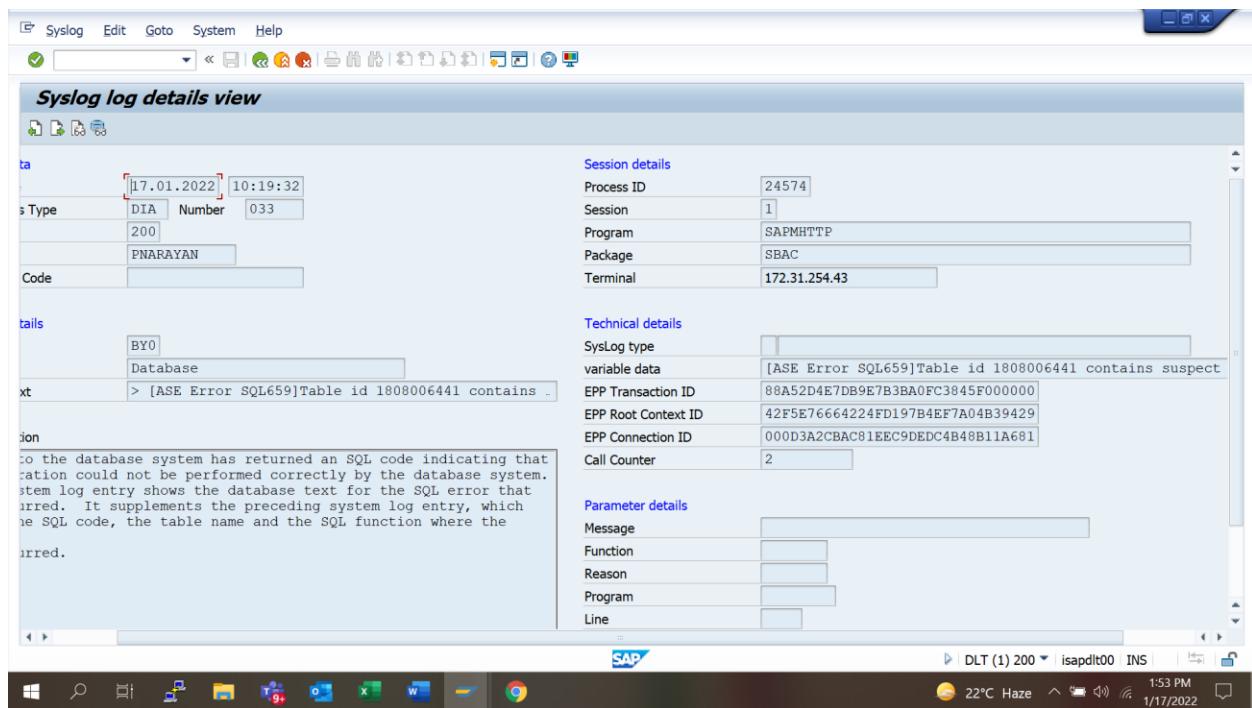
SYBASE DB PATCH

```
172.31.34.4 - PuTTY
isapdit00:/nfsshare/Migration/ASSEBS16004P_1-10013200 # su - ditadm
isapdit00:ditadm 54> cd /usr/sap/DLT/SYS/global/syb/linuxx86_64
isapdit00:ditadm 55> ls -lrt
total 9052
drwxr-x--- 3 ditadm sapsys    210 Apr  2  2020 sybodbc
drwxr-x--- 2 ditadm sapsys     42 Apr  2  2020 sybjdbc
-rw-r-x--- 1 ditadm sapsys    83 Apr  2  2020 cpe_sybodbc.lst
-rw-r-x--- 1 ditadm sapsys     8 Apr  2  2020 cpe_sybjdbc.lst
-rw-r--r-- 1 ditadm sapsys 9260842 Aug 10 15:28 DBCLIENT.SAR
isapdit00:ditadm 56> SAPCAR -xvf DBCLIENT.SAR
SAPCAR: processing archive DBCLIENT.SAR (version 2.01)
x cpe_sybjdbc.lst
x cpe_sybodbc.lst
x sybjdbc
x sybodbc/jconn3.jar
x sybodbc/jconn4.jar
x sybodbc/jconn42.jar
x sybodbc
x sybodbc/locales
x sybodbc/locales/us_english
x sybodbc/locales/us_english/sybdrv.lcu
x sybodbc/locales/chinese
x sybodbc/locales/chinese/sybdrv.lcu
x sybodbc/locales/japanese
x sybodbc/locales/japanese/sybdrv.lcu
x sybodbc/libsapssfs.so
x sybodbc/libsapcrypto.so
x sybodbc/libsqlcryptokernel.so.sha256
x sybodbc/libsybdrvdb.so
x sybodbc/libsybdrvkernel.so
x sybodbc/libsybdrvdb8.so
SAPCAR: 20 file(s) extracted
isapdit00:ditadm 57> ls -lrt
total 9052
drwxr-x--- 3 ditadm sapsys    210 Jul 28 12:40 sybodbc
drwxr-x--- 2 ditadm sapsys     61 Jul 28 12:40 sybjdbc
-rw-r-x--- 1 ditadm sapsys    55 Jul 28 12:40 cpe_sybodbc.lst
-rw-r-x--- 1 ditadm sapsys     8 Jul 28 12:40 cpe_sybjdbc.lst
-rw-r--r-- 1 ditadm sapsys 9260842 Aug 10 15:28 DBCLIENT.SAR
isapdit00:ditadm 58> env | grep LD_LIBRARY_PATH
LD_LIBRARY_PATH=/usr/sap/DBCLIENT/usr/sap/DBLTSYS/exe/run:/usr/sap/DBLTSYS/exe/uc/linuxx86_64:/usr/sap/DBLTSYS/global/syb/linuxx86_64/sybodbc:/sybase/DLT/ASE-16_0/lib:/sybase/DBLTSYS/exe/run:/usr/sap/DBLTSYS/exe/uc/linuxx86_64:/usr/sap/DBLTSYS/global/syb/linuxx86_64/sybodbc
isapdit00:ditadm 59>
```

3. Error after upgrade



SYBASE DB PATCH



[ASE Error SQL659]Table id 1808006441 contains suspect

Resolution -

```
172.31.34.4 - PuTTY
isapdlt00:/nfsshare/Migration/ASEBS16004P_1-10013280 # su - sybdlit
isapdlt00 /sybase/DTL% clear
isapdlt00 /sybase/DTL% isql -SDLT -USAPSR3 -X
Password:
1> use DLT
2> go
1> dbcc traceon(3604)
2> go
DBCC execution completed. If DBCC printed error messages, contact a user with
System Administrator (SA) role.
1> dbcc checktable(D020S)
2> go
Checking table 'D020S' (object ID 639544389): Logical page size is 16384 bytes.

Checking partition 'D020S- 639544389' (partition ID 639544389) of table 'D020S'.
The logical page size of this table is 16384 bytes.
The total number of data pages in partition 'D020S- 639544389' (partition ID
639544389) is 375.
Partition 'D020S- 639544389' (partition ID 639544389) has 56619 data rows.
Partition 'D020S- 639544389' (partition ID 639544389) has 202 row-level only
compressed rows, and 56417 page-level compressed rows.
The total number of page-level compressed pages in partition 'D020S- 639544389'
(partition ID 639544389) is 371.
The total number of empty pages (with all deleted rows) in partition
'D020S- 639544389' (partition ID 639544389) is 0.
The total number of pages in partition 'D020S- 639544389' (partition ID
639544389) which could be garbage collected to free up some space is 301.
The total number of deleted rows in partition 'D020S- 639544389' (partition ID
639544389) is 20862.
The total number of pages in partition 'D020S- 639544389' (partition ID
639544389) with more than 50 percent garbage is 52.
The total number of pages in partition 'D020S- 639544389' (partition ID
639544389) with more than 50 percent insert free space is 156.

The total number of data pages in this table is 375.
The total number of pages which could be garbage collected to free up some space
is 301.
The total number of deleted rows in the table is 20862.
The total number of pages with more than 50 percent garbage is 52.
The total number of pages with more than 50 percent insert free space is 156.
The total number of page-level compressed pages in this table is 371.
Table has 202 row-level only compressed rows, and 56417 page-level compressed
rows.
Table has 56619 data rows.
```

isapdlt00 /sybase/DTL% clear

```
isapdlt00 /sybase/DLT% isql -SDLT -USAPSR3 -X
```

Password:

1> use DLT

2> go

1> dbcc traceon(3604)

2> go

1> dbcc checktable(D020S)

2> go

1> dbcc tablealloc(D020S)

2> go

```
isapdlt00 /sybase/DLT% isql -SDLT -Usapsa -X
Password:
1> use sybmgmtdb
2> go
1> select object_name(1808006441)
2> go

-----
js_keys

(1 row affected)
1> 
```

```
isapdlt00 /sybase/DLT% isql -SDLT -Usapsa -X
```

Password:

1> use sybmgmtdb

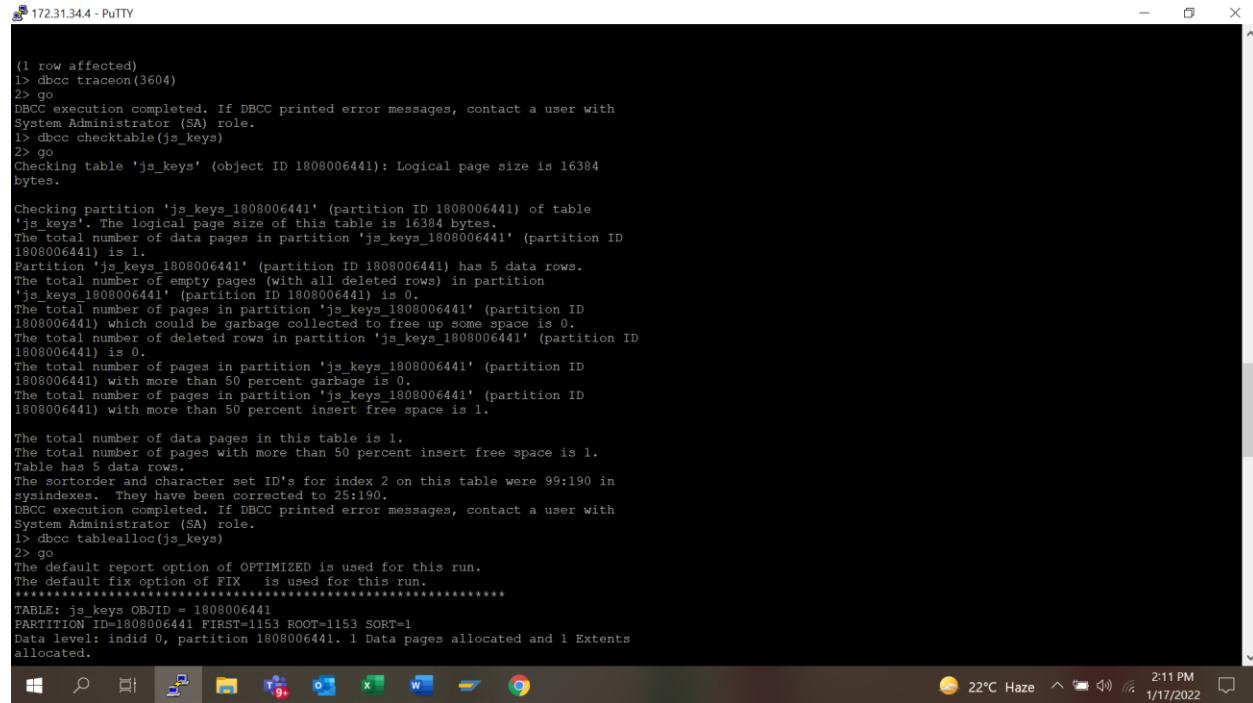
2> go

1> select object_name(1808006441)

2> go

js_keys

(1 row affected)



```

172.31.34.4 - PuTTY

(1 row affected)
1> dbcc traceon(3604)
2> go
DBCC execution completed. If DBCC printed error messages, contact a user with
System Administrator (SA) role.
1> dbcc checktable(js_keys)
2> go
Checking table 'js_keys' (object ID 1808006441): Logical page size is 16384
bytes.

Checking partition 'js_keys_1808006441' (partition ID 1808006441) of table
'js_keys'. The logical page size of this table is 16384 bytes.
The total number of data pages in partition 'js_keys_1808006441' (partition ID
1808006441) is 1.
Partition 'js_keys_1808006441' (partition ID 1808006441) has 5 data rows.
The total number of empty pages (with all deleted rows) in partition
'js_keys_1808006441' (partition ID 1808006441) is 0.
The total number of pages in partition 'js_keys_1808006441' (partition ID
1808006441) which could be garbage collected to free up some space is 0.
The total number of deleted rows in partition 'js_keys_1808006441' (partition ID
1808006441) is 0.
The total number of pages in partition 'js_keys_1808006441' (partition ID
1808006441) with more than 50 percent garbage is 0.
The total number of pages in partition 'js_keys_1808006441' (partition ID
1808006441) with more than 50 percent insert free space is 1.

The total number of data pages in this table is 1.
The total number of pages with more than 50 percent insert free space is 1.
Table has 5 data rows.
The sortorder and character set ID's for index 2 on this table were 99:190 in
sysindexes. They have been corrected to 25:190.
DBCC execution completed. If DBCC printed error messages, contact a user with
System Administrator (SA) role.
1> dbcc tablealloc(js_keys)
2> go
The default report option of OPTIMIZED is used for this run.
The default fix option of FIX is used for this run.
*****
TABLE: js_keys OBJID = 1808006441
PARTITION ID=1808006441 FIRST=1153 ROOT=1153 SORT=1
Data level: indid 0, partition 1808006441. 1 Data pages allocated and 1 Extents
allocated.

```

SYBASE DB PATCH

```
172.31.34.4 - PuTTY
1808006441) is 0.
The total number of pages in partition 'js_keys_1808006441' (partition ID
1808006441) with more than 50 percent garbage is 0.
The total number of pages in partition 'js_keys_1808006441' (partition ID
1808006441) with more than 50 percent insert free space is 1.

The total number of data pages in this table is 1.
The total number of pages with more than 50 percent insert free space is 1.
Table has 5 data rows.
The sortorder and character set ID's for index 2 on this table were 99:190 in
sysindexes. They have been corrected to 251:90.
DBCC execution completed. If DBCC printed error messages, contact a user with
System Administrator (SA) role.
1> dbcc tablealloc(js_keys)
2> go
The default report option of OPTIMIZED is used for this run.
The default fix option of FIX is used for this run.
*****
TABLE: js_keys OBJID = 1808006441
PARTITION ID=1808006441 FIRST=1153 ROOT=1153 SORT=1
Data level: indid 0, partition 1808006441. 1 Data pages allocated and 1 Extents
allocated.
PARTITION ID=1808006441 FIRST=1145 ROOT=1144 SORT=1
Indid : 2, partition : 1808006441. 2 Index pages allocated and 2 Extents
allocated.

Index Statistics for INDID 2 PARTITIONID 1808006441
#Levels in index = 1
#Leaf pages = 1
#Nonleaf pages = 1
Total free space in bytes:
Nonleaf pages 16306
Leaf pages 12829
#undeleted rids (leaf pages) = 5
TOTAL # of extents = 3
Alloc page 1024 (# of extent=1 used pages=2 ref pages=2)
Alloc page 1024 (# of extent=2 used pages=3 ref pages=3)
Total (# of extent=3 used pages=5 ref pages=5) in this database
The OAM page hint for some extents were out of date, and have now been updated.

Statistical information for this run follows:
Total # of pages read = 6
Total # of pages found cache = 6
Total # of physical reads = 0
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```

```
172.31.34.4 - PuTTY
PARTITION ID=1808006441 FIRST=1145 ROOT=1144 SORT=1
Indid : 2, partition : 1808006441. 2 Index pages allocated and 2 Extents
allocated.

Index Statistics for INDID 2 PARTITIONID 1808006441
#Levels in index = 1
#Leaf pages = 1
#Nonleaf pages = 1
Total free space in bytes:
Nonleaf pages 16306
Leaf pages 12829
#undeleted rids (leaf pages) = 5
TOTAL # of extents = 3
Alloc page 1024 (# of extent=1 used pages=2 ref pages=2)
Alloc page 1024 (# of extent=2 used pages=3 ref pages=3)
Total (# of extent=3 used pages=5 ref pages=5) in this database
The OAM page hint for some extents were out of date, and have now been updated.

Statistical information for this run follows:
Total # of pages read = 6
Total # of pages found cache = 6
Total # of physical reads = 0
Total # of saved I/O = 0
Size of I/O used = 8 pages
DBCC execution completed. If DBCC printed error messages, contact a user with
System Administrator (SA) role.
1> dbcc reindex(js_keys)
2> go
Checking table 'js_keys' (object ID 1808006441): Logical page size is 16384
bytes.

Checking partition 'js_keys_1808006441' (partition ID 1808006441) of table
'js_keys'. The logical page size of this table is 16384 bytes.

The indexes for 'js_keys' are already correct. They will not be rebuilt.
DBCC execution completed. If DBCC printed error messages, contact a user with
System Administrator (SA) role.
1> sp_version
2> go
Script
  Version
  Status
-----
```

1> dbcc traceon(3604)

2> go

DBCC execution completed. If DBCC printed error messages, contact a user with

System Administrator (SA) role.

```
1> dbcc checktable(js_keys)
```

```
2> go
```

Checking table 'js_keys' (object ID 1808006441): Logical page size is 16384 bytes.

Checking partition 'js_keys_1808006441' (partition ID 1808006441) of table 'js_keys'. The logical page size of this table is 16384 bytes.

The total number of data pages in partition 'js_keys_1808006441' (partition ID 1808006441) is 1.

Partition 'js_keys_1808006441' (partition ID 1808006441) has 5 data rows.

The total number of empty pages (with all deleted rows) in partition 'js_keys_1808006441' (partition ID 1808006441) is 0.

The total number of pages in partition 'js_keys_1808006441' (partition ID 1808006441) which could be garbage collected to free up some space is 0.

The total number of deleted rows in partition 'js_keys_1808006441' (partition ID 1808006441) is 0.

The total number of pages in partition 'js_keys_1808006441' (partition ID 1808006441) with more than 50 percent garbage is 0.

The total number of pages in partition 'js_keys_1808006441' (partition ID 1808006441) with more than 50 percent insert free space is 1.

The total number of data pages in this table is 1.

The total number of pages with more than 50 percent insert free space is 1.

Table has 5 data rows.

The sortorder and character set ID's for index 2 on this table were 99:190 in sysindexes. They have been corrected to 25:190.

DBCC execution completed. If DBCC printed error messages, contact a user with System Administrator (SA) role.

```
1> dbcc tablealloc(js_keys)
```

```
2> go
```

The default report option of OPTIMIZED is used for this run.

The default fix option of FIX is used for this run.

```
*****
```

TABLE: js_keys OBJID = 1808006441

PARTITION ID=1808006441 FIRST=1153 ROOT=1153 SORT=1

Data level: indid 0, partition 1808006441. 1 Data pages allocated and 1 Extents allocated.

PARTITION ID=1808006441 FIRST=1145 ROOT=1144 SORT=1

Indid : 2, partition : 1808006441. 2 Index pages allocated and 2 Extents allocated.

Index Statistics for INDID 2 PARTIONID 1808006441

#Levels in index = 1

#Leaf pages = 1

#Nonleaf pages = 1

Total free space in bytes:

Nonleaf pages 16306

Leaf pages 12829

#undeleted rids (leaf pages) = 5

TOTAL # of extents = 3

Alloc page 1024 (# of extent=1 used pages=2 ref pages=2)

Alloc page 1024 (# of extent=2 used pages=3 ref pages=3)

Total (# of extent=3 used pages=5 ref pages=5) in this database

The OAM page hint for some extents were out of date, and have now been updated.

Statistical information for this run follows:

Total # of pages read = 6

Total # of pages found cache = 6

Total # of physical reads = 0

Total # of saved I/O = 0

Size of I/O used = 8 pages

DBCC execution completed. If DBCC printed error messages, contact a user with
System Administrator (SA) role.

1> dbcc reindex(js_keys)

2> go

Checking table 'js_keys' (object ID 1808006441): Logical page size is 16384
bytes.

Checking partition 'js_keys_1808006441' (partition ID 1808006441) of table
'js_keys'. The logical page size of this table is 16384 bytes.

The indexes for 'js_keys' are already correct. They will not be rebuilt.

DBCC execution completed. If DBCC printed error messages, contact a user with
System Administrator (SA) role.

4. Post upgrade activities

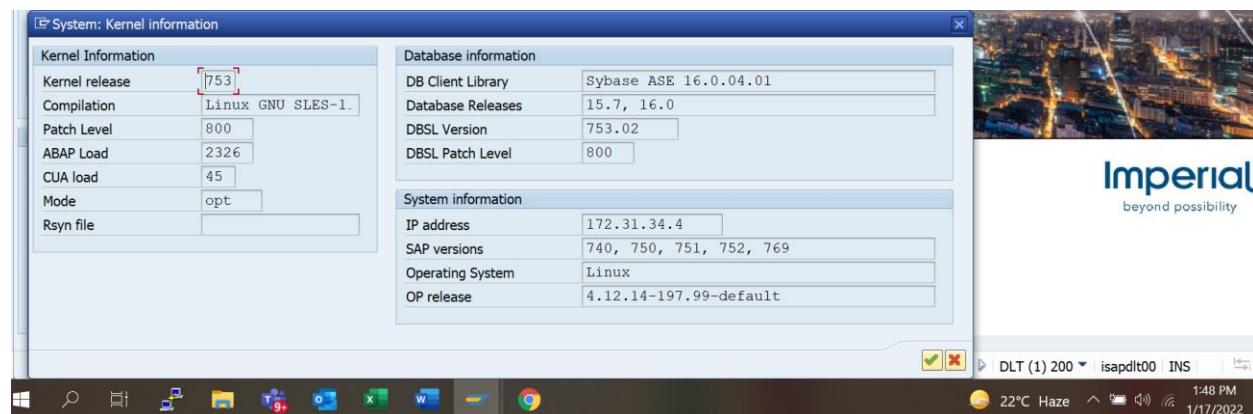
4.1 Start the applications

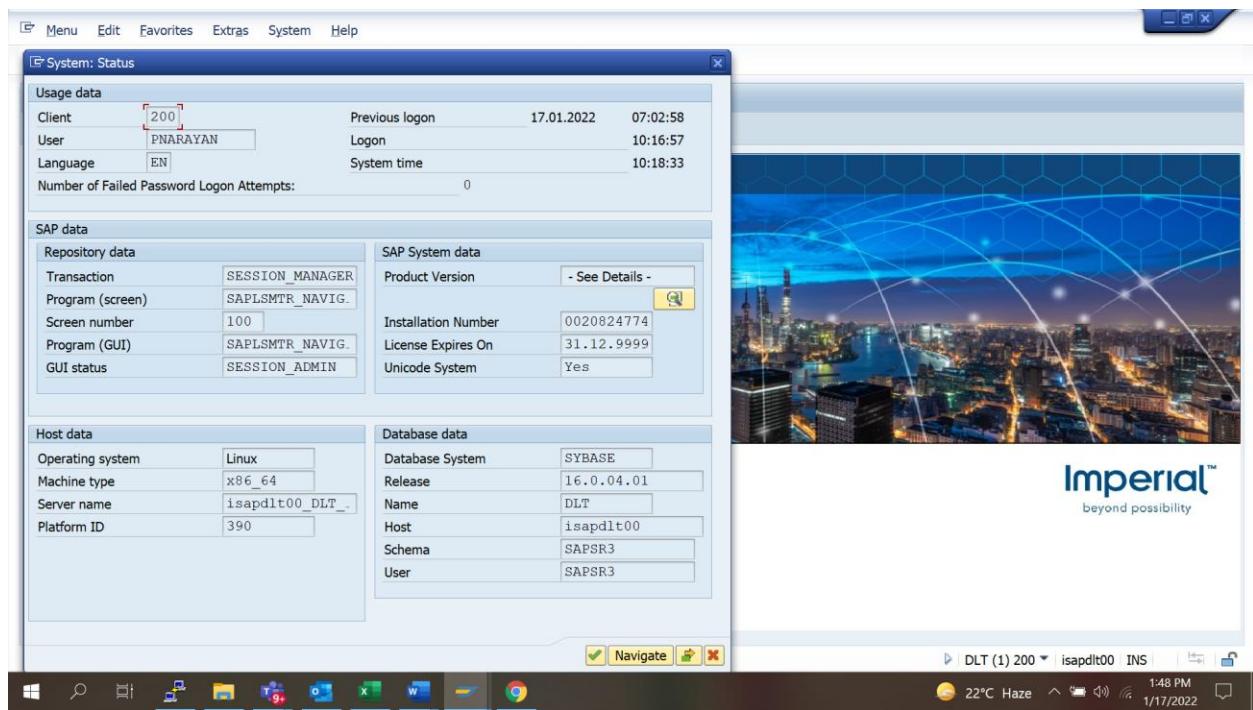
```

x sybodbc/locales/chinese/sybdrv.lcu
x sybodbc/locales/japanese
x sybodbc/locales/japanese/sybdrv.lcu
x sybodbc/libsapfs.so
x sybodbc/libsapcrypto.so
x sybodbc/libsqlcryptokernel.so.sha256
x sybodbc/libsybdrvodb.so
x sybodbc/libsybdrvkernel.so
x sybodbc/libsybdrvodb8.so
SAPCAR: 20 file(s) extracted
isapdlt00:dladm 5> ls -lrt
total 9052
drwxr-x--- 3 dladm sapsys 210 Jul 28 12:40 sybodbc
drwxr-x--- 2 dladm sapsys 61 Jul 28 12:40 sybjdbc
-rw-r-x--- 1 dladm sapsys 55 Jul 28 12:40 odbc-sybodbc.lst
-rw-r-x--- 1 dladm sapsys 8 Jul 28 12:40 odbc-sybjdbc.lst
-rw-r--r-- 1 dladm sapsys 9260842 Aug 10 15:28 DBCLIENT.SAR
isapdlt00:dladm 5> env | grep LD_LIBRARY_PATH
LD_LIBRARY_PATH=/usr/sap/DLT/hdbclient:/usr/sap/DLT/SYS/exe/run:/usr/sap/DLT/SYS/exe/uc/linuxx86_64:/usr/sap/DLT/SYS/global/syb/linuxx86_64/sybodbc:/sysbase/DLT/OCS-16_0/lib:/sysbase/DLT/OCS-16_0/lib32:/sysbase/DLT/OCS-16_0/lib3p64:/sysbase/DLT/SYS/exe/run:/usr/sap/DLT/SYS/exe/uc/linuxx86_64:/usr/sap/DLT/SYS/global/syb/linuxx86_64/sybodbc
isapdlt00:dladm 5> startsap
Checking sys Database
Database is running
-----
Starting Startup Agent sapstartsrv
OK
Instance Service on host isapdlt00 started
-----
starting SAP Instance ASCS01
Startup-Log is written to /home/dladm/startsap_ASCS01.log
-----
/usr/sap/DLT/ASC01/exe/sapcontrol -prot NI_HTTP -nr 01 -function Start
Instance on host isapdlt00 started
Starting Startup Agent sapstartsrv
OK
Instance Service on host isapdlt00 started
-----
starting SAP Instance DVEBMGS00
Startup-Log is written to /home/dladm/startsap_DVEBMGS00.log
-----
/usr/sap/DLT/DVEBMGS00/exe/sapcontrol -prot NI_HTTP -nr 00 -function Start
Instance on host isapdlt00 started
isapdlt00:dladm 60> sapcontrol -nr 00 -fucntion GetProcessList

```

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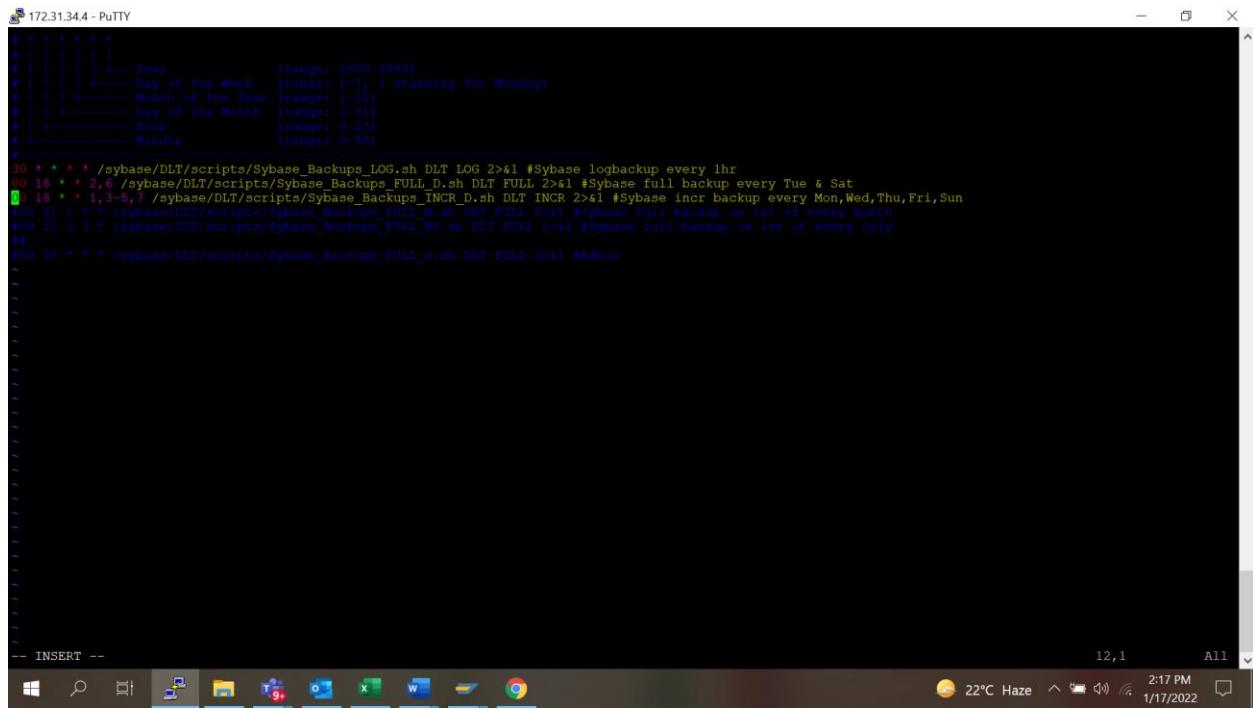
4.2 Perform SAP Application and DB health checks

4.3 Mail to be sent to Infra team to Revoke root access.

5. Functional Testing

5.1 Handover the system to Imperial

5.2. Enable Backup



```
30 * * * * /sybase/DLT/scripts/Sybase_Backups_LOG.sh DLT LOG 2>&1 #Sybase logbackup every 1hr
00 18 * * * 2,6 /sybase/DLT/scripts/Sybase_Backups_FULL_D.sh DLT FULL 2>&1 #Sybase full backup every Tue & Sat
0 18 * * 1,3-5,7 /sybase/DLT/scripts/Sybase_Backups_INCR_D.sh DLT INCR 2>&1 #Sybase incr backup every Mon,Wed,Thu,Fri,Sun
00 21 6 1 * /sybase/DLT/scripts/Sybase_Backups_FULL_Monthly.sh DLT FULL 2>&1 #Sybase full backup on 1st of every month
00 00 * * * /sybase/DLT/scripts/Sybase_Backups_FULL_B.on DLT FULL 2>&1 #Sybase full backup on last of every July
-- INSERT --
```

5.3 Start the replication in DLT