

## Upgrade In-place AVDF 20.12 to 20.15

### 1. List Server

- AVS01: 192.168.112.121 (HA Primary)
- AVS02: 192.168.112.120 (HA Standby)
- DBFW01: 192.168.112.178
- DBFW02: 192.168.112.179
- DBTarget : 192.168.112.232 (Database oracle)

### 2. Prerequisite

Download Patch number **38322746**: ISO Patch File 20.15 for AVDF

Download Patch number **35303191**: Post Upgrade Agent User Security Hardening

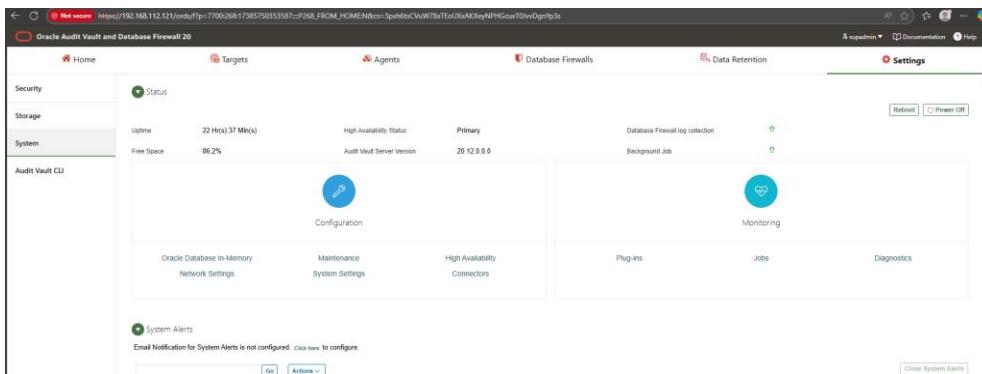
Doc ID **2458154.1**: Post Upgrade follow instructions to clear unused kernels

Download file “kernel-cleanup.rb”: follow Doc ID **2458154.1**

### 3. Precheck Before Upgrade

Before:

AVS Version:



DBFW Version:

Name	IP Address	Version	Status	Role	Registered Time	FIPS 140-2 Mode
DBFW01	192.168.112.178	20.12.0.0.0	Up	Primary	9/19/2025 3:14:13 PM	Off
DBFW02	192.168.112.179	20.12.0.0.0	Up	Primary	9/19/2025 4:08:39 PM	Off

HA:

```
[oracle@avas005056a02dd1 ~]$ /usr/local/dbfw/bin/setup_ha.rb --status
HA mode: PRIMARY
HA server 1: 192.168.112.121
HA server 2: 192.168.112.120
Unique database name: DBFWDB_HA1
Current database role: PRIMARY
Data guard broker: ENABLED
Data guard observer: YES
Current log mode: ARCHIVELOG
Logging forced: YES
Flashback mode: YES
Current open mode: READ WRITE
Switchover status: NOT ALLOWED
Automatic failover: ENABLED
Failover status: TARGET OVER LAG LIMIT
Missing listener services: NONE
Archive destination: RESET
Recovery mode: MANAGED REAL TIME APPLY
FRA size: 11,811,160,064
FRA used: 2,324,692,992
FRA reclaimable: 687,865,856
FRA available: 10,174,332,928
Gap status:
Archived sequence: 31
Applied sequence: 30
Apply lag: 0:30:44
[oracle@avas005056a02dd1 ~]$
```

```
[oracle@avas005056a02204 ~]$ !12
/usr/local/dbfw/bin/setup_ha.rb --status
HA mode: STANDBY
HA server 1: 192.168.112.121
HA server 2: 192.168.112.120
Unique database name: DBFWDB_HA2
Current database role: PHYSICAL STANDBY
Data guard broker: ENABLED
Data guard observer: YES
Current log mode: ARCHIVELOG
Logging forced: YES
Flashback mode: YES
Current open mode: MOUNTED
Switchover status: NOT ALLOWED
Automatic failover: ENABLED
Failover status: TARGET UNDER LAG LIMIT
Missing listener services: NONE
Archive destination: RESET
Recovery mode: MANAGED REAL TIME APPLY
FRA size: 11,811,160,064
FRA used: 2,134,900,736
FRA reclaimable: 1,046,478,848
FRA available: 10,722,738,176
[oracle@avas005056a02204 ~]$
```

Agent Version:

Oracle Audit Vault and Database Firewall 20

Agents

Name	IP Address	Agent Status	Last Connected	Activation Key	Host Monitor Status	Agent Details	Host Monitor Details
DBSEC STANDALONES	192.168.112.232	Running	9/21/2025 11:39:56 AM	DBSEC STANDALON:ZCG0-RXQ-SKFJ5U4-C688	Installed	Platform: Linux x86-64 Location: /u01/app/oracle/avd_agent Version: 20.12.0.0 Activation Time: 9/21/2025 10:39:06 AM AGENT AUTO RESTART STATUS: Stopped <a href="#">View Audit Trails</a>	Location: /u01/app/oracle/ Agent OS User: oracle Version: Release 20.12.0.0.0 (2025-09-20 05:53:58.807 +0000) Generation Time: 9/20/2025 12:53:58 PM Update Time: 9/21/2025 11:40:11 AM Error Message: -

```
[oracle@standalones bin]$ ./agentctl -v
[oracle@standalones bin]#
[oracle@standalones bin]$ cat version.txt
AV_RELEASE_VERSION = "20.12.0.0"
TIMESTAMP = "2024/06/14 02:59:34"
[oracle@standalones bin]#
[root@standalones hm]# cat version.txt
AV RELEASE VERSION = "20.12.0.0.0"
TIMESTAMP = "2024/06/14 02:59:34"
[root@standalones hm]#
```

## Dashboard:

System Alerts

Category	Count
High Availability	3
Password	2
Database Firewall	1

Click to configure email notification

Targets

Type	Count
Oracle Database	1

Audit Collection

Platform	Count
Linux x86-64	1

Audit Trails

No audit trails added. Click to Add.

Database Firewall Monitoring

Mode	Count
Monitoring (Proxy)	1

Monitoring Points

Host Monitor	Count
Up	0

Collection Summary

Total Records Collected	Count
Average Collection Rate in last 1 week	21
Targets with High Collection Rate in last 1 week	1
Targets with Zero Collection Rate in last 1 week	0

Jobs Summary

User Jobs in last 1 week	Failed: 4 Success: 7
System Jobs in last 1 week	Failed: 0 Success: 45

Data Retention Summary

Automatic Remote Archiving*	disabled. Click here to enable
Total size of Event data collected	< 1 GB
Total size of Event data in Archive	0 GB
Data Retention Job Status	Next Run Time: 9/22/2025 7:09:56 AM
Retained Date	0
Datafiles available for moving to a remote location	0

\* Oracle recommends enabling automatic remote archiving

System Overview

Audit Vault Server Version	20.12.0.0.0
High Availability Status	Primary
Uptime	1 day 20 hrs 45 mins
CPU Utilization	7.6% (2 CPU(s))
Disk Space Utilization	Freesystem: 14.1% used (Total 201.7 GB, Used 35.37 GB); Database Storage: 35.4% used (Total 48 GB, Used 17 GB)
Memory Utilization	84.8% used (Total 11 GB)
Network Traffic Log Collection	Up
PGSQL Report Engine	Up
Alerts Engine	Up

## 4. Update Audit Vault Server (HA)

### 4.1. Process List Upgrade

- Update the standby Audit Vault Server.
- After you reboot the standby Audit Vault Server, ensure that it is up and running before updating the primary Audit Vault Server.
- Stop the audit trails on the primary Audit Vault Server.
- Update the primary Audit Vault Server.
- After you reboot the primary Audit Vault Server and confirm that it's running, no additional reboot is needed. It's fully functional at this point.

### 4.2. Update the Standby Audit Vault Server

#### 4.2.1. Run the Pre-upgrade RPM

```
[root@avx005056a02204 ~]# sha256sum avdf-pre-upgrade-20.15.0.0.0.zip
a4ac68c04648c96d86af3fd0207e2fb577d993619b5c64703b8203aeb6e8393  avdf-pre-upgrade-20.15.0.0.0.zip
[root@avx005056a02204 ~]#
[root@avx005056a02204 ~]# ll
total 384
-rw-----. 1 root root  5936 Jan 30  2003 anaconda-ks.cfg
-rw-----. 1 root root 37503 Aug 29 01:52 AVDF_20_15_readme.html
-rw-r--r--. 1 root root 170524 Sep 10 01:17 avdf-pre-upgrade-20.15.0.0.0-0_RELEASE.d.x86_64.rpm
-r--r--r--. 1 root root 158365 Sep 13 11:44 avdf-pre-upgrade-20.15.0.0.0.zip
-rw-r--r--. 1 root root     15 Jun 22  2018 dbtfwboot.txt
-rw-----. 1 root root  5417 Jan 30  2003 original-ks.cfg
```

```
[root@avs005056a02204 ~]# rpm -i avdf-pre-upgrade-20.15.0.0.0-0_RELEASE.d.x86_64.rpm
active
Checking upgrade preconditions
avsf-20.12.0.0.0-0_240614.0100.x86_64
Verifying certificate date: /usr/local/dbfw/etc/ca.crt
Verifying certificate date: /etc/pki/tls/certs/localhost_internal.crt
Verifying certificate date: /usr/local/dbfw/etc/cert.crt
Verifying certificate date: /usr/local/dbfw/etc/avs/avs_apex_client.crt
Verifying certificate date: /etc/pki/tls/certs/localhost.crt
Checking upgrade preconditions
Checking /var/lib/oracle/software
avsf-20.12.0.0.0-0_240614.0100.x86_64
Verifying certificate date: /usr/local/dbfw/etc/ca.crt
Verifying certificate date: /etc/pki/tls/certs/localhost_internal.crt
Verifying certificate date: /usr/local/dbfw/etc/cert.crt
Verifying certificate date: /usr/local/dbfw/etc/avs/avs_apex_client.crt
Verifying certificate date: /etc/pki/tls/certs/localhost.crt
/usr/local/dbfw/bin/upgrade/oci-pki-check.rb: warning: argument of top-level return is ignored
Shutting down services.

AVDF::Installer::Upgrade::WarningPreconditions

Remove any schemas you have added to the database.

Additional schemas will cause the upgrade to fail.

SUCCESS:

The upgrade media can now be copied to '/var/dbfw/upgrade'.

The upgrade can then be started by running as root user:
/usr/bin/avdf-upgrade

[root@avs005056a02204 ~]#
```

#### 4.2.2. Transfer the ISO File to the Appliance

```
[root@standalone avdf]# scp avdf-upgrade-20.15.0.0.0.iso support@192.168.112.120:/var/lib/oracle/software
Audit Vault Server 20.12.0.0.0

DO NOT CHANGE ANY CONFIGURATIONS IN Audit Vault Server APPLIANCE WITHOUT GUIDANCE FROM
ORACLE SUPPORT. ANY CHANGES SHOULD BE TRACEABLE TO APPROPRIATE SR REFERENCE.
support@192.168.112.120's password:
```

100% 166GB 106.9MB/s 02:35

#### 4.2.3. Start the Update Script

```
[root@avs005056a02204 ~]# /usr/bin/avdf-upgrade
'/Images' already mounted, Unmounting...
Unmounted /dev/mapper/vg_root-lv_images on /images
Please wait while validating SHA256 checksum for /var/dbfw/upgrade/avdf-upgrade-20.15.0.0.0.iso
Checksum validation successful for /var/dbfw/upgrade/avdf-upgrade-20.15.0.0.0.iso
Mounting /var/dbfw/upgrade/avdf-upgrade-20.15.0.0.0.iso on /images
mount: /images: WARNING: device write-protected, mounted read-only.
Successfully mounted /var/dbfw/upgrade/avdf-upgrade-20.15.0.0.0.iso on /images
/images/upgrade/lib/common.rb:1002: warning: mismatched indentations at 'rescue' with 'def' at 993
/images/upgrade/lib/chroot_upgrade.rb:337: warning: assigned but unused variable - ret

The following messages have important information about the upgrade process.

Power loss during upgrade may cause data loss. Do not power
off during upgrade.

Please review Note ID 2235931.1 for a current list of known issues.

The upgrade process is irreversible, please confirm 'y' to continue or 'n' to abort. [y/N]?

y
Verifying upgrade preconditions
avs-20.12.0.0-0_240614.0100.x86_64
Verifying certificate date: /usr/local/dbfw/etc/ca.crt
Verifying certificate date: /etc/pki/tls/certs/localhost_internal.crt
Verifying certificate date: /usr/local/dbfw/etc/cert.crt
Verifying certificate date: /usr/local/dbfw/etc/avs/avs_apex_client.crt
Verifying certificate date: /etc/pki/tls/certs/localhost.crt
mke2fs 1.45.6 (20-Mar-2020)
Discarding device blocks: done
Creating filesystem with 512000 4k blocks and 128000 inodes
Filesystem UUID: c950b1f3-3571-4a1c-a446-7eb1a6739454
Superblock backups stored on blocks:
    32768, 98304, 163840, 229376, 294912

Allocating group tables: done
Writing inode tables: done
Creating journal (8192 blocks): done
Writing superblocks and filesystem accounting information: done

/images/upgrade/aux//oci-pki-check.rb: warning: argument of top-level return is ignored
1/11: Mounting filesystems (1)
2/11: Cleaning yum configuration
3/11: Cleaning old packages and files
Warning: failed to remove kernel-tools-libs
4/11: Upgrading kernel
5/11: Upgrading system
6/11: Cleaning platform packages repo
7/11: Adding required platform packages
8/11: Cleaning AVDF packages repo
9/11: Installing AVDF packages
10/11: Setting boot title
11/11: Setting final system status
Reboot now to continue the upgrade process.
Unmounted /var/dbfw/upgrade/avdf-upgrade-20.15.0.0.0.iso on /images
```

#### 4.2.4. Restart the Appliance

```
[root@avs005056a02204 ~]# reboot
Remote side unexpectedly closed network connection

Session stopped
- Press <Return> to exit tab
- Press R to restart session
- Press S to save terminal output to file
```

Checking background proses:

```
watch -n 5 "/opt/avdf/bin/prvmigutl --status"
```

```
Every 5.0s: /opt/avdf/bin/prvimgutl --status                               avs005056a02204: Tue Sep 23 03:04:36 2025
Migration set 'DEPENDENCIES' - started
Last migration 'Beginning installation, or upgrade, of Audit Vault Server dependencies' - started
The upgrade is in progress or was interrupted. Please wait until the upgrade completes or contact support.
```

/opt/avdf/bin/privmigutl –history

```
[root@avfs005060a204 ~]# /opt/avdf/bin/package_helper -history
2018-06-22 12:13:21 Migration DEPENDENCIES:1, package_helper["c", "/media/avdf/install/avs-bootstrap/yum.conf", "--repo", "avdf-install-bootstrap", "-t", "boot"]
2018-06-22 12:14:45 Migration TOP:2, install_common-os-precheck (as root) - succeeded
2018-06-22 12:14:52 Migration TOP:3, run-privileged-migrations["common-os"] (as root; retry permitted) - started
2018-06-22 12:14:52 Migration COMMON-OS:1, noop (as root) - succeeded
2018-06-22 12:14:53 Migration COMMON-OS:2, setLinuxRwFile (as root) - succeeded
2018-06-22 12:14:53 Migration COMMON-OS:3, setLinuxRwFile (as root) - succeeded
2018-06-22 12:14:55 Migration COMMON-OS:4, configure_systemd_service.rb["avdf-services.yaml"] (as root; retry permitted) - succeeded
2018-06-22 12:14:55 Migration TOP:3, run-privileged-migrations["common-os"] (as root; retry permitted) - succeeded
2018-06-22 12:14:58 Migration TOP:4, install_common-os-postcheck (as root) - succeeded
2018-06-22 12:15:00 Migration TOP:5, package_helper["c", "/media/avdf/install/avs-bootstrap/yum.conf", "--repo", "avs-install-bootstrap", "-i", "boot"]
2018-06-22 12:15:00 Migration DEPENDENCIES:1, update_file_fixes_file["migration-target=dbfw.conf", "--mode=664", "--user=dbfw", "--group=dbfw"] (as root)
2018-06-22 12:15:08 Migration TOP:6, install_dependencies-precheck (as root) - succeeded
2018-06-22 12:15:08 Migration TOP:7, run-privileged-migrations["dependencies"] (as root; retry permitted) - started
2018-06-22 12:15:09 Migration DEPENDENCIES:1, update_file_fixes_file["migration-target=dbfw.conf", "--mode=664", "--user=dbfw", "--group=dbfw"] (as root)
2018-06-22 12:15:09 Migration DEPENDENCIES:2, configure_syslog (as root) - succeeded
2018-06-22 12:15:09 Migration DEPENDENCIES:3, lvm-adjust_rb["--config=lv-sanitisation"] (as root) - succeeded
2018-06-22 12:15:12 Migration DEPENDENCIES:4, import-network-settings (as root) - succeeded
2018-06-22 12:15:15 Migration DEPENDENCIES:5, present-etc-config_rb (as root) - succeeded
2018-06-22 12:15:15 Migration DEPENDENCIES:6, present-etc-secure_rb (as root) - succeeded
2018-06-22 12:15:15 Migration DEPENDENCIES:7, run-onlytime_detection, iptables, disable_devices, create_nics, modify_nics, hosts, nos
2018-06-22 12:15:15 Migration DEPENDENCIES:8, no-restart_httpd [(as root)] - succeeded
2018-06-22 12:15:15 Migration DEPENDENCIES:9, oct-dependencies_rb (as root) - succeeded
2018-06-22 12:15:16 Migration DEPENDENCIES:10, package_helper["c", "/media/avdf/install/avs-ol-dependencies/yum.conf", "--repo", "avs-ol-dependencies", "--cl
ean"] (as root) - succeeded
2018-06-22 12:17:27 Migration DEPENDENCIES:9, package_helper["c", "/media/avdf/install/avs-ol-dependencies/yum.conf", "--repo", "avs-ol-dependencies", "-q", "-l", "avs-ol-dependencies"] (as root) - succeeded
2018-06-22 12:17:27 Migration DEPENDENCIES:10, package_helper["c", "/media/avdf/install/avs-dependencies/yum.conf", "--repo", "avs-dependencies", "--cl
ean"] (as root) - succeeded
2018-06-22 12:17:27 Migration DEPENDENCIES:11, package_helper["c", "/media/avdf/install/avs-dependencies/yum.conf", "--repo", "avs-dependencies", "-i", "ruby"] (as root) - succeeded
2018-06-22 12:17:29 Migration DEPENDENCIES:12, configure_systemd_service.rb["avs-os-services.yaml"] (as root) - succeeded
2018-06-22 12:17:33 Migration DEPENDENCIES:13, package_helper["c", "/media/avdf/install/avs-dependencies/yum.conf", "--repo", "avs-dependencies", "--cl
ean"] (as root) - succeeded
2018-06-22 12:17:38 Migration DEPENDENCIES:14, package_helper["c", "/media/avdf/install/avs-dependencies/yum.conf", "--repo", "avs-dependencies", "-g", "-l", "avs-dependencies,common-dependencies"] (as root) - succeeded
2018-06-22 12:31:09 Migration DEPENDENCIES:15, check_stab_latest.rb (as root) - succeeded
2018-06-22 12:31:09 Migration DEPENDENCIES:16, security_nics_rb (as root) - succeeded
2018-06-22 12:31:11 Migration DEPENDENCIES:17, change_nic_permissions_py (as root) - succeeded
2018-06-22 12:31:11 Migration DEPENDENCIES:18, change_nic_permissions_py (as root) - succeeded
2018-06-22 12:31:11 Migration DEPENDENCIES:19, update_sysctl_comf_hugepages.py (as root) - succeeded
2018-06-22 12:31:11 Migration DEPENDENCIES:20, stop_dbfdb_listener (as root) - succeeded
2018-06-22 12:31:11 Migration DEPENDENCIES:21, upgrade_etc_asound (as root) - succeeded
2018-06-22 12:31:13 Migration DEPENDENCIES:22, install_upgrade [(as root)] - succeeded
2018-06-22 12:38:32 Migration DEPENDENCIES:23, create_gridish (as root) - succeeded
2018-06-22 12:53:43 Migration DEPENDENCIES:24, create_database_rb (as root) - succeeded
2018-06-22 12:53:45 Migration DEPENDENCIES:25, remove_axp_devenv_py (as oracle) - succeeded
2018-06-22 12:53:46 Migration DEPENDENCIES:26, remove_axp_devenv_py (as oracle) - succeeded
2018-06-22 12:53:46 Migration DEPENDENCIES:27, disable_database_vault_new (as root) - succeeded
2018-06-22 12:53:46 Migration DEPENDENCIES:28, upgrade_dbfdb (as root) - succeeded
2018-06-22 13:22:19 Migration DEPENDENCIES:29, apply_grid_update_py (as root) - succeeded
2018-06-22 13:22:19 Migration DEPENDENCIES:30, apply_db_ru_update_py (as oracle) - succeeded
```

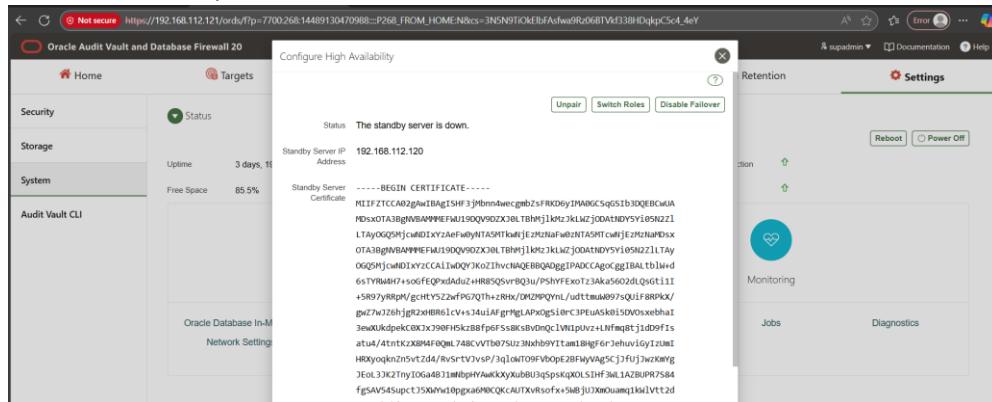
```
tail -f /var/log/messages
```

```
[root@avas0556a0204 ~]# tail -f /var/log/messages
Sep 23 03:00:01 avas0556a0204 system[1]: systat-collect.service: Succeeded.
Sep 23 03:00:01 avas0556a0204 system[1]: Started system activity accounting tool.
Sep 23 03:03:58 avas0556a0204 system[1]: Reloading.
Sep 23 03:04:06 avas0556a0204 system[1]: proc-sys-fs-binfmt_misc.automount: Got automount request for /proc/sys/fs/binfmt_misc, triggered by 12746 (j exec)
Sep 23 03:04:06 avas0556a0204 system[1]: Mounting Arbitrary Executable File Formats File System...
Sep 23 03:04:07 avas0556a0204 system[1]: Mounting Arbitrary Executable File Formats Separation
Sep 23 03:04:07 avas0556a0204 system[1]: [  OK  ] Reloading: 19: Deprecated option UsePrivilegeSeparation
Sep 23 03:04:07 avas0556a0204 system[1]: [  OK  ] Reloading: 20: Deprecated option UsePrivilegeSeparation
Sep 23 03:05:04 avas0556a0204 system[1]: Started Session 7 of user support.
Sep 23 03:05:04 avas0556a0204 system[1]: Session 7 of user support.
Sep 23 03:05:09 avas0556a0204 su: (root) supports pts/2
Sep 23 03:05:12 avas0556a0204 sshd[1414]: reexec line 19: Deprecated option UsePrivilegeSeparation
Sep 23 03:05:12 avas0556a0204 sshd[1414]: reexec line 19: Deprecated option UsePrivilegeSeparation
Sep 23 03:05:12 avas0556a0204 system[1]: Started Session 8 of user support.
Sep 23 03:05:39 avas0556a0204 system[1]: Started Session 9 of user support.
Sep 23 03:05:39 avas0556a0204 system[1]: Session 9 of user support.
Sep 23 03:05:43 avas0556a0204 su: (root) supports pts/3
Sep 23 03:05:43 avas0556a0204 system[1]: Starting Cleanup of Temporary Directories...
Sep 23 03:08:35 avas0556a0204 system[1]: systemd-tmpfiles-clean.service: Succeeded.
Sep 23 03:08:35 avas0556a0204 system[1]: Started Cleanup of Temporary Directories.
Sep 23 03:10:10 avas0556a0204 system[1]: Starting system activity accounting tool...
Sep 23 03:10:10 avas0556a0204 system[1]: systat-collect.service: Succeeded.
Sep 23 03:10:16 avas0556a0204 run-privileged-migrations[3558]: com.oracle.dbfw.privilegedMigration AUDIT - ODF-11004: Migration stanza result: success: package helper['-c', '/media/avd/install-apns-dependencies/yum.comn', '-r', 'repo', 'avx-dependencies', '-g', '1', 'avx-dependencies.common-dependencies'] (as root) (no changes applied)
Sep 23 03:10:16 avas0556a0204 run-privileged-migrations[3558]: com.oracle.dbfw.privilegedMigration AUDIT - ODF-11003: Migration stanza invocation: check-fstab-latest.r (as root)
Sep 23 03:10:17 avas0556a0204 run-privileged-migrations[3558]: com.oracle.dbfw.privilegedMigration AUDIT - ODF-11004: Migration stanza result: success: check-fstab-lat.est.rb (as root) (no changes applied)
Sep 23 03:10:17 avas0556a0204 run-privileged-migrations[3558]: com.oracle.dbfw.privilegedMigration AUDIT - ODF-11003: Migration stanza invocation: secondary-nics.r (as root)
Sep 23 03:10:18 avas0556a0204 run-privileged-migrations[3558]: com.oracle.dbfw.privilegedMigration AUDIT - ODF-11004: Migration stanza result: success: secondary-nics.n (no changes applied)
Sep 23 03:10:18 avas0556a0204 run-privileged-migrations[3558]: com.oracle.dbfw.privilegedMigration AUDIT - ODF-11003: Migration stanza invocation: configure_networking.r (as root)
Sep 23 03:10:22 avas0556a0204 run-privileged-migrations[3558]: com.oracle.dbfw.privilegedMigration AUDIT - ODF-11004: Migration stanza result: success: config_netswo (as root) (applied change)
Sep 23 03:10:22 avas0556a0204 run-privileged-migrations[3558]: com.oracle.dbfw.privilegedMigration AUDIT - ODF-11003: Migration stanza invocation: change_shm_permissio n.ps (as root)
Sep 23 03:10:22 avas0556a0204 root: Starting execution of Oracle Clusterware init.ohasd
```

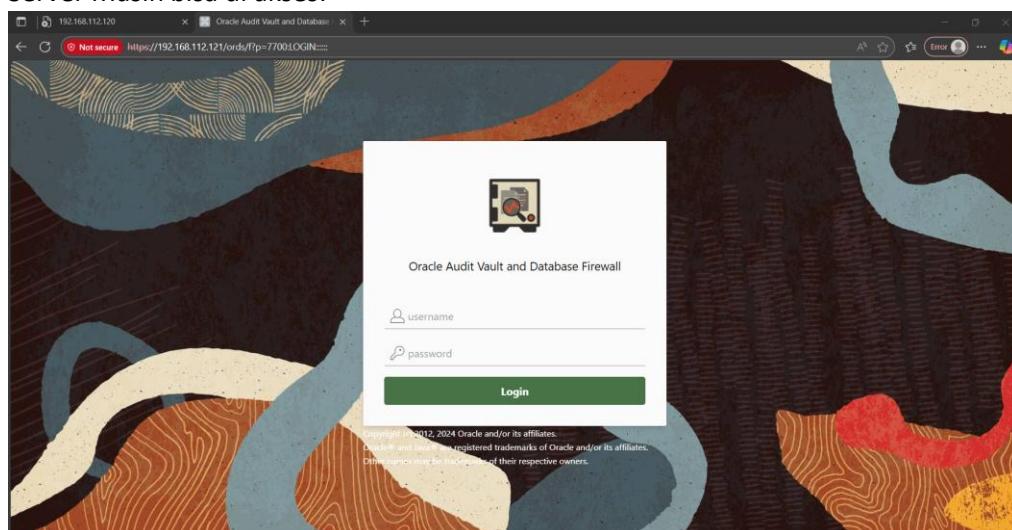
```
tail -f /var/log/debug
```

```
[root@centos ~]# tail /var/log/debug
Sep 23 03:04:07 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: avs-grid-ru-update-19.28.0.0.0-x86_64: Header SHA1 digest: 0
Sep 23 03:04:07 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: install: avs-grid-ru-update-19.28.0.0.0-x86_64 has 2 files
Sep 23 03:04:07 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: Plugin: calling hook post_prep in selinux plugin
Sep 23 03:04:07 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: *preinst(avs-grid-ru-update-19.28.0.0.0-x86_64): scriptlet sta
rt
Sep 23 03:04:07 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: *preinst(avs-grid-ru-update-19.28.0.0.0-x86_64): execv(/bin/sh
) pid 17778
Sep 23 03:04:07 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: Plugin: calling hook scriptlet fork post in selinux plugin
Sep 23 03:04:07 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: setexecfilecon: (/bin/sh) rpm_script_t
Sep 23 03:04:07 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: *preinst(avs-grid-ru-update-19.28.0.0.0-x86_64): waitpid(17778
)
Sep 23 03:04:07 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: 17778 status
Sep 23 03:04:07 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: fdio: 2234 writes, 7297000 total bytes in 0.054607 secs
Sep 23 03:04:08 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: fdio: 12203 writes, 4007151 total bytes in 0.054607 secs
Sep 23 03:05:55 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: fdio: 12204 reads, 4007161 total bytes in 0.377641 secs
Sep 23 03:05:55 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: Installing : avs-grid-ru-update-19.28.0.0.0-x86_64
Sep 23 03:05:55 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: create: 100444 (1, 507, 504) /var/tmp/patch/patchfile/patchfile.0patch.zip:68
Sep 23 03:05:55 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: 100444 (1, 507, 504) /var/lib/oracle/software/patchfile.0patch.zip:68
Sep 23 03:05:55 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: create: 100444 (1, 507, 504) -366953138 /var/lib/oracle/software/p37957391_1
90000_Linux-x86-64-g1_zip:68d2c0b9
Sep 23 03:05:55 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: Plugin: calling hook fsm_file_prepare in selinux plugin
Sep 23 03:05:55 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: lsetfilecon: (48 /var/lib/oracle/software/0Patch.h2p)68d2c0b9, system_u:object_r:_rivar_lsb_t:s0
Sep 23 03:05:55 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: Plugin: calling hook fsm_file_prepare in selinux plugin
Sep 23 03:05:55 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: lsetfilecon: (48 /var/lib/oracle/software/p37957391_190000_Linux-x86-64.zip)68d
Sep 23 03:05:55 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: system_u:object_r:_rivar_lsb_t:s0
Sep 23 03:05:55 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: Running scriptlet: avs-grid-ru-update-19.28.0.0.0-x86_64
Sep 23 03:05:55 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: addin: 1 entries to Name_index.
Sep 23 03:05:55 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: addin: 2 entries to Basenames index.
Sep 23 03:05:55 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: addin: 1 entries to Group index.
Sep 23 03:05:55 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: addin: 11 entries to Requirename index.
Sep 23 03:05:55 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: addin: 2 entries to Providename index.
Sep 23 03:05:55 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: addin: 1 entries to Conflictname index.
Sep 23 03:05:55 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: addin: 1 entries to Conflictdname index.
Sep 23 03:05:55 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: addin: 1 entries to Dnames index.
Sep 23 03:05:55 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: addin: 1 entries to Installtbl index.
Sep 23 03:05:55 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: addin: 1 entries to Signs index.
Sep 23 03:05:55 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: addin: 1 entries to Schemas index.
Sep 23 03:05:55 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: *postinst(avs-grid-ru-update-19.28.0.0.0-x86_64): scriptlet start
Sep 23 03:05:55 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: *postinst(avs-grid-ru-update-19.28.0.0.0-x86_64): execv(/bin/sh) pid 14662
Sep 23 03:05:55 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: setexecfilecon: (/bin/sh) rpm_script_t
Sep 23 03:05:55 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: *setexecfilecon: (/bin/sh) rpm_script_t
Sep 23 03:05:55 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: *export ORACLE_BASE=/var/lib/oracle
Sep 23 03:05:55 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: *ORACLE_BASE=/var/lib/oracle
Sep 23 03:05:55 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: *GRID_HOME=/var/lib/oracle/grid
Sep 23 03:05:55 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: *install -m 0755 -o grid -g oinstall -d /var/lib/oracle/grid
Sep 23 03:05:55 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: chmod 775 /var/lib/oracle/
Sep 23 03:05:55 avas0505a02204 /opt/avf/install/privileged_migration/package_helper: D: *postinst(avs-grid-ru-update-19.28.0.0.0-x86_64): waitpid(14662) rc 14682 status
0
Sep 23 03:05:55 avas0505a02204 /opt/avf/install/privileged_migration/package_helper:
```

## Status HA standby down:



Server Masih bisa di akses:



Database firewall masih bisa digunakan:

```
[oracle@standalones ~]$ l221
sqlplus avdfuser/12345@192.168.112.178:15221/pdb1

SQL*Plus: Release 19.0.0.0.0 - Production on Tue Sep 23 14:21:47 2025
Version 19.28.0.0.0

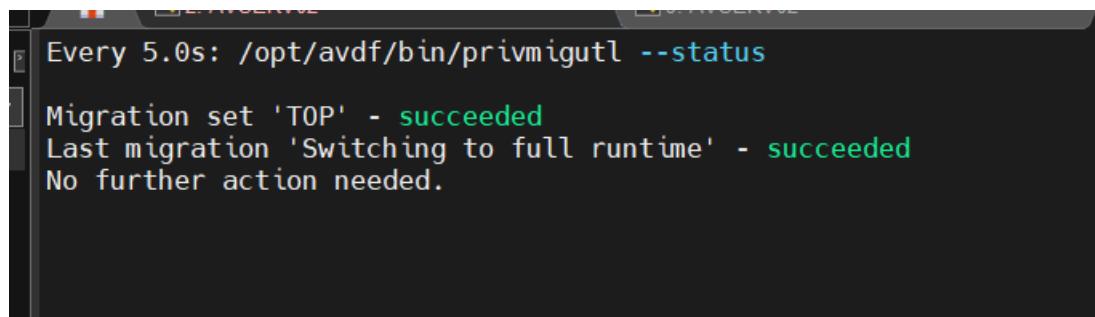
Copyright (c) 1982, 2025, Oracle. All rights reserved.

Last Successful login time: Mon Sep 22 2025 14:18:05 +07:00

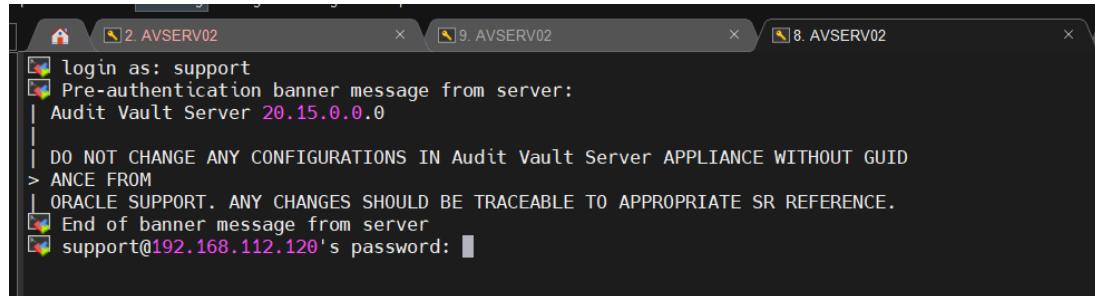
Connected to:
Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.28.0.0.0

SQL>
SQL> exit
Disconnected from Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.28.0.0.0
[oracle@standalones ~]$
```

Finish upgrade:



```
Every 5.0s: /opt/avdf/bin/privmigutl --status
Migration set 'TOP' - succeeded
Last migration 'Switching to full runtime' - succeeded
No further action needed.
```

```
login as: support
Pre-authentication banner message from server:
| Audit Vault Server 20.15.0.0.0
|
| DO NOT CHANGE ANY CONFIGURATIONS IN Audit Vault Server APPLIANCE WITHOUT GUID
> ANCE FROM
| ORACLE SUPPORT. ANY CHANGES SHOULD BE TRACEABLE TO APPROPRIATE SR REFERENCE.
| End of banner message from server
support@192.168.112.120's password: 
```

#### 4.3.Stop All Audit Trails

- Log into the Audit Vault Server console as an administrator.
- Click the Targets tab.
- Click Audit Trails in the left navigation menu.
- Select all audit trails.

- Click Stop.

## 4.4.Update the Primary Audit Vault Server

### 4.4.1. Run the Pre-upgrade RPM

```
[root@avs005056a02dd1 ~]# sha256sum avdf-pre-upgrade-20.15.0.0.0.zip
a4ac68c04648c96d86af3fd0207e2fb577d993619b5c64703b8203aeb6e8393  avdf-pre-upgrade-20.15.0.0.0.zip
[root@avs005056a02dd1 ~]#
[root@avs005056a02dd1 ~]# unzip avdf-pre-upgrade-20.15.0.0.0.zip
Archive:  avdf-pre-upgrade-20.15.0.0.0.zip
  inflating: avdf-pre-upgrade-20.15.0.0.0-0_RELEASE.d.x86_64.rpm
[root@avs005056a02dd1 ~]# ll
total 352
-rw----- 1 root      root      5936 Jan 30  2003 anaconda-ks.cfg
-rw-r--r-- 1 root      root    170524 Sep 10 01:17 avdf-pre-upgrade-20.15.0.0.0-0_RELEASE.d.x86_64.rpm
-r--r--r-- 1 support   support  158365 Sep 23 06:11 avdf-pre-upgrade-20.15.0.0.0.zip
-r--r--r-- 1 root      root     8036 Sep 16 09:43 avs-source-20.14-replication.rpm
-rw-r--r-- 1 root      root      15 Jun 22  2018 dbfwboot.txt
-rw----- 1 root      root     5417 Jan 30  2003 original-ks.cfg
[root@avs005056a02dd1 ~]#
```

```
[root@avsv005056a02dd1 ~]# rpm -i avdf-pre-upgrade-20.15.0.0.0-0_RELEASE.d.x86_64.rpm
active
Checking upgrade preconditions
avs-20.12.0.0-0_240614.0100.x86_64
Verifying certificate date: /usr/local/dbfw/etc/ca.crt
Verifying certificate date: /etc/pki/tls/certs/localhost_internal.crt
Verifying certificate date: /usr/local/dbfw/etc/cert.crt
Verifying certificate date: /usr/local/dbfw/etc/avs/avs_apex_client.crt
Verifying certificate date: /etc/pki/tls/certs/localhost.crt
Oracle Interim Patch Installer version 12.2.0.1.42
Copyright (c) 2025, Oracle Corporation. All rights reserved.

Oracle Home      : /var/lib/oracle/grid
Central Inventory : /var/lib/oracle/oraInventory
      from        : /var/lib/oracle/grid/oraInst.loc
OPatch version   : 12.2.0.1.42
OUI version     : 12.2.0.7.0
Log file location : /var/lib/oracle/grid/cfgtoollogs/opatch/opatch2025-09-23_06-14-26AM_1.log

Invoking utility "cleanup"
OPatch will clean up 'restore.sh,make.txt' files and 'scratch,backup' directories.
You will be still able to rollback patches after this cleanup.
Do you want to proceed? [y/n]
Y (auto-answered by -silent)
User Responded with: Y

Backup area for restore has been cleaned up. For a complete list of files/directories
deleted, Please refer log file.

OPatch succeeded.
Oracle Interim Patch Installer version 12.2.0.1.42
Copyright (c) 2025, Oracle Corporation. All rights reserved.

Oracle Home      : /var/lib/oracle/dbfw
Central Inventory : /var/lib/oracle/oraInventory
      from        : /var/lib/oracle/dbfw/oraInst.loc
OPatch version   : 12.2.0.1.42
OUI version     : 12.2.0.7.0
Log file location : /var/lib/oracle/dbfw/cfgtoollogs/opatch/opatch2025-09-23_06-15-12AM_1.log

Invoking utility "cleanup"
OPatch will clean up 'restore.sh,make.txt' files and 'scratch,backup' directories.
You will be still able to rollback patches after this cleanup.
Do you want to proceed? [y/n]
Y (auto-answered by -silent)
User Responded with: Y

Backup area for restore has been cleaned up. For a complete list of files/directories
deleted, Please refer log file.

OPatch succeeded.
Checking upgrade preconditions
```

```
OPatch succeeded.
Checking upgrade preconditions
Checking /var/lib/oracle/software
avs-20.12.0.0-0_240614.0100.x86_64
Verifying certificate date: /usr/local/dbfw/etc/ca.crt
Verifying certificate date: /etc/pki/tls/certs/localhost_internal.crt
Verifying certificate date: /usr/local/dbfw/etc/cert.crt
Verifying certificate date: /usr/local/dbfw/etc/avs/avs_apex_client.crt
Verifying certificate date: /etc/pki/tls/certs/localhost.crt
Prereq version : 12.2.0.0.0
Sent agent/HM Prerequisites checks message successfully. Execute /usr/local/dbfw/bin/upgrade/pre_upgrade_download_agent_validation_status.py script to see validation checks status.
Downloaded prerequisites check status reports successfully at /opt/avdf/report
WARNING: Before proceeding with upgrade, it is recommended to resolve all the agent related pre-upgrade warnings and errors in /opt/avdf/report/agent_prereq_checks_success_report.txt and /opt/avdf/report/agent_prereq_checks_failure_report.txt respectively.
Oracle Interim Patch Installer version 12.2.0.1.42
Copyright (c) 2025, Oracle Corporation. All rights reserved.

Oracle Home      : /var/lib/oracle/grid
Central Inventory : /var/lib/oracle/oraInventory
      from        : /var/lib/oracle/grid/oraInst.loc
OPatch version   : 12.2.0.1.42
OUI version     : 12.2.0.7.0
Log file location : /var/lib/oracle/grid/cfgtoollogs/opatch/opatch2025-09-23_06-17-35AM_1.log

Invoking utility "cleanup"
OPatch will clean up 'restore.sh,make.txt' files and 'scratch,backup' directories.
You will be still able to rollback patches after this cleanup.
Do you want to proceed? [y/n]
Y (auto-answered by -silent)
User Responded with: Y

Backup area for restore has been cleaned up. For a complete list of files/directories
deleted, Please refer log file.

OPatch succeeded.
Oracle Interim Patch Installer version 12.2.0.1.42
Copyright (c) 2025, Oracle Corporation. All rights reserved.

Oracle Home      : /var/lib/oracle/dbfw
Central Inventory : /var/lib/oracle/oraInventory
      from        : /var/lib/oracle/dbfw/oraInst.loc
OPatch version   : 12.2.0.1.42
OUI version     : 12.2.0.7.0
Log file location : /var/lib/oracle/dbfw/cfgtoollogs/opatch/opatch2025-09-23_06-18-13AM_1.log

Invoking utility "cleanup"
OPatch will clean up 'restore.sh,make.txt' files and 'scratch,backup' directories.
You will be still able to rollback patches after this cleanup.
Do you want to proceed? [y/n]
Y (auto-answered by -silent)
```

```

Invoking utility "cleanup"
OPatch will clean up 'restore.sh,make.txt' files and 'scratch,backup' directories.
You will be still able to rollback patches after this cleanup.
Do you want to proceed? [y|n]
Y (auto-answered by -silent)
User Responded with: Y

Backup area for restore has been cleaned up. For a complete list of files/directories
deleted, Please refer log file.

OPatch succeeded.
/usr/local/dbfw/bin/upgrade/oci-pki-check.rb: warning: argument of top-level return is ignored
Shutting down services.

AVDF::Installer::Upgrade::WarningPreconditions

Remove any schemas you have added to the database.

Additional schemas will cause the upgrade to fail.

SUCCESS:

The upgrade media can now be copied to '/var/dbfw/upgrade'.

The upgrade can then be started by running as root user:
/usr/bin/avdf-upgrade

[root@avs005056a02dd1 ~]# 

```

#### 4.4.2. Transfer the ISO File to the Appliance

```

[root@standalones avdf]# ll
total 16999136
-rw-r--r-- 1 root root 17407113216 Sep 22 22:23 avdf-upgrade-20.15.0.0.0.iso
[root@standalones avdf]# scp avdf-upgrade-20.15.0.0.0.iso support@192.168.112.121:/var/lib/oracle/software
Audit Vault Server 20.12.0.0.0
DO NOT CHANGE ANY CONFIGURATIONS IN Audit Vault Server APPLIANCE WITHOUT GUIDANCE FROM
ORACLE SUPPORT. ANY CHANGES SHOULD BE TRACEABLE TO APPROPRIATE SR REFERENCE.
support@192.168.112.121's password:
avdf-upgrade-20.15.0.0.0.iso
100%   16GB 104.3MB/s   02:39
[root@standalones avdf]# 

```

```

[root@avs005056a02dd1 software]# ll
total 16999140
-rw-r--r-- 1 support support 17407113216 Sep 23 06:27 avdf-upgrade-20.15.0.0.0.iso
[root@avs005056a02dd1 software]# mv avdf-upgrade-20.15.0.0.0.iso /var/dbfw/upgrade
[root@avs005056a02dd1 software]#
[root@avs005056a02dd1 software]# ls -ltr /var/dbfw/upgrade
total 16999156
drwx----- 2 root      root      16384 Jan 30  2003 lost+found
-rw-r--r--  1 support  support  17407113216 Sep 23 06:27 avdf-upgrade-20.15.0.0.0.iso
[root@avs005056a02dd1 software]# 

```

#### 4.4.3. Start the Update Script

```
[root@avs005056a02dd1 ~]# /usr/bin/avdf-upgrade
'/Images' already mounted, Unmounting...
Unmounted /dev/mapper/vg_root-lv_images on /images
Please wait while validating SHA256 checksum for /var/dbfw/upgrade/avdf-upgrade-20.15.0.0.0.iso
Checksum validation successful for /var/dbfw/upgrade/avdf-upgrade-20.15.0.0.0.iso
Mounting /var/dbfw/upgrade/avdf-upgrade-20.15.0.0.0.iso on /images
mount: /images: WARNING: device write-protected, mounted read-only.
Successfully mounted /var/dbfw/upgrade/avdf-upgrade-20.15.0.0.0.iso on /images
/images/upgrade/lib/common.rb:1002: warning: mismatched indentations at 'rescue' with 'def' at 993
/images/upgrade/lib/chroot_upgrade.rb:337: warning: assigned but unused variable - ret

The following messages have important information about the upgrade process.

Power loss during upgrade may cause data loss. Do not power
off during upgrade.

Please review Note ID 2235931.1 for a current list of known issues.

The upgrade process is irreversible, please confirm 'y' to continue or 'n' to abort. [y/N]?

y
Verifying upgrade preconditions
avs-20.12.0.0.0-0_240614.0100.x86_64
Verifying certificate date: /usr/local/dbfw/etc/ca.crt
Verifying certificate date: /etc/pki/tls/certs/localhost_internal.crt
Verifying certificate date: /usr/local/dbfw/etc/cert.crt
Verifying certificate date: /usr/local/dbfw/etc/avs/avs_apex_client.crt
Verifying certificate date: /etc/pki/tls/certs/localhost.crt
mke2fs 1.45.6 (20-Mar-2020)
Discarding device blocks: done
Creating filesystem with 512000 4k blocks and 128000 inodes
Filesystem UUID: 0de64c81-5701-42df-99ce-236683931113
Superblock backups stored on blocks:
      32768, 98304, 163840, 229376, 294912

Allocating group tables: done
Writing inode tables: done
Creating journal (8192 blocks): done
Writing superblocks and filesystem accounting information: done

/images/upgrade/aux//oci-pki-check.rb: warning: argument of top-level return is ignored
1/11: Mounting filesystems (1)
2/11: Cleaning yum configuration
3/11: Cleaning old packages and files
Warning: failed to remove kernel-tools-libs
4/11: Upgrading kernel
5/11: Upgrading system
6/11: Cleaning platform packages repo
7/11: Adding required platform packages
8/11: Cleaning AVDF packages repo
9/11: Installing AVDF packages
10/11: Setting boot title
11/11: Setting final system status
Reboot now to continue the upgrade process.
Unmounted /var/dbfw/upgrade/avdf-upgrade-20.15.0.0.0.iso on /images
[root@avs005056a02dd1 ~]#
```

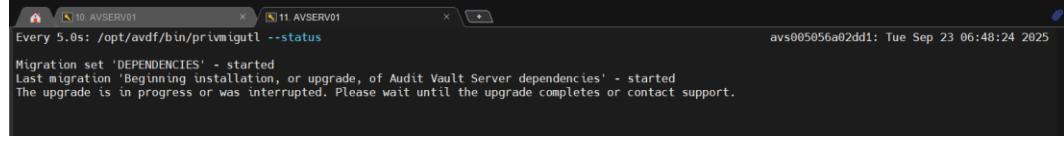
#### 4.4.4. Restart the Appliance

```
[root@avs005056a02dd1 ~]# reboot
Remote side unexpectedly closed network connection

Session stopped
- Press <Return> to exit tab
- Press R to restart session
- Press S to save terminal output to file
```

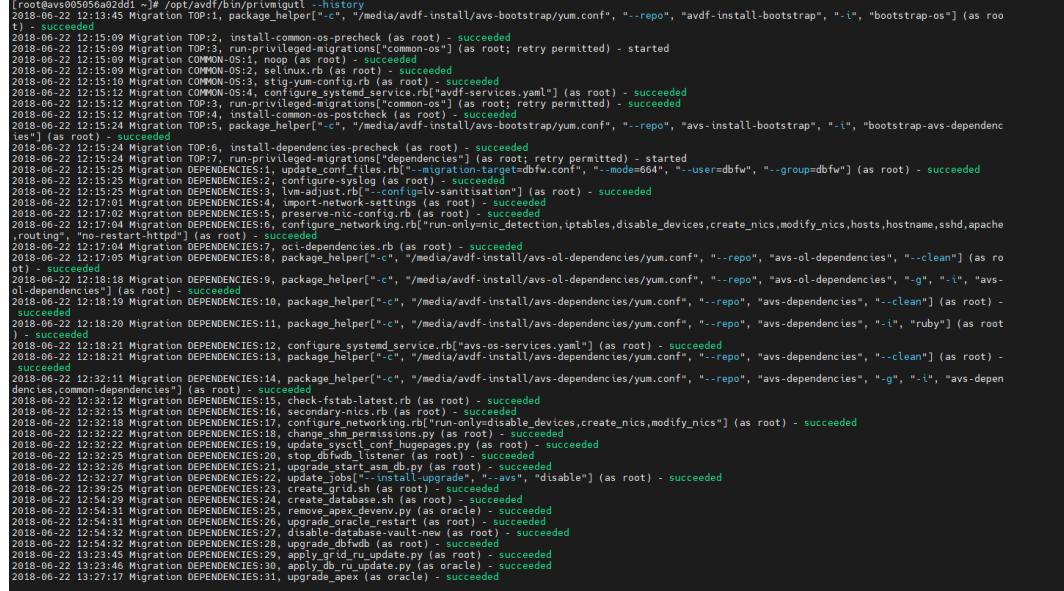
Checking background proses:

```
watch -n 5 "/opt/avdf/bin/prvmigutl --status"
```



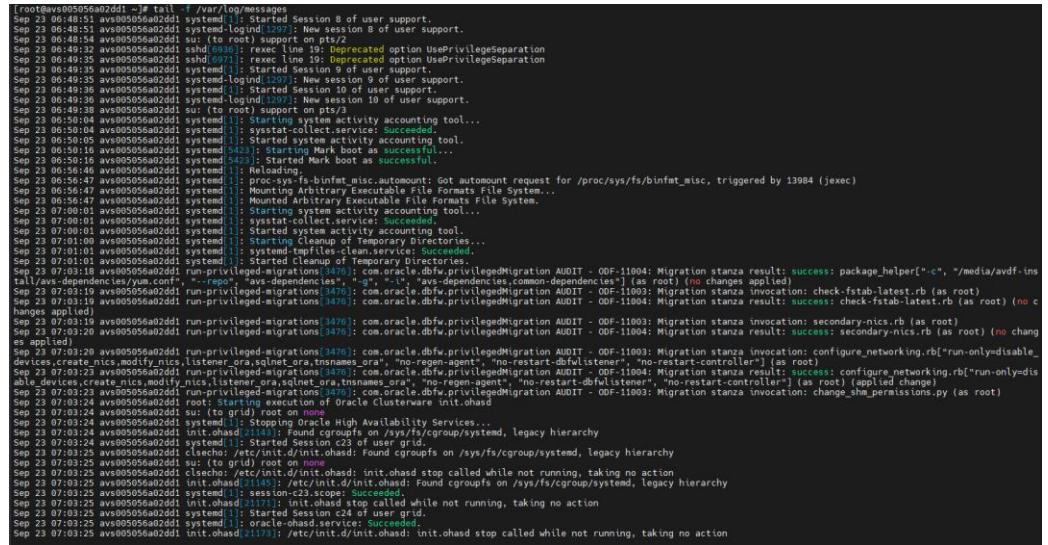
```
Every 5.0s: /opt/avdf/bin/prvmigutl --status
Migration set 'DEPENDENCIES' - started
Last migration 'Beginning installation, or upgrade, of Audit Vault Server dependencies' - started
The upgrade is in progress or was interrupted. Please wait until the upgrade completes or contact support.
```

```
/opt/avdf/bin/prvmigutl --history
```



```
root@avsv005056a02dd1 ~]# /opt/avdf/bin/prvmigutl --history
2018-06-22 12:15:03 Migration TOP-1, package_helper["c", "/media/avdf-install/avs-bootstrap/yum.conf", "--repo", "avdf-install-bootstrap", "-i", "bootstrap-os"] (as root) - succeeded
2018-06-22 12:15:09 Migration TOP-2, install-common-os-precheck (as root) - succeeded
2018-06-22 12:15:09 Migration TOP-3, run-privileged-migrations["common-os"] (as root; retry permitted) - started
2018-06-22 12:15:09 Migration COMMON-OS-1, nmap (as root) - succeeded
2018-06-22 12:15:09 Migration COMMON-OS-2, selinux.rb (as root) - succeeded
2018-06-22 12:15:10 Migration COMMON-OS-3, stig-yum-config.rb (as root) - succeeded
2018-06-22 12:15:10 Migration COMMON-OS-4, stig-yum-service["/etc/yum/yum-selinux.d/avdf-service.yaml"] (as root) - succeeded
2018-06-22 12:15:12 Migration TOP-4, install-common-os-postcheck (as root) - succeeded
2018-06-22 12:15:24 Migration TOP-5, package_helper["c", "/media/avdf-install/avs-bootstrap/yum.conf", "--repo", "avs-install-bootstrap", "-i", "bootstrap-avs-dependencies"] (as root) - succeeded
2018-06-22 12:15:24 Migration TOP-6, install-dependencies-precheck (as root) - succeeded
2018-06-22 12:15:25 Migration DEPENDENCIES-1, update_conf_files.rb["migration-target=dbfw.conf", "--mode=664", "--user=dbfw", "--group=dbfw"] (as root) - succeeded
2018-06-22 12:15:25 Migration DEPENDENCIES-2, configure-sylog (as root) - succeeded
2018-06-22 12:15:26 Migration DEPENDENCIES-3, lvm-adjust.rb["config-lv-sansitisation"] (as root) - succeeded
2018-06-22 12:15:26 Migration DEPENDENCIES-4, secondary-nics (as root) - succeeded
2018-06-22 12:17:02 Migration DEPENDENCIES-5, preserve-nic-config.rb (as root) - succeeded
2018-06-22 12:17:04 Migration DEPENDENCIES-6, configure_networking.rb["run-onlynic_detection, iptables, disable_devices, create_nics, modify_nics, hosts, hostname, sshd, apache ,routing", "no-restart-htpd"] (as root) - succeeded
2018-06-22 12:17:04 Migration DEPENDENCIES-7, oct-dependencies.rb (as root) - succeeded
2018-06-22 12:17:05 Migration DEPENDENCIES-8, package_helper["c", "/media/avdf-install/avs-ol-dependencies/yum.conf", "--repo", "avs-ol-dependencies", "--clean"] (as root) - succeeded
2018-06-22 12:18:18 Migration DEPENDENCIES-9, package_helper["c", "/media/avdf-install/avs-ol-dependencies/yum.conf", "--repo", "avs-ol-dependencies", "-g", "-i", "avs-ol-dependencies"] (as root) - succeeded
2018-06-22 12:18:19 Migration DEPENDENCIES-10, package_helper["c", "/media/avdf-install/avs-dependencies/yum.conf", "--repo", "avs-dependencies", "--clean"] (as root) - succeeded
2018-06-22 12:18:20 Migration DEPENDENCIES-11, package_helper["c", "/media/avdf-install/avs-dependencies/yum.conf", "--repo", "avs-dependencies", "-i", "ruby"] (as root) - succeeded
2018-06-22 12:18:21 Migration DEPENDENCIES-12, configure_systemd_service.rb["avs-os-services.yaml"] (as root) - succeeded
2018-06-22 12:18:21 Migration DEPENDENCIES-13, package_helper["c", "/media/avdf-install/avs-dependencies/yum.conf", "--repo", "avs-dependencies", "--clean"] (as root) - succeeded
2018-06-22 12:32:11 Migration DEPENDENCIES-14, package_helper["c", "/media/avdf-install/avs-dependencies/yum.conf", "--repo", "avs-dependencies", "common-dependencies"] (as root) - succeeded
2018-06-22 12:32:12 Migration DEPENDENCIES-15, check-fstab-latest.rb (as root) - succeeded
2018-06-22 12:32:15 Migration DEPENDENCIES-16, secondary-nics.rb ("run-onlydisables devices,create_nics,modify_nics") (as root) - succeeded
2018-06-22 12:32:18 Migration DEPENDENCIES-17, configure_nic.rb ("run-onlydisables devices,create_nics,modify_nics") (as root) - succeeded
2018-06-22 12:32:22 Migration DEPENDENCIES-18, change_shm_permissions.py (as root) - succeeded
2018-06-22 12:32:25 Migration DEPENDENCIES-19, update_distro_systm (as root) - succeeded
2018-06-22 12:32:26 Migration DEPENDENCIES-20, start_distro_llnlone (as root) - succeeded
2018-06-22 12:32:27 Migration DEPENDENCIES-21, upgrade_start_ora_db.py (as root) - succeeded
2018-06-22 12:32:27 Migration DEPENDENCIES-22, update_jobs["-instal_upgrade", "-ava", "disable"] (as root) - succeeded
2018-06-22 12:39:25 Migration DEPENDENCIES-23, create_grubsh (as root) - succeeded
2018-06-22 12:39:25 Migration DEPENDENCIES-24, upgrade_db_update (as root) - succeeded
2018-06-22 12:54:31 Migration DEPENDENCIES-25, remove_apex_devenv.py (as oracle) - succeeded
2018-06-22 12:54:31 Migration DEPENDENCIES-26, upgrade_oracle_restart (as root) - succeeded
2018-06-22 12:54:32 Migration DEPENDENCIES-27, disable_database_vault_new (as root) - succeeded
2018-06-22 12:54:32 Migration DEPENDENCIES-28, upgrade_db_update (as root) - succeeded
2018-06-22 13:23:45 Migration DEPENDENCIES-29, apply_db_ru_update (as oracle) - succeeded
2018-06-22 13:23:46 Migration DEPENDENCIES-30, apply_db_ru_update.py (as oracle) - succeeded
2018-06-22 13:27:17 Migration DEPENDENCIES-31, upgrade_apex (as oracle) - succeeded
```

```
tail -f /var/log/messages
```



```
root@avsv005056a02dd1 ~]# tail -f /var/log/messages
Sep 23 06:48:51 avsv005056a02dd1 systemd[1]: Started Session B of user support.
Sep 23 06:48:51 avsv005056a02dd1 systemd-logind[2997]: New session 8 of user support.
Sep 23 06:49:01 avsv005056a02dd1 sshd[634]: Accepted connection from 10.0.2.15 port 54446 ssh2 [priv]
Sep 23 06:49:32 avsv005056a02dd1 sshd[634]: reexec line 19: Deprecated option UsePrivilegeSeparation
Sep 23 06:49:35 avsv005056a02dd1 sshd[697]: reexec line 19: Deprecated option UsePrivilegeSeparation
Sep 23 06:49:35 avsv005056a02dd1 sshd[697]: reexec line 19: Deprecated option UsePrivilegeSeparation
Sep 23 06:49:36 avsv005056a02dd1 sshd[697]: reexec line 19: Deprecated option UsePrivilegeSeparation
Sep 23 06:49:36 avsv005056a02dd1 sshd[697]: reexec line 19: Deprecated option UsePrivilegeSeparation
Sep 23 06:49:36 avsv005056a02dd1 sshd[697]: reexec line 19: Deprecated option UsePrivilegeSeparation
Sep 23 06:50:04 avsv005056a02dd1 systemd[1]: Starting Session 10 of user support.
Sep 23 06:50:04 avsv005056a02dd1 systemd[1]: New session 10 of user support.
Sep 23 06:50:04 avsv005056a02dd1 systemd[1]: Starting system activity accounting tool...
Sep 23 06:50:04 avsv005056a02dd1 systemd[1]: sysstat-collect.service: Succeeded.
Sep 23 06:50:05 avsv005056a02dd1 systemd[1]: Started system activity accounting tool.
Sep 23 06:50:05 avsv005056a02dd1 systemd[1]: Starting Mark boot as successful...
Sep 23 06:50:16 avsv005056a02dd1 systemd[424]: Started Mark boot as successful.
Sep 23 06:56:40 avsv005056a02dd1 systemd[1]: Reloading.
Sep 23 06:56:40 avsv005056a02dd1 fs-binfmt.misc.automount: Got automount request for /proc/sys/fs/binfmt_misc, triggered by 13984 (jexec)
Sep 23 06:56:47 avsv005056a02dd1 systemd[1]: Mounting Arbitrary Executable File Formats File System...
Sep 23 06:56:47 avsv005056a02dd1 systemd[1]: Mounted Arbitrary Executable File Formats File System.
Sep 23 06:56:47 avsv005056a02dd1 systemd[1]: Starting system activity accounting tool...
Sep 23 06:56:47 avsv005056a02dd1 systemd[1]: Loaded: loaded (/usr/lib/systemd/system/accounting.service; static)
Sep 23 07:00:01 avsv005056a02dd1 systemd[1]: Started system activity accounting tool.
Sep 23 07:01:09 avsv005056a02dd1 systemd[1]: Starting Cleanup of Temporary Directories...
Sep 23 07:01:09 avsv005056a02dd1 systemd[1]: Started Cleanup of Temporary Directories.
Sep 23 07:01:09 avsv005056a02dd1 systemd[1]: Started Cleanup of Temporary Directories.
Sep 23 07:01:09 avsv005056a02dd1 run-privileged-migrations[3470]: com.oracle.dbfw.privilegedMigration AUDIT - ODF-11004: Migration stanza result: success; package_helper["c", "/media/avdf-installed/avs-dependencies/yum.conf", "--repo", "avs-dependencies", "-g", "-i", "avs-dependencies"] (as root) (no changes applied)
Sep 23 07:01:19 avsv005056a02dd1 run-privileged-migrations[3470]: com.oracle.dbfw.privilegedMigration AUDIT - ODF-11003: Migration stanza invocation: check-fstab-latest.rb (as root) (no changes applied)
Sep 23 07:01:19 avsv005056a02dd1 run-privileged-migrations[3470]: com.oracle.dbfw.privilegedMigration AUDIT - ODF-11004: Migration stanza result: success; check-fstab-latest.rb (as root) (no changes applied)
Sep 23 07:01:20 avsv005056a02dd1 run-privileged-migrations[3470]: com.oracle.dbfw.privilegedMigration AUDIT - ODF-11003: Migration stanza invocation: secondary-nics.rb (as root) (no changes applied)
Sep 23 07:01:20 avsv005056a02dd1 run-privileged-migrations[3470]: com.oracle.dbfw.privilegedMigration AUDIT - ODF-11003: Migration stanza invocation: configure_networking.rb["run-onlydisables devices,create_nics,listen_ora,listen_ora,tnsnames", "-g", "-i", "secondary-nics"] (as root)
Sep 23 07:01:23 avsv005056a02dd1 run-privileged-migrations[3470]: com.oracle.dbfw.privilegedMigration AUDIT - ODF-11004: Migration stanza result: success; configure.networking.rb["run-onlydisables devices,create_nics,listen_ora,listen_ora,tnsnames", "-g", "-i", "secondary-nics"] (as root) (applied change)
Sep 23 07:01:24 avsv005056a02dd1 run-privileged-migrations[3470]: com.oracle.dbfw.privilegedMigration AUDIT - ODF-11003: Migration stanza invocation: change_shm_permissions.py (as root)
Sep 23 07:01:24 avsv005056a02dd1 su: ((t*grid) root on none
Sep 23 07:01:24 avsv005056a02dd1 systemd[1]: Stopping Oracle High Availability Services...
Sep 23 07:01:24 avsv005056a02dd1 cldnschd[1145]: /etc/init.d/cldnschd: /sys/fs/cgroup/systemd, legacy hierarchy
Sep 23 07:01:24 avsv005056a02dd1 cldnschd[1145]: /etc/init.d/cldnschd: Found cgroups on /sys/fs/cgroup/systemd, legacy hierarchy
Sep 23 07:01:25 avsv005056a02dd1 cldnschd[1145]: /etc/init.d/cldnschd: init.ohasd stop called while not running, taking no action
Sep 23 07:01:25 avsv005056a02dd1 init.ohasd[1145]: /etc/init.d/init.ohasd: Found cgroups on /sys/fs/cgroup/systemd, legacy hierarchy
Sep 23 07:01:25 avsv005056a02dd1 session-c23.scope: Succeeded
Sep 23 07:01:25 avsv005056a02dd1 init.ohasd[1145]: /etc/init.d/init.ohasd: init.ohasd stop called while not running, taking no action
Sep 23 07:01:25 avsv005056a02dd1 session-c24.scope: Succeeded
Sep 23 07:01:25 avsv005056a02dd1 init.ohasd[1145]: /etc/init.d/init.ohasd: Started Session c24 of user grid.
Sep 23 07:01:25 avsv005056a02dd1 oracle-ohasd.service: Succeeded.
Sep 23 07:01:25 avsv005056a02dd1 init.ohasd[1145]: /etc/init.d/init.ohasd stop called while not running, taking no action
```

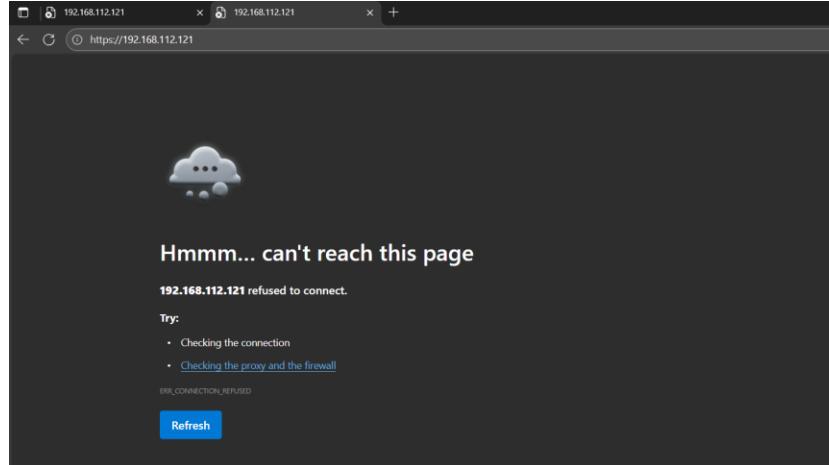
```
tail -f /var/log/debug
```

```

[root@avsv00505aa02dd1 ~]# tail -f /var/log/debug
Sep 23 06:47:28 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: Install 7 Packages
Sep 23 06:47:28 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper:
Sep 23 06:48:31 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: Total size: 7.0 G
Sep 23 06:48:31 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: Installed size: 9.5 G
Sep 23 06:48:31 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: Downloading Packages:
Sep 23 06:49:29 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: Running transaction check
Sep 23 06:49:33 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: Transaction check succeeded.
Sep 23 06:49:33 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: Running transaction test
Sep 23 06:49:34 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: fdo: 1710 reads, 55790288 total bytes in 0.014219 secs
Sep 23 06:49:51 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: fdo: 92475 reads, 302986992 total bytes in 0.110000 secs
Sep 23 06:50:03 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: fdo: 6410 reads, 210926156 total bytes in 0.026811 secs
Sep 23 06:50:03 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: fdo: 13 reads, 187648 total bytes in 0.020915 secs
Sep 23 06:50:05 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: fdo: 6000 reads, 196658656 total bytes in 1.069135 secs
Sep 23 06:50:05 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: fdo: 120939 reads, 396007470 total bytes in 1.069135 secs
Sep 23 06:50:31 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: fdo: 96393 reads, 306597628 total bytes in 1.728785 secs
Sep 23 06:50:39 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: fdo: 6 reads, 17468 total bytes in 0.000012 secs
Sep 23 06:50:39 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: fdo: 6 reads, 2988 total bytes in 0.000010 secs
Sep 23 06:50:39 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: fdo: 6 reads, 1944 total bytes in 0.000008 secs
Sep 23 06:50:39 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: fdo: 6 reads, 12820 total bytes in 0.000008 secs
Sep 23 06:50:39 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: fdo: 6 reads, 107900 total bytes in 0.000024 secs
Sep 23 06:50:39 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: fdo: 6 reads, 2792 total bytes in 0.000009 secs
Sep 23 06:50:39 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: fdo: 6 reads, 15142 total bytes in 0.000008 secs
Sep 23 06:50:39 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: Transaction test succeeded.
Sep 23 06:50:39 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: Running transaction
Sep 23 06:51:00 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: fdo: 2 writes, 50790288 total bytes in 0.014112 secs
Sep 23 06:51:00 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: fdo: 92475 reads, 302986992 total bytes in 14.081896 secs
Sep 23 06:51:09 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: fdo: 64377 reads, 2109261664 total bytes in 5.457461 secs
Sep 23 06:51:09 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: fdo: 13 reads, 187648 total bytes in 0.009985 secs
Sep 23 06:51:09 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: fdo: 30 reads, 196658656 total bytes in 1.069135 secs
Sep 23 06:51:35 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: fdo: 120859 reads, 396007470 total bytes in 16.363037 secs
Sep 23 06:51:38 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: fdo: 9364 reads, 306597628 total bytes in 2.165557 secs
Sep 23 06:51:47 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: Preparing : i/fd/o: 1 writes,
Sep 23 06:51:47 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: 32 total, 0 in 0 other sessions
Sep 23 06:51:47 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: fdo: 2 writes, 41424 total bytes in 0.000044 secs
Sep 23 06:51:47 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: fdo: 2 writes, 59096 total bytes in 0.000072 secs
Sep 23 06:51:47 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: fdo: 2550 writes, 8058504 total bytes in 0.006285 secs
Sep 23 06:51:50 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: fdo: 246 writes, 8058504 total bytes in 0.006283 secs
Sep 23 06:51:50 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: fdo: 176 writes, 5764400 total bytes in 0.004503 secs
Sep 23 06:51:50 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: fdo: 73 writes, 2368208 total bytes in 0.001721 secs
Sep 23 06:51:50 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: fdo: 30 writes, 196658656 total bytes in 1.069135 secs
Sep 23 06:51:54 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: fdo: 4356 writes, 142717256 total bytes in 0.114795 secs
Sep 23 06:51:54 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: fdo: 5 writes, 153344 total bytes in 0.000143 secs
Sep 23 06:51:54 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: fdo: 4 writes, 11800 total bytes in 0.000012 secs
Sep 23 06:51:54 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: fdo: 4 writes, 502 total bytes in 0.000012 secs
Sep 23 06:51:54 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: fdo: 158 writes, 5159559 total bytes in 0.004598 secs
Sep 23 06:51:54 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: fdo: 1 writes, 31869 total bytes in 0.000044 secs
Sep 23 06:51:54 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: fdo: 1 writes, 1633 total bytes in 0.000009 secs
Sep 23 06:51:54 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: fdo: 7918 reads, 24472488 total bytes in 6.132361 secs
Sep 23 06:51:54 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: Installing : oracle-instantclient-basic-21.19.0.0.0-1.el8.x86_64 1/7
Sep 23 06:51:54 avsv00505aa02dd1 /opt/avdf/install/privileged_migration/package_helper: D: closed db index /var/lib/rpm/Packages

```

Server tidak bisa di akses:



Database firewall masih bisa digunakan:

```

[oracle@standalone ~]$ !221
sqlplus avdfuser/12345@192.168.112.178:15221/pdb1

SQL*Plus: Release 19.0.0.0.0 - Production on Tue Sep 23 14:21:47 2025
Version 19.28.0.0.0

Copyright (c) 1982, 2025, Oracle. All rights reserved.

Last Successful login time: Mon Sep 22 2025 14:18:05 +07:00

Connected to:
Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.28.0.0.0

SQL>
SQL> exit
Disconnected from Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.28.0.0.0
[oracle@standalone ~]$

```

Finish upgrade on primary:

```

Every 5.0s: /opt/avdf/bin/privmigutl --status
Migration set 'TOP' - succeeded
Last migration 'Switching to full runtime' - succeeded
No further action needed.

support@192.168.112.121's password:

```

```

login as: support
Pre-authentication banner message from server:
Audit Vault Server 20.15.0.0.0
DO NOT CHANGE ANY CONFIGURATIONS IN Audit Vault Server APPLIANCE WITHOUT GUID
ANCE FROM
ORACLE SUPPORT. ANY CHANGES SHOULD BE TRACEABLE TO APPROPRIATE SR REFERENCE.
End of banner message from server
support@192.168.112.121's password:

```

Start date: Sep 23 06:48:51

Finish date: Sep 23 10:23:46

**Gap jam : 3 jam 34 menit 55 detik**

## 5. Post Upgrade HA Audit Vault Server

Login web console: <https://192.168.112.121/>

Ubah old password menjadi new password untuk user **admin & audit**

Not secure https://192.168.112.121/ordu/f?p=7008:8:226139308191736541::FCK

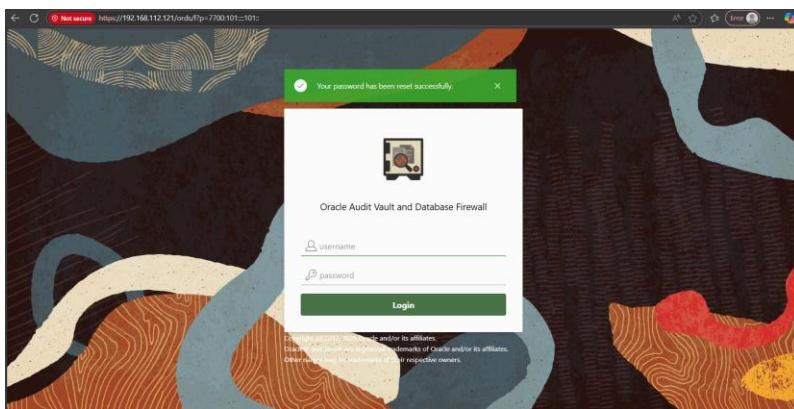
Reset Expired Password

supaudit, your password has expired.

old password

new password

confirm password



## 6. Verify That Audit Vault Agents and Host Monitor Agents Were Automatically Updated

On database target, 192.168.112.232

Agent:

```
[oracle@standalones bin]$ [oracle@standalones bin]$ hostname -i  
192.168.112.232  
[oracle@standalones bin]$ [oracle@standalones bin]$ ./agentctl --version  
  
Audit Vault Agent : Release 20.15.0.0.0 (2025-09-23 09:00:01.010 +0000) Production on Tue Sep 23 17:04:00 MIT 2025  
Audit Vault Server Connection Details:(DESCRIPTION=(ENABLE=BROKEN)(FAILOVER=on)(RETRY_COUNT=3)(CONNECT_TIMEOUT=60)(RETRY_DELAY=3)(TRANSPORT_CONNECT_TIMEOUT=3)(ADDRESS_LIST=(LOAD_BALANCE=on)(ADDRESS=(PROTOCOL=TCP)(HOST=192.168.112.121)(PORT=1521))(ADDRESS=(PROTOCOL=TCP)(HOST=192.168.112.120)(PORT=1521)))(CONNECT_DATA=(SERVICE_NAME=DBFWDB)).  
  
Copyright (c) 1996, 2022 Oracle. All Rights Reserved.
```

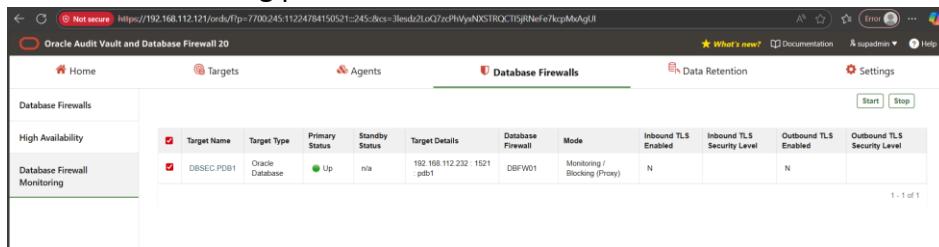
Host monitoring:

```
[oracle@standalones hm]$ [oracle@standalones hm]$ cat version.txt  
AV_RELEASE_VERSION = "20.15.0.0.0"  
TIMESTAMP = "2025/08/18 12:18:20"  
[oracle@standalones hm]$ [oracle@standalones hm]$ hostname -i  
192.168.112.232  
[oracle@standalones hm]$
```

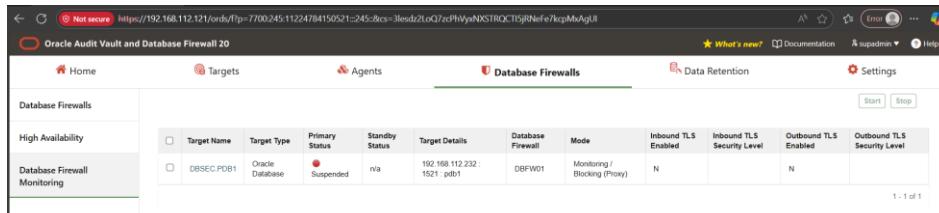
## 7. Update Database Firewall (Primary Node)

### 7.1. Stop all Database Firewall monitoring points.

- Log into the Audit Vault Server console as an administrator.
- Click the Database Firewalls tab.
- Click Database Firewall Monitoring in the left navigation menu.
- Select all monitoring points.



- Click Stop.



## 7.2.Run the Pre-upgrade RPM

```
[root@dbfw005056a08ff3 ~]# sha256sum avdf-pre-upgrade-20.15.0.0.0.zip
a4ac68c04648c96d86fd3fd0207eafb577d993619b5c647038203aebe8393  avdf-pre-upgrade-20.15.0.0.0.zip
[root@dbfw005056a08ff3 ~]#
[root@dbfw005056a08ff3 ~]# unzip avdf-pre-upgrade-20.15.0.0.0.zip
Archive:  avdf-pre-upgrade-20.15.0.0.0.zip
  inflating: avdf-pre-upgrade-20.15.0.0.0-0_RELEASE.d.x86_64.rpm
[root@dbfw005056a08ff3 ~]#
[root@dbfw005056a08ff3 ~]# ll
total 340
-rw----- 1 root      root     4786 Sep 12 13:09 anaconda-ks.cfg
-rw-r--r-- 1 root      root   170524 Sep 10 01:17 avdf-pre-upgrade-20.15.0.0.0-0_RELEASE.d.x86_64.rpm
-rw-r--r-- 1 support  support 158365 Sep 24 02:24 avdf-pre-upgrade-20.15.0.0.0.zip
-rw----- 1 root      root     4973 Sep 12 13:13 original-ks.cfg
[root@dbfw005056a08ff3 ~]#
[root@dbfw005056a08ff3 ~]#
```

```
[root@dbfw005056a08ff3 ~]# rpm -i avdf-pre-upgrade-20.15.0.0.0-0_RELEASE.d.x86_64.rpm
warning: user oracle does not exist - using root
warning: group oinstall does not exist - using root
warning: group oinstall does not exist - using root
warning: group oinstall does not exist - using root
active
Checking upgrade preconditions
package avs is not installed
dbfw-20.12.0.0.0-0_240614.0100.x86_64
Verifying certificate date: /usr/local/dbfw/etc/ca.crt
Verifying certificate date: /etc/pki/tls/certs/localhost_internal.crt
Verifying certificate date: /usr/local/dbfw/etc/cert.crt
Checking upgrade preconditions
package avs is not installed
dbfw-20.12.0.0.0-0_240614.0100.x86_64
Verifying certificate date: /usr/local/dbfw/etc/ca.crt
Verifying certificate date: /etc/pki/tls/certs/localhost_internal.crt
Verifying certificate date: /usr/local/dbfw/etc/cert.crt
/usr/local/dbfw/bin/upgrade/oci-pki-check.rb: warning: argument of top-level return is ignored
Shutting down services.

AVDF::Installer::Upgrade::WarningPreconditions

Remove any schemas you have added to the database.

Additional schemas will cause the upgrade to fail.

SUCCESS:

The upgrade media can now be copied to '/var/dbfw/upgrade'.

The upgrade can then be started by running as root user:

/usr/bin/avdf-upgrade

[root@dbfw005056a08ff3 ~]#
```

## 7.3.Transfer the ISO File to the Appliance

```
[root@standalone avdf]# scp avdf-upgrade-20.15.0.0.0.iso support@192.168.112.178:/var/dbfw/software
The authenticity of host '192.168.112.178' (192.168.112.178) can't be established.
ECDSA key fingerprint is SHA256:BNaqjhJcKpvePQaG5M0g61ZX0KRbe0HvctSTRsJhRm.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '192.168.112.178' (ECDSA) to the list of known hosts.
Database Firewall 20.12.0.0
DO NOT CHANGE ANY CONFIGURATIONS IN Database Firewall APPLIANCE WITHOUT GUIDANCE FROM
ORACLE SUPPORT. ANY CHANGES SHOULD BE TRACEABLE TO APPROPRIATE SR REFERENCE.
support@192.168.112.178's password:
avdf-upgrade-20.15.0.0.0.iso
100% 16GB 63.5MB/s 04:21
[root@standalone avdf]#
```

```
/var/dbfw/software
[root@dbfw005056a08ff3 software]# ll
total 2064196
-rw-r--r--. 1 support support 2113732608 Sep 24 02:27 avdf-upgrade-20.15.0.0.0.iso
[root@dbfw005056a08ff3 software]# mv avdf-upgrade-20.15.0.0.0.iso /var/dbfw/upgrade
[root@dbfw005056a08ff3 software]# chown -R root:root /var/dbfw/upgrade/avdf-upgrade-20.15.0.0.0.iso
[root@dbfw005056a08ff3 software]#
[root@dbfw005056a08ff3 software]# ls -ltr /var/dbfw/upgrade/avdf-upgrade-20.15.0.0.0.iso
-rw-r--r--. 1 root root 17407113216 Sep 24 02:31 /var/dbfw/upgrade/avdf-upgrade-20.15.0.0.0.iso
[root@dbfw005056a08ff3 software]#
```

## 7.4.Start the Update Script

```
[root@dbfw005056a08ff3 ~]# /usr/bin/avdf-upgrade
'/Images' already mounted, Unmounting...
Unmounted /dev/mapper/vg_root-lv_images on /images
Please wait while validating SHA256 checksum for /var/dbfw/upgrade/avdf-upgrade-20.15.0.0.0.iso
Checksum validation successful for /var/dbfw/upgrade/avdf-upgrade-20.15.0.0.0.iso
Mounting /var/dbfw/upgrade/avdf-upgrade-20.15.0.0.0.iso on /images
mount: /images: WARNING: device write-protected, mounted read-only.
Successfully mounted /var/dbfw/upgrade/avdf-upgrade-20.15.0.0.0.iso on /images
/images/upgrade/lib/common.rb:1002: warning: mismatched indentations at 'rescue' with 'def' at 993
/images/upgrade/lib/chroot_upgrade.rb:337: warning: assigned but unused variable - ret

The following messages have important information about the upgrade process.

Power loss during upgrade may cause data loss. Do not power
off during upgrade.

Please review Note ID 2235931.1 for a current list of known issues.

The upgrade process is irreversible, please confirm 'y' to continue or 'n' to abort. [y/N]?

y
Verifying upgrade preconditions
package avs is not installed
dbfw-20.12.0.0-0.240614.0100.x86_64
Verifying certificate date: /usr/local/dbfw/etc/ca.crt
Verifying certificate date: /etc/pki/tls/certs/localhost_internal.crt
Verifying certificate date: /usr/local/dbfw/etc/cert.crt
mke2fs 1.45.6 (20-Mar-2020)
Discarding device blocks: done
Creating filesystem with 512000 4k blocks and 128000 inodes
Filesystem UUID: 6a38637b-384e-4407-9e17-faaeb40696eb
Superblock backups stored on blocks:
      32768, 98304, 163840, 229376, 294912

Allocating group tables: done
Writing inode tables: done
Creating journal (8192 blocks): done
Writing superblocks and filesystem accounting information: done

/images/upgrade/aux/.oci-pki-check.rb: warning: argument of top-level return is ignored
1/11: Mounting filesystems (1)
2/11: Cleaning yum configuration
3/11: Cleaning old packages and files
Warning: failed to remove kernel-tools-libs
4/11: Upgrading kernel
5/11: Upgrading system
6/11: Cleaning platform packages repo
7/11: Adding required platform packages
8/11: Cleaning AVDF packages repo
9/11: Installing AVDF packages
10/11: Setting boot title
11/11: Setting final system status
Reboot now to continue the upgrade process.
Unmounted /var/dbfw/upgrade/avdf-upgrade-20.15.0.0.0.iso on /images
[root@dbfw005056a08ff3 ~]#
```

## 7.5.Restart the Appliance

```
[root@dbfw005056a08ff3 ~]# reboot
Remote side unexpectedly closed network connection

Session stopped
- Press <Return> to exit tab
- Press R to restart session
- Press S to save terminal output to file
```

Checking background proses:

```
watch -n 5 "/opt/avdf/bin/privmigutl --status"
```

```
Every 5.0s: /opt/avdf/bin/privmigutl --status
Migration set 'TOP' - succeeded
Last migration 'Switching to full runtime' - succeeded
No further action needed.
```

```
/opt/avdf/bin/privmigutl --history
```

```
[root@dbfw005056a0fff3 ~]# /opt/avdf/bin/privmigutl --history
2025-09-12 14:15:50 Migration TOP-0: package_helper["<","/media/avdf-install/dbfw-bootstrap/yum.conf", "--repo", "avdf-install-bootstrap", "-i", "bootstrap-dependencies"] (as root) - succeeded
2025-09-12 14:15:53 Migration TOP-1: install-common-os-precheck (as root) - succeeded
2025-09-12 14:15:53 Migration TOP-2: run-privileged-migrations["common-os"] (as root; retry permitted) - started
2025-09-12 14:15:53 Migration COMMON-0: run-privileged-migrations["common-os"] (as root; retry permitted) - succeeded
2025-09-12 14:15:54 Migration COMMON-0: selinux.rb (as root) - succeeded
2025-09-12 14:15:54 Migration COMMON-0: stig-yum-config.rb (as root) - succeeded
2025-09-12 14:15:54 Migration COMMON-0: configure_system_service.rb["avdf-service.yaml"] (as root) - succeeded
2025-09-12 14:15:57 Migration COMMON-0: run-privileged-migrations["common-os"] (as root; retry permitted) - succeeded
2025-09-12 14:15:57 Migration TOP-3: install-common-os-postcheck (as root) - succeeded
2025-09-12 14:16:02 Migration TOP-4: package_helper["<","/media/avdf-install/dbfw-bootstrap/yum.conf", "--repo", "dbfw-install-bootstrap", "-i", "bootstrap-dependencies"] (as root) - succeeded
2025-09-12 14:16:02 Migration TOP-5: run-privileged-migrations["dependencies"] (as root; retry permitted) - started
2025-09-12 14:16:03 Migration DEPENDENCIES-1: update_conf_files.rb["migration-target=dbfw.conf", "-mode=664", "-user=dbfw", "-group=dbfw"] (as root) - succeeded
2025-09-12 14:16:03 Migration DEPENDENCIES-1: dependencies-precheck (as root) - succeeded
2025-09-12 14:16:04 Migration DEPENDENCIES-2: configure-syslog (as root) - succeeded
2025-09-12 14:16:04 Migration DEPENDENCIES-3: lvm-adjust.rb["config=lv-sanitisation"] (as root) - succeeded
2025-09-12 14:16:04 Migration DEPENDENCIES-4: import-network (as root) - succeeded
2025-09-12 14:16:04 Migration DEPENDENCIES-5: present-volumes-as-root (as root) - succeeded
2025-09-12 14:16:04 Migration DEPENDENCIES-6: setup-networking.rb["enable-async-detection,iptables,disable_devices,create_nics,modify_nics,hosts,hostname,ssh,apache,certificates,routing", "no-restart-httdp"] (as root) - succeeded
2025-09-12 14:16:04 Migration DEPENDENCIES-7: oci-dependencies.rb (as root) - succeeded
2025-09-12 14:16:04 Migration DEPENDENCIES-8: dbfw-dependencies (as root) - succeeded
2025-09-12 14:16:04 Migration DEPENDENCIES-9: yum["y", "--disablerepo", "-c", "/media/avdf-install/dbfw-ol-dependencies/yum.conf", "--enablerepo", "dbfw-ol-dependencies", "clean", "all"] (as root) - succeeded
2025-09-12 14:16:13 Migration DEPENDENCIES-9: yum["y", "--disablerepo", "-c", "/media/avdf-install/dbfw-ol-dependencies/yum.conf", "--enablerepo", "dbfw-ol-dependencies", "groupinstall", "dbfw-ol-dependencies"] (as root) - succeeded
2025-09-12 14:16:13 Migration DEPENDENCIES-10: dbfw-dependencies (as root) - succeeded
2025-09-12 14:16:13 Migration DEPENDENCIES-11: yum["y", "--disablerepo", "-c", "/media/avdf-install/dbfw-dependencies/yum.conf", "--enablerepo", "dbfw-w-dependencies", "clean", "all"] (as root) - succeeded
2025-09-12 14:16:14 Migration DEPENDENCIES-11: yum["y", "--disablerepo", "-c", "/media/avdf-install/dbfw-dependencies/yum.conf", "--enablerepo", "dbfw-w-dependencies", "upgrade", "Ruby"] (as root) - succeeded
2025-09-12 14:16:15 Migration DEPENDENCIES-12: yum["y", "--disablerepo", "-c", "/media/avdf-install/dbfw-dependencies/yum.conf", "--enablerepo", "dbfw-w-dependencies", "clean", "all"] (as root) - succeeded
2025-09-12 14:16:32 Migration DEPENDENCIES-13: package_helper["<","/media/avdf-install/dbfw-dependencies/yum.conf", "--repo", "dbfw-dependencies", "-g oracle-instantclient-basic"] (as root) - succeeded
2025-09-12 14:18:33 Migration DEPENDENCIES-13: package_helper["<","/media/avdf-install/dbfw-dependencies/yum.conf", "--repo", "dbfw-dependencies", "-i ", "oracle-instantclient-basic"] (as root) - succeeded
2025-09-12 14:18:33 Migration TOP-7: run-privileged-migrations["dependencies"] (as root; retry permitted) - succeeded
2025-09-12 14:18:37 Migration DEPENDENCIES-14: run-privileged-migrations["dependencies"] (as root) - succeeded
2025-09-12 14:18:37 Migration TOP-9: package_helper["<","/media/avdf-install/dbfw-bootstrap/yum.conf", "--repo", "dbfw-install-bootstrap", "-i", "bootstrap-dbfw-application"] (as root) - succeeded
2025-09-12 14:18:37 Migration TOP-10: install-application-precheck (as root) - succeeded
2025-09-12 14:18:37 Migration TOP-11: run-privileged-migrations["application"] (as root; retry permitted) - started
2025-09-12 14:18:38 Migration APPLICATION-1: package_helper["<","/media/avdf-install/dbfw-application/yum.conf", "--repo", "dbfw-application", "--clean"] (as root) - succeeded
2025-09-12 14:19:22 Migration APPLICATION-2: package_helper["<","/media/avdf-install/dbfw-application/yum.conf", "--repo", "dbfw-application", "-g ", "dbfw-application"] (as root) - succeeded
2025-09-12 14:19:22 Migration APPLICATION-3: run-privileged-migrations["common"] (as root) - succeeded
2025-09-12 13:19:22 Migration COMMON-1: first (as nobody) - succeeded
2025-09-12 13:19:23 Migration COMMON-2: crypto-policy.rb (as root) - succeeded
2025-09-12 13:19:24 Migration COMMON-3: update-conf-files (as root) - succeeded
2025-09-12 13:19:24 Migration COMMON-4: update-conf-files (as root) - succeeded
```

```
tail -f /var/log/messages
```

```
[root@dbfw005056a0fff3 ~]# tail -f /var/log/messages
Sep 24 02:59:55 dbfw005056a0fff3 systemd[1]: Started Session 4 of user support.
Sep 24 02:59:55 dbfw005056a0fff3 systemd-logind[1091]: New session 5 of user support.
Sep 24 02:59:55 dbfw005056a0fff3 systemd[1]: Started Session 5 of user support.
Sep 24 03:00:02 dbfw005056a0fff3 su: (to root) supports on pts/1
Sep 24 03:00:46 dbfw005056a0fff3 systemd[1]: Starting AVDF Service - Update DBFW hostnames...
Sep 24 03:00:46 dbfw005056a0fff3 systemd[1]: Starting AVDF Service - DBFW log housekeeping...
Sep 24 03:00:47 dbfw005056a0fff3 systemd[1]: dbfw-housekeep-log.service: Succeeded.
Sep 24 03:00:47 dbfw005056a0fff3 systemd[1]: Started AVDF Service - DBFW log housekeeping.
Sep 24 03:00:47 dbfw005056a0fff3 systemd[1]: dbfw-hostname-lookup.service: Succeeded.
Sep 24 03:00:47 dbfw005056a0fff3 systemd[1]: Started AVDF Service - Update DBFW hostnames.
Sep 24 03:01:20 dbfw005056a0fff3 sshd[5557]: exec line 19: Deprecated option UsePrivilegeSeparation
Sep 24 03:01:24 dbfw005056a0fff3 sshd[5567]: exec line 19: Deprecated option UsePrivilegeSeparation
Sep 24 03:01:24 dbfw005056a0fff3 systemd-logind[1091]: New session 6 of user support.
Sep 24 03:01:24 dbfw005056a0fff3 systemd[1]: Started Session 6 of user support.
Sep 24 03:01:25 dbfw005056a0fff3 systemd-logind[1091]: New session 7 of user support.
Sep 24 03:01:25 dbfw005056a0fff3 systemd[1]: Started Session 7 of user support.
Sep 24 03:01:34 dbfw005056a0fff3 su: (to root) supports on pts/2
Sep 24 03:01:52 dbfw005056a0fff3 systemd[1]: Starting AVDF Service - Update DBFW hostnames...
Sep 24 03:01:52 dbfw005056a0fff3 systemd[1]: Starting AVDF Service - DBFW log housekeeping...
Sep 24 03:01:53 dbfw005056a0fff3 systemd[1]: dbfw-housekeep-log.service: Succeeded.
Sep 24 03:01:53 dbfw005056a0fff3 systemd[1]: Started AVDF Service - DBFW log housekeeping.
Sep 24 03:01:53 dbfw005056a0fff3 systemd[1]: dbfw-hostname-lookup.service: Succeeded.
Sep 24 03:01:53 dbfw005056a0fff3 systemd[1]: Started AVDF Service - Update DBFW hostnames.
Sep 24 03:01:53 dbfw005056a0fff3 systemd[4502]: Starting Mark boot as successful...
Sep 24 03:01:53 dbfw005056a0fff3 systemd[4502]: Started Mark boot as successful.
Sep 24 03:02:56 dbfw005056a0fff3 systemd[1]: Starting AVDF Service - Update DBFW hostnames...
Sep 24 03:02:56 dbfw005056a0fff3 systemd[1]: Starting AVDF Service - DBFW log housekeeping...
Sep 24 03:02:57 dbfw005056a0fff3 systemd[1]: dbfw-housekeep-log.service: Succeeded.
Sep 24 03:02:57 dbfw005056a0fff3 systemd[1]: Started AVDF Service - DBFW log housekeeping.
Sep 24 03:02:57 dbfw005056a0fff3 systemd[1]: dbfw-hostname-lookup.service: Succeeded.
Sep 24 03:02:57 dbfw005056a0fff3 systemd[1]: Started AVDF Service - Update DBFW hostnames.
Sep 24 03:04:02 dbfw005056a0fff3 systemd[1]: Starting AVDF Service - Update DBFW hostnames...
Sep 24 03:04:02 dbfw005056a0fff3 systemd[1]: Starting AVDF Service - DBFW log housekeeping...
Sep 24 03:04:03 dbfw005056a0fff3 systemd[1]: dbfw-hostname-lookup.service: Succeeded.
Sep 24 03:04:03 dbfw005056a0fff3 systemd[1]: Started AVDF Service - Update DBFW hostnames.
Sep 24 03:04:03 dbfw005056a0fff3 systemd[1]: dbfw-housekeep-log.service: Succeeded.
Sep 24 03:05:12 dbfw005056a0fff3 systemd[1]: Starting AVDF Service - DBFW log housekeeping...
Sep 24 03:05:12 dbfw005056a0fff3 systemd[1]: Starting AVDF Service - Update DBFW hostnames...
Sep 24 03:05:12 dbfw005056a0fff3 systemd[1]: dbfw-housekeep-log.service: Succeeded.
Sep 24 03:05:13 dbfw005056a0fff3 systemd[1]: Started AVDF Service - DBFW log housekeeping.
Sep 24 03:05:13 dbfw005056a0fff3 systemd[1]: dbfw-hostname-lookup.service: Succeeded.
Sep 24 03:05:13 dbfw005056a0fff3 systemd[1]: Started AVDF Service - Update DBFW hostnames.
Sep 24 03:06:23 dbfw005056a0fff3 systemd[1]: Starting AVDF Service - Update DBFW hostnames...
```

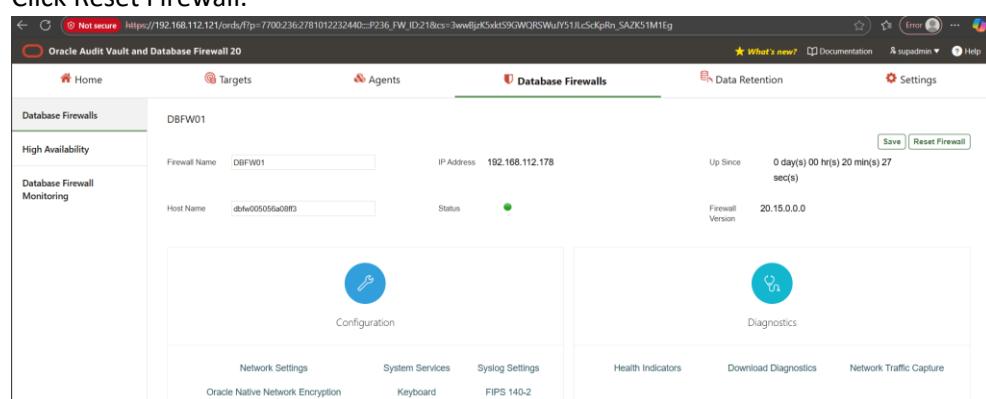
```
tail -f /var/log/debug
```

DBFW tidak bisa di akses dengan proxy port:

```
[oracle@standalones ~]$ !277  
sqlplus avdfuser@12345@192.168.112.178:15221/pdb1  
  
SQL*Plus: Release 19.0.0.0.0 - Production on Wed Sep 24 09:46:35 2025  
Version 19.28.0.0.0  
  
Copyright (c) 1982, 2025, Oracle. All rights reserved.  
  
ERROR:  
ORA-12541: TNS:no listener  
  
Enter user-name: ■
```

## 7.6.Re-register Database firewall

- Log in to the Audit Vault Server console as an administrator.
  - Click the Database Firewalls tab.
  - In the left navigation menu, Database Firewalls is selected by default and the page displays a list of configured Database Firewall instances.
  - Select the Database Firewall instance that indicates a certificate error after the update.
  - Click Reset Firewall.



## 7.7.Check proxy port Database firewall

Start monitoring point & status “up”

Target Name	Target Type	Primary Status	Standby Status	Target Details	Database Firewall	Mode	Inbound TLS Enabled	Inbound TLS Security Level	Outbound TLS Enabled	Outbound TLS Security Level
DBSEC_PDB1	Oracle Database	Up	n/a	192.168.112.232:1521 pdb1	DBFW01	Monitoring / Blocking (Proxy)	N		N	

Check connection dengan database firewall:

```
[oracle@standalones ~]$ sqlplus avdfuser/12345@192.168.112.178:15221/pdb1
SQL*Plus: Release 19.0.0.0.0 - Production on Wed Sep 24 10:22:44 2025
Version 19.28.0.0.0

Copyright (c) 1982, 2025, Oracle. All rights reserved.

Last Successful login time: Tue Sep 23 2025 14:21:47 +07:00

Connected to:
Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.28.0.0.0

SQL> exit
Disconnected from Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.28.0.0.0
[oracle@standalones ~]$
```

## 8. Confirm the Update Process

### 8.1. Post Upgrade Agent User Security Hardening

#### Download patch 35303191



Follow the doc for unlock user avsys: “14.9 Unlocking and Locking the AVSYS User”

[https://docs.oracle.com/en/database/oracle/audit-vault-database-firewall/20/sigad/user\\_accounts.html#GUID-648E1EB2-1324-4413-B77B-67BC4BDC8228](https://docs.oracle.com/en/database/oracle/audit-vault-database-firewall/20/sigad/user_accounts.html#GUID-648E1EB2-1324-4413-B77B-67BC4BDC8228)

```
[root@avsys ~]# su - oracle
Last login: Wed Sep 24 03:56:18 UTC 2025 on pts/0
The Oracle base has been set to /var/lib/oracle
[oracle@avsys ~]#
[oracle@avsys ~]# cd revoke_user/
[oracle@avsys ~]# ll
total 12
-rw-r--r--. 1 oracle oinstall 1722 Sep 24 03:55 p35303191_209000_Linux-x86-64.zip
-rw-r--r--. 1 oracle oinstall 2479 Apr 19 2023 README.txt
-rw-r--r--. 1 oracle oinstall 735 Apr 19 2023 revoke_privileges.sql
[oracle@avsys ~]#
```

```
[oracle@avs005056a02dd1 revoke_user]$ sqlplus avsys
SQL*Plus: Release 19.0.0.0.0 - Production on Wed Sep 24 03:57:11 2025
Version 19.28.0.0.0

Copyright (c) 1982, 2025, Oracle. All rights reserved.

Enter password:
Last Successful login time: Wed Sep 24 2025 03:55:12 +00:00

Connected to:
Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.28.0.0.0

SQL> @revoke_privileges.sql
SQL> SET FEEDBACK 1
SQL> SET NUMWIDTH 10
SQL> SET LINESIZE 80
SQL> SET TRIMSPPOOL ON
SQL> SET TAB OFF
SQL> SET PAGESIZE 100
SQL>
SQL> BEGIN
2   execute immediate 'revoke execute on sys.dbms_lob from avbootstrap';
3 EXCEPTION
4   WHEN OTHERS THEN
5     IF SQLCODE = -1927 or SQLCODE = -01952 or SQLCODE = -01917 THEN
6       NULL;
7     ELSE
8       RAISE;
9     END IF;
10  END;
11 /
PL/SQL procedure successfully completed.

SQL>
SQL> BEGIN
2   execute immediate 'revoke select on AVSYS.FILE_REPO$ from avbootstrap';
3 EXCEPTION
4   WHEN OTHERS THEN
5     IF SQLCODE = -1927 or SQLCODE = -01952 or SQLCODE = -01917 THEN
6       NULL;
7     ELSE
8       RAISE;
9     END IF;
10  END;
11 /
PL/SQL procedure successfully completed.

SQL> exit
Disconnected from Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.28.0.0.0
[oracle@avs005056a02dd1 revoke_user]$
```

## 8.2. Clear Unused Kernels from Oracle Audit Vault and Database Firewall (optional)

Follow doc 2458154.1 for instructions to clear unused kernels

**In this Document**

- Main Content
- Purpose
- Before you start
- Steps to execute the script

**APPLIES TO:**

Oracle Audit Vault and Database Firewall - Version 12.2.0.0 to 12.2.0.9 [Release 12.2 to 12.1]  
Information in this document applies to any platform.

**MAIN CONTENT**

**Purpose**

This document contains the steps for clearing out unused kernels and related files.

The third party scanning tools report unused kernel packages installed that are not used. The script `kernel_cleanup.sh` runs on the system and provides suggestions about the files and packages to be removed.

The script performs the following:

- Runs brief sanity tests to see if it is appropriate to continue
- Looks for files not owned by any packages in /boot
- Locates unused kernel packages
- Advises the user which commands to run to remove anything extra
- Advises the user on how to verify that the system has the correct set of packages

**Note:** This script does not update any kernels. It only removes unused ones. To receive updates, apply the latest bundle patch.

```
[root@avs005056a02dd1 ~]# df -h
Filesystem           Size  Used Avail Use% Mounted on
devtmpfs              5.9G   0  5.9G  0% /dev
tmpfs                 5.9G  41M  5.8G  1% /run
tmpfs                 5.9G   0  5.9G  0% /sys/fs/cgroup
/dev/mapper/vg_root-lv_ol8root    6.5G  4.3G  1.9G  70% /
/dev/mapper/vg_root-lv_home     943M 192K  878M  1% /home
/dev/mapper/vg_root-lv_var_tmp   5.5G 196K  5.2G  1% /var/tmp
/dev/mapper/vg_root-lv_local_dbfw 943M 277M  681M  32% /usr/local/dbfw
/dev/mapper/vg_root-lv_var_log   5.5G 302M  4.9G  6% /var/log
/dev/mapper/vg_root-lv_var_opt_oracle_ahf 156 290M  140  3% /var/opt/oracle/ahf
/dev/mapper/vg_root-lv_tmp      1.9G 552K  1.8G  1% /tmp
/dev/mapper/vg_root-lv_var_dbfw  2.8G 64K   2.6G  1% /var/dbfw
/dev/mapper/vg_root-lv_opt     943M 199M  680M  23% /opt
/dev/mapper/vg_root-lv_oracle   58G  29G   26G  53% /var/lib/oracle
tmpfs                  1.0G   0  1.0G  0% /usr/local/dbfw/volatile
/dev/mapper/vg_root-lv_local_dbfw_tmp 6.5G 104K  6.1G  1% /usr/local/dbfw/tmp
/dev/mapper/vg_root-lv_opt_oracle_ahf 4.9G 1.4G  3.2G  31% /opt/oracle/ahf
/dev/mapper/vg_root-lv_images   463M 16K   434M  1% /images
/dev/mapper/vg_root-lv_var_log_audit 1.9G 331M  1.5G  19% /var/log/audit
/dev/mapper/vg_root-lv_var_dbfw_upgrade 29G  17G   11G  60% /var/dbfw/upgrade
tmpfs                  1.2G  11G   1.1G  10% /dev/shm
/dev/sda2               974M 230M  677M  26% /boot
/dev/sda1               200M 6.0M  194M  3% /boot/efi
tmpfs                  1.2G   0  1.2G  0% /run/user/507
tmpfs                  1.2G   0  1.2G  0% /run/user/503
tmpfs                  1.2G   0  1.2G  0% /run/user/1000
[root@avs005056a02dd1 ~]#
[root@avs005056a02dd1 ~]# mount /boot
mount: /boot: /dev/sda2 already mounted on /boot.
[root@avs005056a02dd1 ~]#
[root@avs005056a02dd1 ~]# ruby ./kernel-cleanup.rb
# FAILED

undefined method `untaint' for an instance of String
[root@avs005056a02dd1 ~]#
```

### 8.3.Check the Observer Status After Updating to Oracle AVDF 20.7 or Later for High Availability

```
[root@avs005056a02dd1 ~]# su - oracle
Last login: Wed Sep 24 04:03:42 UTC 2025 on pts/0
The Oracle base has been set to /var/lib/oracle
[oracle@avs005056a02dd1 ~]$ 
[oracle@avs005056a02dd1 ~]$ 
[oracle@avs005056a02dd1 ~]$ dgmgrl /
DGMGRL for Linux: Release 19.0.0.0.0 - Production on Wed Sep 24 04:09:46 2025
Version 19.28.0.0

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Welcome to DGMGRL, type "help" for information.
Connected to "DBFWDB_HA1"
Connected as SYSDG.
DGMGRL>
DGMGRL> show observer

Configuration - DBFWDB

Fast-Start Failover:      ENABLED

Primary:          DBFWDB_HA1
Active Target:    DBFWDB_HA2

Observer "avs005056a02204" - Master

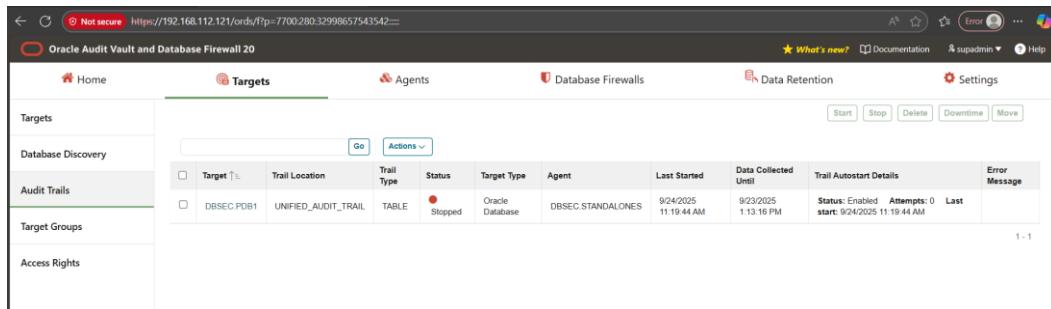
Host Name:          avs005056a02204
Last Ping to Primary: 2 seconds ago
Last Ping to Target:  2 seconds ago

Observer "avs005056a02dd1" - Backup

Host Name:          avs005056a02dd1
Last Ping to Primary: 0 seconds ago
Last Ping to Target:  2 seconds ago

DGMGRL>
DGMGRL> exit
[oracle@avs005056a02dd1 ~]$
```

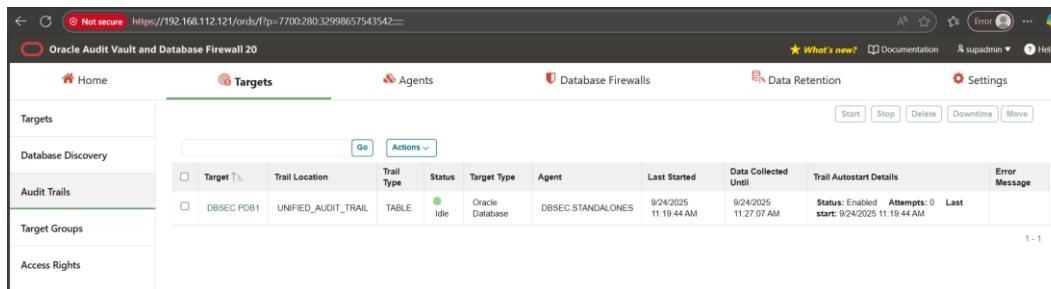
## 8.4.Start audit trails



The screenshot shows the Oracle Audit Vault and Database Firewall 20 interface. The left sidebar has 'Targets' selected. The main area is titled 'Targets' and contains a table with one row. The table columns are: Target, Trail Location, Trail Type, Status, Target Type, Agent, Last Started, Data Collected Until, Trail Autostart Details, and Error Message. The row data is: DBSEC.PDB1, UNIFIED\_AUDIT\_TRAIL, TABLE, Stopped, Oracle Database, DBSEC.STANDALONES, 9/24/2025 11:19:44 AM, 9/23/2025 1:13:16 PM, Status: Enabled Attempts: 0 Last start: 9/24/2025 11:19:44 AM, and Error Message.

Target	Trail Location	Trail Type	Status	Target Type	Agent	Last Started	Data Collected Until	Trail Autostart Details	Error Message
DBSEC.PDB1	UNIFIED_AUDIT_TRAIL	TABLE	Stopped	Oracle Database	DBSEC.STANDALONES	9/24/2025 11:19:44 AM	9/23/2025 1:13:16 PM	Status: Enabled Attempts: 0 Last start: 9/24/2025 11:19:44 AM	

Start:



The screenshot shows the Oracle Audit Vault and Database Firewall 20 interface. The left sidebar has 'Targets' selected. The main area is titled 'Targets' and contains a table with one row. The table columns are: Target, Trail Location, Trail Type, Status, Target Type, Agent, Last Started, Data Collected Until, Trail Autostart Details, and Error Message. The row data is: DBSEC.PDB1, UNIFIED\_AUDIT\_TRAIL, TABLE, Idle, Oracle Database, DBSEC.STANDALONES, 9/24/2025 11:19:44 AM, 9/24/2025 11:27:07 AM, Status: Enabled Attempts: 0 Last start: 9/24/2025 11:19:44 AM, and Error Message.

Target	Trail Location	Trail Type	Status	Target Type	Agent	Last Started	Data Collected Until	Trail Autostart Details	Error Message
DBSEC.PDB1	UNIFIED_AUDIT_TRAIL	TABLE	Idle	Oracle Database	DBSEC.STANDALONES	9/24/2025 11:19:44 AM	9/24/2025 11:27:07 AM	Status: Enabled Attempts: 0 Last start: 9/24/2025 11:19:44 AM	

## 9. Precheck After upgrade

After:

AVS Version:

The screenshot shows the Oracle Audit Vault and Database Firewall 20 interface. The top navigation bar includes links for Home, Targets, Agents, Database Firewalls, Data Retention, and Settings. The main content area has tabs for Security, Storage, System, and Audit Vault CLI. Under Audit Vault CLI, there are sections for Configuration (with a key icon), Monitoring (with a heart icon), Oracle Database In-Memory (Network Settings), Maintenance (System Settings), High Availability (Connectors), and Plug-ins, Jobs, and Diagnostics. Status indicators show Uptime (20 Hr(s) 19 Min(s)), High Availability Status (Primary), Free Space (84.6%), Audit Vault Server Version (20.15.0.0), and Database Firewall log collection.

DBFW Version:

The screenshot shows the Oracle Audit Vault and Database Firewall 20 interface, specifically the Database Firewalls section. The top navigation bar includes Home, Targets, Agents, Database Firewalls, Data Retention, and Settings. The main content area shows a table with columns: Name, IP Address, Version, Status, Role, Registered Time, and FIPS 140-2 Mode. One entry is listed: DBFW01 (IP 192.168.112.178, Version 20.15.0.0, Status Up, Role Primary, Registered Time 9/19/2025 3:14:13 PM, FIPS 140-2 Mode Off).

HA AVS:

The screenshot shows the Oracle Audit Vault and Database Firewall 20 interface. A modal window titled "Configure High Availability" is open, stating "High Availability mode is enabled." It shows the Standby Server IP Address (192.168.112.120) and the Standby Server certificate. The main content area shows the Home, Targets, Agents, and Data Retention tabs. Under System, it shows Uptime (20 Hr(s) 19 Min(s)), High Availability Status (Primary), and Free Space (84.6%). The Audit Vault CLI section includes Configuration (key icon), Oracle Database In-Memory (Network Settings), Maintenance (System Settings), and High Availability (Connectors). A System Alerts section at the bottom indicates "Email Notification for System Alerts is not configured." Buttons for Go and Actions are visible.

```
[oracle@avs005056a02dd1 ~]$ !11
/usr/local/dbfw/bin/setup_ha.rb --status
HA mode: PRIMARY
HA server 1: 192.168.112.121
HA server 2: 192.168.112.120
Unique database name: DBFWDB_HA1
Current database role: PRIMARY
Data guard broker: ENABLED
Data guard observer: YES
Current log mode: ARCHIVELOG
Logging forced: YES
Flashback mode: YES
Current open mode: READ WRITE
Switchover status: TO STANDBY
Automatic failover: ENABLED
Failover status: TARGET UNDER LAG LIMIT
Missing listener services: NONE
Archive destination: ENABLE
Recovery mode: MANAGED REAL TIME APPLY
FRA size: 11,811,160,064
FRA used: 9,210,691,584
FRA reclaimable: 8,100,249,600
FRA available: 10,700,718,080
Gap status: NO GAP
Archived sequence: 64
Applied sequence: 63
Apply lag: 0:00:14
[oracle@avs005056a02dd1 ~]$
[oracle@avs005056a02dd1 ~]$ date
Wed Sep 24 04:24:37 UTC 2025
[oracle@avs005056a02dd1 ~]$ █
```

```
[oracle@avs005056a02204 ~]$ !14
[oracle@avs005056a02204 ~]$ !14
/usr/local/dbfw/bin/setup_ha.rb --status
HA mode: STANDBY
HA server 1: 192.168.112.121
HA server 2: 192.168.112.120
Unique database name: DBFWDB_HA2
Current database role: PHYSICAL STANDBY
Data guard broker: ENABLED
Data guard observer: YES
Current log mode: ARCHIVELOG
Logging forced: YES
Flashback mode: YES
Current open mode: MOUNTED
Switchover status: NOT ALLOWED
Automatic failover: ENABLED
Failover status: TARGET UNDER LAG LIMIT
Missing listener services: NONE
Archive destination: RESET
Recovery mode: MANAGED REAL TIME APPLY
FRA size: 11,811,160,064
FRA used: 8,755,609,600
FRA reclaimable: 7,531,921,408
FRA available: 10,587,471,872
[oracle@avs005056a02204 ~]$
[oracle@avs005056a02204 ~]$ date
Wed Sep 24 04:21:42 UTC 2025
[oracle@avs005056a02204 ~]$ █
```

## DB Target:

### Agent Version:

```
[oracle@standalones bin]$ ./agentctl --version
[oracle@standalones bin]$ hostname -i
192.168.112.232
[oracle@standalones bin]$ ./agentctl --version
Audit Vault Agent : Release 20.15.0.0.0 (2025-09-23 09:08:01.818 +0000) - Production on Tue Sep 23 17:04:08 WIB 2025
Audit Vault Server Connection Details:[DESCRIPTION=(ENABLE=BROKEN)(FAILOVER=on)(RETRY_COUNT=3)(CONNECT_TIMEOUT=60)(RETRY_DELAY=3)(TRANSPORT_CONNECT_TIMEOUT=3)(ADDRESS_LIST=(LOAD_BALANCE=on))(ADDRESS=(PROTOCOL=TCP)(HOST=192.168.112.121)(PORT=1521))(ADDRESS=(PROTOCOL=TCP)(HOST=192.168.112.120)(PORT=1521))(CONNECT_DATA=(SERVICE_NAME=DBFWDB))]

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```

### Host monitoring Version:

```
[oracle@standalones hm]$ cat version.txt
AV_RELEASE_VERSION = "20.15.0.0.0"
TIMESTAMP = "2025/08/18 12:18:20"
[oracle@standalones hm]$
[oracle@standalones hm]$ hostname -i
192.168.112.232
[oracle@standalones hm]$ █
```

### Database firewall diagnostic:

**Health Indicators**

- Certificates: Green
- Configuration: Red
- Diagnostics (controller\_connection, exists\_var\_dbfle\_va\_1\_etc\_appliance\_conf, monitor\_is\_running, monitoring\_processes, permissions\_on\_policy\_file\_oracle\_policy\_36\_json, permissions\_on\_policy\_file\_oracle\_policy\_7\_json, stand\_is\_running, unexpected\_policy\_file, unexpected\_va\_directory\_entries, writable\_by\_user\_dbfle\_var\_dbfle\_va\_1\_log): All Green
- Filesystem: Green

**Data Retention**

- Up Since: 0 day(s) 0 hr(s) 27 min(s) 14 sec(s)
- Firewall Version: 20.15.0.0.0
- Diagnostics: Green
- Download Diagnostics: Available
- Network Traffic Capture: Available

**Health Indicators**

- Certificates: Green
- Configuration: Red
- Database Firewall Monitoring: Green
- Filesystem: Green
- Networking: Yellow
- Diagnostics (dns, dbfw\_conf\_net\_service\_map, gateway, netfilter\_rules, network\_address, network\_mask, state\_of\_device\_en192, that\_ipv6\_is\_disabled): Most Green, dns is Yellow
- System: Green

**Data Retention**

- Up Since: 0 day(s) 0 hr(s) 27 min(s) 14 sec(s)
- Firewall Version: 20.15.0.0.0
- Diagnostics: Green
- Download Diagnostics: Available
- Network Traffic Capture: Available

## Dashboard :

**System Alerts**

- Count: 10
  - Critical: 1
  - High: 2
  - Medium: 5
  - Low: 2

**Targets**

- Type: Create Database
  - Count: 1

**Audit Collection**

- Agents: 1
  - Status: Running
- Audit Trails: 1
  - Status: Unavailable

**Database Firewall Monitoring**

- Database Firewalls: 2
  - Status: Up
- Monitoring Points: 1
  - Status: Up

**Host Monitor**

- Mode: 0

**Collection Summary**

Total Records Collected: 85K

Average Collection Rate in last 1 week: 13 records/m

Targets with High Collection Rate in last 1 week: 1

**Jobs Summary**

User Jobs in last 1 week	Failed: 10, Success: 11
System Jobs in last 1 week	Failed: 1, Success: 82

**Data Retention Summary**

- Automatic Remote Archiving: Enabled (Click here to Disable)
- Total size of Event data retained: < 1 GB
- Total size of Event data in Archive: 0.08
- Data Retention Job Status: Next Run Time: 8/29/2025 7:14:38 AM
- Retained Data: 0
- Datafiles available for moving to a remote location: 0

**System Overview**

Audit Vault Server Version	20.15.0.0.0
High Availability Status	Primary
Uptime	21 hrs 39 mins
CPU Utilization	10% (2 CPU(s))
Disk Space Utilization	Filesystem: 18.4% used (Total 231.7 GB, Used 33.73 GB) Database Storage: 52.1% used (Total 45 GB, Used 23.25 GB)
Memory Utilization	80.2% used (Total 1 GB)
Network Traffic Log Collection	Up
PDF/XLS Report Engine	Up
Alerts Engine	Up

### Coba register DBFW tapi beda versi: muncul error

