Upgrade RAC Instance GI and Databases from 12c to 19c using Ansible

Introduction: This readme helps to automate the upgrade of RAC Instance Grid Infrastructure along with Multiple Oracle Databases on ASM/JFS from Oracle 12c to 19c. This covers the installation of 19c RAC Instance GI and upgrade of the existing 12.x to 19c and installation of 19c RDBMS. Along with the database upgrade leveraging Oracle's "autoupgrade.jar" tool. <u>About Oracle Database AutoUpgrade.</u>

Below figures provide a pictorial representation of the upgrade process using this Ansible collection.

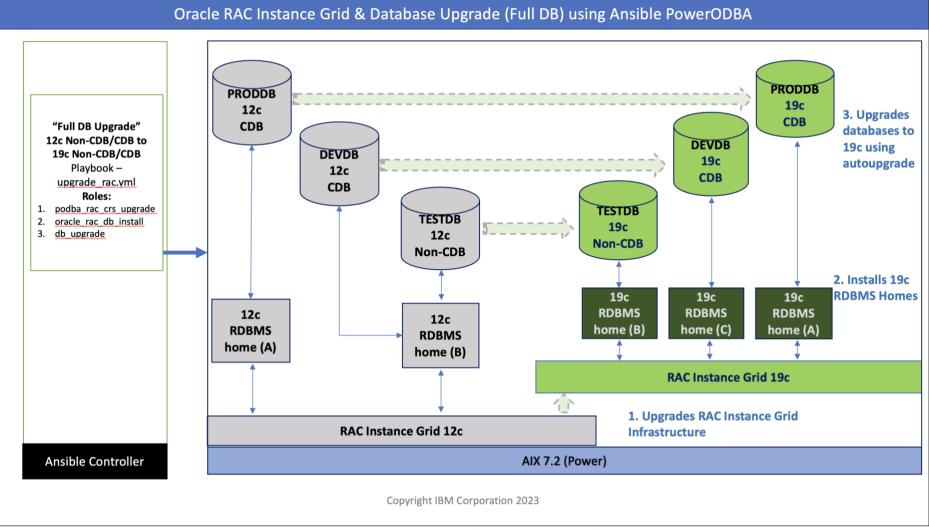


Fig: 1 Upgrading 12c Non-CDB/CDB to 19c Non-CDB/CDB

Note: All the pluggable databases inside the container database will be upgraded from 12c to 19c as part of upgrade process.

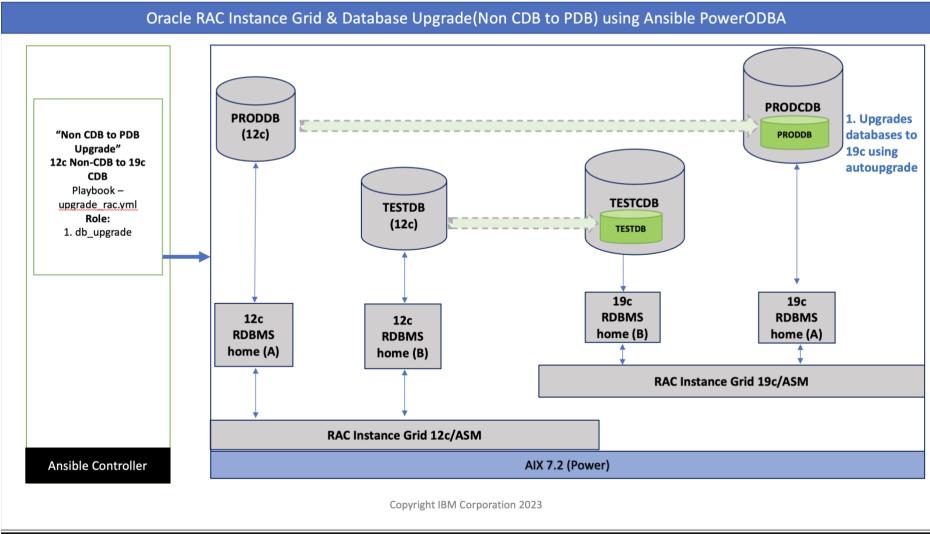


Fig: 2 Upgrading 12c Non-CDB to 19c CDB

Note: When upgrading from 12c Non CDB to 19c CDB, the 19c Container database should be created manually and the variable file should be updated before running the playbooks. Please read "Other scenarios" of "Upgrade Scenarios" provided in the later section of this readme.

File System architecture:

- 1. **Path to the collection**: \$ansible-collection-install-dir/ibm/power_aix_oracle_rac_upgrade.
- 2. **upgrade_rac.yml**: This is the *playbook* file which is responsible for installation and upgrade of 19c RAC instance Grid & databases by calling the respective roles. The file is under "ansible-collection-install-dir"/ibm/power_aix_oracle_rac_upgrade/playbooks. Only the managed host's hostname must be updated in this file.
- 3. **inventory.yml**: This file is provided in the collection which contain all the managed hosts details. It is NOT mandatory to use only this file, if you already have an inventory file defined in another location, that can be used also.
- 4. **upgrade_rac_vars.yml**: This file contains all the variables required to perform the upgrade. It is under is under "ansible-collection-installdir"/ibm/power_aix_oracle_rac_upgrade/playbooks/vars/upgrade. Specification of each variable is provided in this file itself.
- 5. vault.yml: The sys user password of ASM must be mentioned in this file, this file is in "ansible-collection-

installdir"/ibm/power_aix_oracle_rac_upgrade/playbooks/vars. It must be encrypted using "ansible-vault" after the password is stored in the file. Ansible Vault is a security utility provided by Ansible to encrypt files which contain sensitive information such as passwords. Refer: A brief introduction to Ansible Vault | Enable Sysadmin (redhat.com)

\$ ansible-vault encrypt vault.yml

6. **Roles**: There are four ansible roles which will be used to perform the upgrade. Description of each role is given below.

Ansible Roles to Upgrade RAC GI & DBs	
rac_crs_precheck	rac_crs_upgrade
Performs the precheck required for 19c Grid & RDBMS RAC upgrade	Upgrades RAC Instance 12c Grid to 19c with RU
1. Checks if 19c RAC Instance Grid Infrastructure is already installed.	Checks for any 19c Grid software already installed.
2. Checks for source (12c) grid setup.	2. Extracts the 19c Grid software.
3. Checks if CRS release version versions are same across nodes.	3. Backups up OPatch and extracts the latest one.
4. Checks the required value of maxuproc value.	4. Extracts Release update patch .
5. Checks for mandatory patch on source (12c) grid home for 19c	5. Executes rootpre.sh.
upgrade.	6. Creates & copies grid_19c_install.rsp response file from template to
6. Checks if unzip is available.	the target Ipar.
7. Checks free space in Grid home path and fails if free space is less than	7. Executes gridSetup.sh (with CRS SWONLY option) in silent mode .
90GB, it is mandatory check set by Oracle to have 80GB of free space	8. Apply patch on New 19c standalone GI Home.
to do the patching.	9. Executes Grid home detach script.
	Runs cluvfy.sh and exits in case of any issues are reported by the utility.
	11. Creates & copies grid_19c_upgrade.rsp response file from template to the target lpar.
	12. Executes gridSetup.sh (with upgrade option) in silent mode from patched home. It will show the status and lists the log files upon completion of the new 19c Grid Installation.
	13. Executes rootupgrade.sh.
	 Executes gridSetup.sh -silent -executeConfigTools and lists the log files upon completion.
	15. Checks and displays the status of grid release patch Version.

Ansible Roles to Upgrade RAC GI & DBs	
oracle_rac_db_install	db_upgrade
Installs 19c Oracle database home with RU for Upgrades	Upgrades the database using autoupgrade.jar utility.
RAC using patched home.	

Important Steps to note before doing the upgrade:

- Prior to the upgrade process, apply the required patches on the 12c environment to avoid unintended errors. Refer MOS Doc ID 2539751.1.
- Stage the 19c Grid home software and 19c RDBMS home software, Release Update (RU) patch & latest Opatch utility zip files either in Local/NFS or on the Ansible Controller and update them in the variables file [power_aix_oracle_rac_upgrade/playbooks/vars/upgrade_upgrade_rac_vars.yml].
- Update the parameter remote tmp in the ansible.cfq file to a path with minimum 16GB of space. Ansible will temporarily use it for unarchiving the binaries.
- Always use the latest autoupgrade.jar file [AutoUpgrade Tool (Doc ID 2485457.1)] and update that path for the variable "autoupgrade file loc" in the variables file [power_aix_oracle_rac_upgrade/playbooks/vars/upgrade/upgrade_rac_vars.yml].
- 5. The free space in the installer path of 19c homes should be more than 90GB.
- 6. If you want the autoupgrade to create a restore point, enable Flashback mode, and maintain sufficient space for the Flash Recovery Area (FRA) to avoid failure during the upgrade process.
 - SQL> alter system set db_recovery_file_dest_size=35G; -- Increase the size as per your environment.
 - SQL> alter system set db_recovery_file_dest='+FRA'; -- For example, the diskgroup name FRA was used. JFS path can also be used.
 - SQL> shutdown immediate;
 - SQL> startup mount;
 - SQL> alter database archivelog;
 - SQL> alter database flashback on;
 - SQL> alter database open;
- 7. To proceed with the upgrade without creating a restore point, update this variable "restoration" in the "databases" section to 'no' in the variables file power_aix_oracle_rac_upgrade/playbooks/vars/upgrade/upgrade_rac_vars.yml
- The list of 12c databases running on ASM must be mentioned in the variable "source_db_name" of the "databases" section in power_aix_oracle_rac_upgrade/playbooks/vars/upgrade/upgrade_rac_vars.yml file. The listed databases will be shut down during RAC Instance Grid Infrastructure (rootupgrade.sh) upgrade.
- This playbook won't backup the databases or binaries. Please use a standard backup strategy before starting the upgrade process in case of a fallback plan.
- 10. Always run the playbooks in a vnc viewer to avoid ssh timeouts.
- 11. Following tags are provided:
 - a. rac_crs_precheck: This will invoke the role "rac_crs_precheck". Performs the precheck required for 19c Grid & RDBMS RAC upgrade from 12c to 19c.
 - b. podba_rac_crs_upgrade: This will invoke the role "podba_rac_crs_upgrade". Upgrades RAC Grid Infrastructure to 19c from 12c.
 - c. oracle_rac_db_install: This will invoke the role "oracle_rac_db_install". Installs 19c RAC Oracle Homes for database upgrades from 12c to 19c.
 - d. predbupgrade: This will invoke prerequisite part of "db_upgrade" role which will do prechecks on the existing databases running on the lpar.
 - e. analyze: This will invoke "autoupgrade" analyze mode which is a section of "db upgrade" role.
 - deploy: This will invoke a section of "db_upgrade" role which will invoke "autoupgrade" deploy mode, which is the core database upgrade mode.
- 12. These playbooks will create three directories (podba*) in /tmp. They should NOT be removed until the upgrade process completes otherwise it will compromise idempotency.
- 13. Try this on a non-production environment first before using it on a Production environment.

Upgrade scenarios:

- 1. Full Stack Upgrade: Upgrade RAC Instance GI & all the databases running on ASM. Playbook must be executed twice as shown below. The first command will perform 19c RAC instance GI installation and upgrade, installation of 19c RDBMS along with Autoupgrade Analyze mode on the databases. Users must review the logs and fix any errors/recommendations reported by the autoupgrade tool and rerun the playbook with "deploy" tag.
 - 1) ansible-playbook upgrade_rac.yml -i inventory.yml --ask-vault-pass --tags rac_crs_precheck,rac_crs_upgrade,oracle_rac_db_install,predbupgrade,analyze
 - 2) ansible-playbook upgrade rac.yml -i inventory.yml --ask-vault-pass --tags deploy
 - 3) ansible-playbook upgrade_rac.yml -i inventory.yml --ask-vault-pass

2. Other scenarios:

- a) To upgrade only RAC Instance Grid, run the following command.
 - \$ ansible-playbook upgrade_rac.yml -i inventory.yml --ask-vault-pass --tags rac_crs_upgrade
- b) If the databases are running on JFS then RAC Instance Grid upgrade is not required. In such case, skip the role "rac_crs_upgrade" \$ ansible-playbook upgrade_rac.yml -i inventory.yml --ask-vault-pass --skip-tags rac_crs_upgrade
- c) If 19c Oracle Homes are already installed, skip the role "oracle_install" and directly jump to "db_upgrade".
 - \$ ansible-playbook upgrade_rac.yml -i inventory.yml --ask-vault-pass --tags predbupgrade,analyze Review the results of analyze mode of autoupgrade and execute "deploy" mode. \$ ansible-playbook upgrade rac.vml -i inventory.vml --ask-vault-pass --tags deploy.
- d) To upgrade a non-container database and plug it into a 19c Container database (upgrade & plug-in),
 - \$ ansible-playbook upgrade_rac.yml -i inventory.yml --ask-vault-pass --tags oracle_install
 - Create a 19c container database. PowerODBA has a playbook "create-db.yml" to create the databases. \$ ansible-playbook upgrade_rac.yml -i inventory.yml --ask-vault-pass --tags predbupgrade,analyze
 - Review the results of analyze mode of autoupgrade and execute "deploy" mode. \$ ansible-playbook upgrade_rac.yml -i inventory.yml --ask-vault-pass --tags deploy.

Playbook execution: In the following example, we are going to upgrade Full Stack Oracle 12.1.0.2 RAC Instance GI to Oracle 19.24 along with one database. The s/w binaries and patches are placed in the local NFS. The Ansible playbook will extract it onto the target host before doing the upgrade.

Playbook upgrade_rac.yml:

```
name: Run Grid Upgrade Script on first node
hosts: orac
remote_user: root
gather facts: False
vars files:
    - vars/upgrade/upgrade rac vars.yml
    - vars/vault.yml
roles:
   - role: podba rac upgrade precheck
    tags: rac crs precheck
  - role: podba_rac_crs_upgrade
    tags: rac_crs_upgrade
   - role: podba rac db install
   tags: oracle rac db install
   - role: podba rac db upgrade
    tags: db upgrade
```

Update the variables file:

```
# Section A - Update the Common Variables.
ignoreprecheck: True
ora binary location: local
ora nfs host:
ora nfs device:
ora nfs filesystem:
grid_sw: /binaries/19c/V982588-01 193000 grid.zip
db oracle sw: /binaries/19c/V982583-01 193000 db.zip
ru stage: /u01/19c/RU
opatch sw: /binaries/19c/p6880880 190000 AIX64-5L.zip opatch.zip
ru zip: /binaries/19c/p36582629 190000 AIX64-5L GI RU19.24.zip
autoupgrade util remote:
autoupgrade util: /u01/upgrade_121_19c/autoupgrade.jar
ora inventory: /u01/base/oraInventory
mgmt_opt:
oms_host:
oms_port:
oms_em_user:
# Section B - Update the RAC Instance Grid Variables
grid home prev: /u01/app/12.1.0/grid
grid_home: /u01/19c/grid19c
gi_oracle_base: /u01/base
grid user: oracle
grid_group: oinstall
gi_osdba_group: dba
gi_osasm_group: oinstall
gi osoper group:
gi cluster name: rac21
cluster nodes: rac21, rac22
asm_disk_group: DATA
# Section C - Update the Variables for Oracle 19c RDBMS installation
db_oracle_base: /u01/base
db_oracle_user: oracle
db_oinstall_group: oinstall
db osdba group: dba
db_osoper_dba:
db osbkup dba:
db_osdg_dba:
db oskm dba:
db_osrac_dba:
# Section D - Variables for Database [Please Don't Change the dictionary list format. This format is referenced in
the code.1
autoupgrade_stage: /home/oracle
global_log_dir: /u01/upgrade_121_19c/autoupgrade_1
databases:
      - source db name: orcl
       source db sid: orcl1
        source_db_home: /u01/app/oracle/product/12.1.0/dbhome_1
        target_db_home: /u01/19c/db19c
        log_dir: /u01/upgrade_121_19c/autoupgrade_1/dbupgrdlogs
        start time: NOW
        restoration: 'yes'
        upgrade_node: localhost
        run utlrp: 'yes'
        timezone upg: 'yes'
        target cdb name:
        target_pdb_name:
```

Update the vaults.yml file with ASM sys password and encrypt it with ansible vault:

```
$ cat vars/vault.yml
asm_password: Oracle4u  # ASM sys user password for RAC Instance GI Upgrade.
$ ansible-vault encrypt vars/vault.yml
```

GI Version before the upgrade:

```
-bash-5.1$ crsctl query has releaseversion

Oracle High Availability Services release version on the local node is [12.1.0.2.0]

-bash-5.1$ hostname

rac21
```

```
[ansible@p208n149 playbooks]$ ansible-playbook upgrade rac.yml --ask-vault-pass
PLAY [Run Grid Upgrade Script on first node]
TASK [podba_rac_upgrade_precheck : Run initialization tasks]
included: /home/ansible/nava/playbooks/roles/podba_rac_upgrade_precheck/tasks/init.yml for rac21, rac22
TASK [podba_rac_upgrade_precheck : Set fact init_done]
ok: [rac21]
ok: [rac22]
TASK [podba_rac_upgrade_precheck : Set fact for rac_hosts from cluster_nodes]
ok: [rac21]
ok: [rac22]
TASK [podba_rac_upgrade_precheck : Set fact for first_host and last_host]
ok: [rac21]
ok: [rac22]
TASK [podba_rac_upgrade_precheck : Creating Temp Directory]
ok: [rac22] => (item=/tmp/podba_db_upgrade/done)
ok: [rac21] => (item=/tmp/podba_db_upgrade/done)
ok: [rac21] => (item=/tmp/podba_db_upgrade/scripts)
ok: [rac22] => (item=/tmp/podba_db_upgrade/scripts)
ok: [rac22] => (item=/tmp/podba_db_upgrade/logs)
ok: [rac21] => (item=/tmp/podba_db_upgrade/logs)
ok: [rac21] => (item=/tmp/podba_gi_temp/done)
ok: [rac22] => (item=/tmp/podba_gi_temp/done)
ok: [rac21] => (item=/tmp/podba_gi_temp/scripts)
ok: [rac22] => (item=/tmp/podba_gi_temp/scripts)
ok: [rac21] => (item=/tmp/podba_gi_temp/logs)
ok: [rac22] => (item=/tmp/podba_gi_temp/logs)
ok: [rac21] => (item=/tmp/podba_install_temp/done)
ok: [rac22] => (item=/tmp/podba_install_temp/done)
ok: [rac21] => (item=/tmp/podba_install_temp/scripts)
ok: [rac22] => (item=/tmp/podba_install_temp/scripts)
ok: [rac21] => (item=/tmp/podba_install_temp/logs)
ok: [rac22] => (item=/tmp/podba_install_temp/logs)
TASK [podba_rac_upgrade_precheck : Checking if 19c GI is installed]
ok: [rac21]
TASK [podba rac upgrade precheck : Set fact for grid installation status]
ok: [rac21]
TASK [podba rac upgrade precheck : Checking if prechecks grid script is already run]
ok: [rac22]
ok: [rac21]
TASK [podba_rac_upgrade_precheck : Checking current CRS Version]
ok: [rac22]
ok: [rac21]
TASK [podba rac upgrade precheck : Setting fact - CRS Version]
ok: [rac21]
ok: [rac22]
TASK [podba rac upgrade precheck : Display crsctl query output for each node]
ok: [rac21] => {
    'msg": "Node: rac21 - CRS Version: 12.1.0.2.0"
ok: [rac22] => {
    "msg": "Node: rac22 - CRS Version: 12.1.0.2.0"
TASK [podba rac upgrade precheck : Fail and Exit if CRS versions do not match]
skipping: [rac21]
skipping: [rac22]
TASK [podba_rac_upgrade_precheck : End play if CRS versions do not match]
 ************************************
```

```
skipping: [rac21]
TASK [podba_rac_upgrade_precheck : Execute crsctl query on all nodes]
ok: [rac22]
ok: [rac21]
TASK [podba_rac_upgrade_precheck : Setting fact - CRS Version]
ok: [rac21]
ok: [rac22]
TASK [podba_rac_upgrade_precheck : Display crsctl query output for each node]
   "msg": "Node: rac21 - CRS Version: Oracle Clusterware release patch level is [336263397] and the complete list of patches
[19769480 20299023 20831110 21359755 21436941 21948354 22291127 22502518 22502555 ] have been applied on the local node."
    "msg": "Node: rac22 - CRS Version: Oracle Clusterware release patch level is [336263397] and the complete list of patches
[19769480 20299023 20831110 21359755 21436941 21948354 22291127 22502518 22502555 ] have been applied on the local node."
TASK [podba rac upgrade precheck : Check if unzip is available]
ok: [rac21]
ok: [rac22]
TASK [podba rac upgrade precheck : Display if unzip is available]
ok: [rac21] => {
    "msg": "Unzip is available on this node."
ok: [rac22] => {
    "msg": "Unzip is available on this node."
TASK [podba_rac_upgrade_precheck : Display if unzip is not available]
skipping: [rac21]
skipping: [rac22]
TASK [podba_rac_upgrade_precheck : Templating out prechecks_grid script]
changed: [rac22]
changed: [rac21]
TASK [podba_rac_upgrade_precheck : Executing prechecks grid script]
changed: [rac22]
changed: [rac21]
TASK [podba_rac_upgrade_precheck : Prechecks Grid Script Output]
ok: [rac21] => {
    "precheck_out.stdout_lines": [
       "Prechecks completed successfully."
ok: [rac22] => {
    "precheck_out.stdout_lines": [
        "Prechecks completed successfully."
TASK [podba_rac_upgrade_precheck : Checking freespace in GI Installation Path /u01/19c/grid19c]
ok: [rac22]
ok: [rac21]
TASK [podba_rac_upgrade_precheck : Fail if insufficient freespace for /u01/19c/grid19c (90GB required)]
skipping: [rac21]
skipping: [rac22]
TASK [podba rac crs upgrade : Run initialization tasks]
skipping: [rac21]
skipping: [rac22]
TASK [podba rac crs upgrade : Checking if DB Upgrade was already done]
ok: [rac21] => (item={'source_db_name': 'orcl', 'source_db_sid': 'orcl1', 'source_db_home':
'/u01/app/oracle/product/12.1.0/dbhome 1', 'target db home': '/u01/19c/db19c', 'log dir':
'/u01/upgrade_121_19c/autoupgrade_1/dbupgrdlogs', 'start_time': 'NOW', 'restoration': 'yes', 'upgrade node': 'localhost',
'run_utlrp': 'yes', 'timezone_upg': 'yes', 'target_cdb_name': None, 'target_pdb_name': None})
TASK [podba rac crs upgrade : Set fact if DB Upgrade was done for any database]
skipping: [rac21] => (item={'changed': False, 'stat': {'exists': False}, 'invocation': {'module args': {'path':
'/tmp/podba db upgrade/done/orcl.success', 'follow': False, 'get md5': False, 'get checksum': True, 'get mime': True,
get_attributes': True, 'checksum_algorithm': 'shal'}}, 'failed': False, 'item': {'source_db_name': 'orcl', 'source_db_sid':
'orcll', 'source_db_home': '/u01/app/oracle/product/12.1.0/dbhome_1', 'target_db_home': '/u01/19c/db19c', 'log_dir': '/u01/upgrade_121_19c/autoupgrade_1/dbupgrdlogs', 'start_time': 'NOW', 'restoration': 'yes', 'upgrade_node': 'localhost',
'run utlrp': 'yes', 'timezone upg': 'yes', 'target cdb name': None, 'target pdb name': None}, 'ansible loop var': 'item'})
skipping: [rac21]
TASK [podba_rac_crs_upgrade : Set fact for no upgrade done if none were found]
ok: [rac21]
TASK [podba rac crs upgrade : Exit if DB Upgrade was already done]
skipping: [rac21]
TASK [podba_rac_crs_upgrade : End play if DB Upgrade Task was done]
*******************************
```

```
skipping: [rac21]
TASK [podba_rac_crs_upgrade : Checking if grid home was already upgraded]
ok: [rac21]
TASK [podba_rac_crs_upgrade : Checking if prechecks_grid script is already run]
ok: [rac21]
ok: [rac22]
TASK [podba_rac_crs_upgrade : Checking if new 19c home is already installed]
skipping: [rac22]
ok: [rac21]
TASK [podba rac crs upgrade : Checking if grid home was already upgraded]
skipping: [rac22]
ok: [rac21]
TASK [podba_rac_crs_upgrade : Checking if GI S/W is extracted]
skipping: [rac22]
ok: [rac21]
TASK [podba_rac_crs_upgrade : Checking if RU is extracted]
skipping: [rac22]
ok: [rac21]
TASK [podba_rac_crs_upgrade : Checking if Opatch is extracted]
skipping: [rac22]
ok: [rac21]
TASK [podba_rac_crs_upgrade : Creating NFS filesystem from nfshost]
skipping: [rac21]
skipping: [rac22]
TASK [podba_rac_crs_upgrade : Creating GI home directory]
skipping: [rac22]
ok: [rac21]
TASK [podba_rac_crs_upgrade : Creating RU Stage Directory]
skipping: [rac22]
ok: [rac21]
TASK [podba_rac_crs_upgrade : Extracting GI S/W (Remote)]
skipping: [rac21]
skipping: [rac22]
TASK [podba_rac_crs_upgrade : Creating the done file]
skipping: [rac21]
skipping: [rac22]
TASK [podba_rac_crs_upgrade : Extracting GI S/W (Local|NFS)]
skipping: [rac22]
changed: [rac21]
TASK [podba_rac_crs_upgrade : Creating the done file]
skipping: [rac22]
changed: [rac21]
TASK [podba_rac_crs_upgrade : Extracting RU S/W (Remote)]
skipping: [rac21]
skipping: [rac22]
TASK [podba_rac_crs_upgrade : Creating the done file]
skipping: [rac21]
skipping: [rac22]
TASK [podba_rac_crs_upgrade : Extracting GI RU patch (Local|NFS)]
skipping: [rac22]
ok: [rac21]
TASK [podba_rac_crs_upgrade : Creating the done file]
skipping: [rac22]
changed: [rac21]
TASK [podba_rac_crs_upgrade : Backup Opatch]
skipping: [rac21]
skipping: [rac22]
TASK [podba rac crs upgrade : Extracting OPatch (Remote)]
********************
skipping: [rac21]
skipping: [rac22]
TASK [podba_rac_crs_upgrade : Creating the done file]
skipping: [rac21]
skipping: [rac22]
TASK [podba_rac_crs_upgrade : Backup Opatch]
```

```
skipping: [rac22]
changed: [rac21]
TASK [podba_rac_crs_upgrade : Extracting OPatch (Local|NFS)]
skipping: [rac22]
changed: [rac21]
TASK [podba_rac_crs_upgrade : Creating the done file]
skipping: [rac22]
changed: [rac21]
TASK [podba_rac_crs_upgrade : Executing rootpre.sh]
skipping: [rac22]
changed: [rac21]
TASK [podba_rac_crs_upgrade : Templating out GI Response File to install CRS SWONLY]
skipping: [rac22]
changed: [rac21]
TASK [podba_rac_crs_upgrade : Templating out grid_install Script]
skipping: [rac22]
changed: [rac21]
TASK [podba_rac_crs_upgrade : Setting Up New 19c GI for CRS]
skipping: [rac22]
changed: [rac21]
TASK [podba_rac_crs_upgrade : debug]
****
skipping: [rac22]
ok: [rac21] => {
    \verb"grid install_out.stdout": \verb"gridSetup.sh - executePrereqs completed successfully.
                                gridSetup.sh completed successfully."
TASK [podba_rac_crs_upgrade : Checking if new 19c home is already installed]
skipping: [rac22]
ok: [rac21]
TASK [podba_rac_crs_upgrade : Checking if new 19c home is already patched]
skipping: [rac22]
ok: [rac21]
TASK [podba_rac_crs_upgrade : Templating out grid_patch Script]
skipping: [rac22]
changed: [rac21]
TASK [podba rac crs upgrade : Applying patch on New 19c standalone GI home]
skipping: [rac22]
changed: [rac21]
TASK [podba rac crs upgrade : debug]
****
skipping: [rac22]
ok: [rac21] => {
    "grid patch out.stdout": "RU Patch 36582629 applied successfully"
TASK [podba_rac_crs_upgrade : Checking if new 19c home is already patched]
skipping: [rac22]
ok: [rac21]
TASK [podba_rac_crs_upgrade : Checking if grid detach was already run]
skipping: [rac22]
ok: [rac21]
TASK [podba_rac_crs_upgrade : Templating out Grid home detach script]
skipping: [rac22]
changed: [rac21]
TASK [podba rac crs upgrade : Run Grid home detach script for each home]
skipping: [rac22]
changed: [rac21]
TASK [podba rac crs upgrade : Checking if grid detach was already run]
skipping: [rac22]
ok: [rac21]
TASK [podba rac crs upgrade : Checking if cluvfy was already run]
skipping: [rac22]
ok: [rac21]
TASK [podba rac crs upgrade : Templating out GI Runcluvfy]
skipping: [rac22]
changed: [rac21]
TASK [podba_rac_crs_upgrade : Executing Runcluvfy script]
```

```
skipping: [rac22]
changed: [rac21]
TASK [podba_rac_crs_upgrade : debug]
****
skipping: [rac22]
ok: [rac21] => {
   "cluvfy_out.stdout": "INFO: runcluvfy.sh stage -pre crsinst -upgrade successfully completed."
TASK [podba_rac_crs_upgrade : Checking if cluvfy was already run]
skipping: [rac22]
ok: [rac21]
TASK [podba_rac_crs_upgrade : Templating out GI Response File to upgrade]
skipping: [rac22]
changed: [rac21]
TASK [podba_rac_crs_upgrade : Templating out grid_upgrade script]
skipping: [rac22]
changed: [rac21]
TASK [podba_rac_crs_upgrade : Executing grid_upgrade script]
skipping: [rac22]
changed: [rac21]
TASK [podba_rac_crs_upgrade : debug]
*****
skipping: [rac22]
ok: [rac21] => {
    "grid_upgrade_out.stdout": "gridSetup.sh -dryRunForUpgrade completed successfully.
                               gridSetup.sh completed successfully."
TASK [podba_rac_crs_upgrade : Checking if 19c GI is installed]
ok: [rac21]
TASK [podba_rac_crs_upgrade : Checking if new 19c home is already patched]
ok: [rac21]
TASK [podba_rac_crs_upgrade : Checking if grid home was already upgraded]
ok: [rac21]
TASK [podba_rac_crs_upgrade : Checking if root Upgrade Task was already done]
TASK [podba_rac_crs_upgrade : Checking if rootupgrade.sh script was already executed on the rac21]
ok: [rac21]
TASK [podba_rac_crs_upgrade : Templating out rootupgrade.sh script on all nodes]
changed: [rac21]
changed: [rac22]
TASK [podba_rac_crs_upgrade : Run the rootupgrade script on the rac21]
changed: [rac21]
TASK [podba_rac_crs_upgrade : Debug root_upgrade_out stdout]
ok: [rac21] => {
    "root upgrade out.stdout": "Rootupgrade.sh completed successfully"
TASK [podba rac crs upgrade : Checking if rootupgrade.sh script was already executed on the rac22]
skipping: [rac21]
ok: [rac22]
TASK [podba_rac_crs_upgrade : Run the rootupgrade script on the rac22]
skipping: [rac21]
changed: [rac22]
TASK [podba_rac_crs_upgrade : Debug root_upgrade_out stdout]
skipping: [rac21]
ok: [rac22] => {
    "root_upgrade_out.stdout": "Rootupgrade.sh completed successfully"
TASK [podba rac crs upgrade : Checking if rootupgrade.sh script was already executed]
ok: [rac21]
TASK [podba rac crs upgrade : Checking if rootupgrade.sh script was already executed]
ok: [rac21]
ok: [rac22]
TASK [podba_rac_crs_upgrade : Post GI Upgrade Steps Templating out config_tools.sh]
            **************
changed: [rac21]
TASK [podba_rac_crs_upgrade : Post GI Upgrade Steps| Executing the Config Tools script]
```

```
******************
changed: [rac21]
TASK [podba rac crs upgrade : Debug config tools out stdout]
ok: [rac21] => {
    "config tools out.stdout": "gridSetup.sh -executeConfigTools completed with [WARNING].
                               ACTION: Refer to the logs or contact Oracle Support Services."
TASK [podba_rac_crs_upgrade : Post GI Upgrade Steps | Checking if Config Tools is successful.]
ok: [rac21]
TASK [podba_rac_crs_upgrade : Execute crsctl query on all nodes]
ok: [rac22]
ok: [rac21]
TASK [podba_rac_crs_upgrade : Setting fact - CRS Version]
ok: [rac21]
ok: [rac22]
TASK [podba_rac_crs_upgrade : Display crsctl query output for each node]
ok: [rac21] => {
   "msg": "Node: rac21 - CRS Version: Oracle Clusterware release patch level is [336263397] and the complete list of patches
[19769480 20299023 20831110 21359755 21436941 21948354 22291127 22502518 22502555 ] have been applied on the local node."
   "msg": "Node: rac22 - CRS Version: Oracle Clusterware release patch level is [336263397] and the complete list of patches
[19769480 20299023 20831110 21359755 21436941 21948354 22291127 22502518 22502555 ] have been applied on the local node."
TASK [podba_rac_db_install : Run initialization tasks]
skipping: [rac21]
skipping: [rac22]
TASK [podba_rac_db_install : Checking if DB Upgrade was already done]
ok: [rac21] => (item={'source_db_name': 'orcl', 'source_db_sid': 'orcl1', 'source_db_home':
'/u01/app/oracle/product/12.1.0/dbhome_1', 'target_db_home': '/u01/19c/db19c', 'log_dir':
'/u01/upgrade_121_19c/autoupgrade_1/dbupgrdlogs', 'start_time': 'NOW', 'restoration': 'yes', 'upgrade_node': 'localhost',
'run_utlrp': 'yes', 'timezone_upg': 'yes', 'target_cdb_name': None, 'target_pdb_name': None})
TASK [podba_rac_db_install : Set fact if DB Upgrade was done for any database]
skipping: [rac21] => (item={'changed': False, 'stat': {'exists': False}, 'invocation': {'module_args': {'path':
'/tmp/podba_db_upgrade/done/orcl.success', 'follow': False, 'get_md5': False, 'get_checksum': True, 'get_mime': True, 'get_attributes': True, 'checksum_algorithm': 'shal'}}, 'failed': False, 'item': {'source_db_name': 'orcl', 'source_db_sid':
'orcll', 'source_db_home': '/u01/app/oracle/product/12.1.0/dbhome_1', 'target_db_home': '/u01/19c/db19c', 'log_dir':
'/u01/upgrade_121_19c/autoupgrade_1/dbupgrdlogs', 'start_time': 'NOW', 'restoration': 'yes', 'upgrade_node': 'localhost',
run_utlrp': 'yes', 'timezone_upg': 'yes', 'target_cdb_name': None, 'target_pdb_name': None}, 'ansible_loop_var': 'item'})
skipping: [rac21]
TASK [podba_rac_db_install : Set fact for no upgrade done if none were found]
ok: [rac21]
TASK [podba_rac_db_install : Exit if DB Upgrade was already done]
skipping: [rac21]
TASK [podba_rac_db_install : End play if DB Upgrade Task was done]
skipping: [rac21]
TASK [podba rac db install : Checking freespace in DB Installation Path target db home]
            ********************************
ok: [rac22] => (item={'source db name': 'orcl', 'source db sid': 'orcl1', 'source db home':
'/u01/app/oracle/product/12.1.0/dbhome_1', 'target_db_home': '/u01/19c/db19c', 'log_dir':
'run_utlrp': 'yes', 'timezone_upg': 'yes', 'target_cdb_name': None, 'target_pdb_name': None})
ok: [rac21] => (item={'source_db_name': 'orcl', 'source_db_sid': 'orcl1', 'source_db_home':
'/u01/app/oracle/product/12.1.0/dbhome_1', 'target_db_home': '/u01/19c/db19c', 'log dir':
/u01/upgrade_121_19c/autoupgrade_1/dbupgrdlogs', 'start_time': 'NOW', 'restoration': 'yes', 'upgrade_node': 'localhost',
'run_utlrp': 'yes', 'timezone_upg': 'yes', 'target_cdb_name': None, 'target_pdb_name': None})
TASK [podba_rac_db_install : Fail if insufficient freespace for target_db_home (30GB required)]
 skipping: [rac21] => (item={'source_db_name': 'orcl', 'source_db_sid': 'orcl1', 'source_db_home':
'/u01/app/oracle/product/12.1.0/dbhome_1', 'target_db_home': '/u01/19c/db19c', 'log_dir':
/u01/upgrade_121_19c/autoupgrade_1/dbupgrdlogs', 'start_time': 'NOW', 'restoration': 'yes', 'upgrade node': 'localhost',
'run_utlrp': 'yes', 'timezone_upg': 'yes', 'target_cdb_name': None, 'target_pdb_name': None})
skipping: [rac21]
skipping: [rac22] => (item={'source_db_name': 'orcl', 'source_db_sid': 'orcl1', 'source_db_home':
'/u01/app/oracle/product/12.1.0/dbhome 1', 'target db home': '/u01/19c/db19c', 'log dir :
'run utlrp': 'yes', 'timezone upg': 'yes', 'target cdb name': None, 'target pdb name': None})
skipping: [rac22]
TASK [podba rac db install : Checking if DB RU is extracted]
skipping: [rac22]
ok: [rac21]
TASK [podba rac db install : Creating RU Stage Directory]
skipping: [rac22]
ok: [rac21]
TASK [podba rac db install : Extracting RU patch (Remote)]
skipping: [rac21]
skipping: [rac22]
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TASK [podba rac db install : Creating the done file]
skipping: [rac21]
skipping: [rac22]
TASK [podba_rac_db_install : Extracting DB RU patch (Local|NFS)]
skipping: [rac22]
ok: [rac21]
TASK [podba_rac_db_install : Creating the done file]
skipping: [rac22]
changed: [rac21]
TASK [podba rac db install : Reading Oracle Inventory File for standalone Install]
ok: [rac22]
ok: [rac21]
TASK [podba_rac_db_install : Setting Fact for Inventory File]
ok: [rac21]
ok: [rac22]
TASK [podba rac db install : Preparing Oracle Homes List for Installation]
ok: [rac21] => (item=None)
ok: [rac21]
ok: [rac22] => (item=None)
ok: [rac22]
TASK [podba rac db install : Checking if Oracle home was already installed]
skipping: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
skipping: [rac22]
ok: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
TASK [podba_rac_db_install : Set facts for Oracle home installation]
skipping: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
skipping: [rac22]
ok: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
TASK [podba_rac_db_install : Checking if DB RU is extracted]
skipping: [rac22]
ok: [rac21]
TASK [podba_rac_db_install : Checking if DB S/W is extracted]
skipping: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
skipping: [rac22]
ok: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
TASK [podba rac db install : Checking if DB OPatch is extracted]
skipping: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
skipping: [rac22]
ok: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
TASK [podba_rac_db_install : Check if OPatch.bkup exists]
skipping: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
skipping: [rac22]
ok: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
TASK [podba_rac_db_install : Creating DB Home Directory]
skipping: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
skipping: [rac22]
ok: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
TASK [podba_rac_db_install : Extracting DB S/W (Remote)]
skipping: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
skipping: [rac22]
skipping: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
skipping: [rac21]
TASK [podba_rac_db_install : Extracting DB S/W (Local|NFS)]
       ***********************************
skipping: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
skipping: [rac22]
changed: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
TASK [podba rac db install : Creating the done file]
skipping: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
skipping: [rac22]
changed: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
TASK [podba rac db install : Backup OPatch if not already backed up]
skipping: [rac22] \Rightarrow (item=/u01/19c/db19c)
skipping: [rac22]
changed: [rac21] => (item=/u01/19c/db19c)
TASK [podba rac db install : Extracting Opatch (Remote)]
skipping: [rac22] \Rightarrow (item=/u01/19c/db19c)
skipping: [rac22]
skipping: [rac21] \Rightarrow (item=/u01/19c/db19c)
skipping: [rac21]
TASK [podba_rac_db_install : Extracting Opatch (Local|NFS)]
```

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skipping: [rac22] \Rightarrow (item=/u01/19c/db19c)
skipping: [rac22]
changed: [rac21] => (item=/u01/19c/db19c)
TASK [podba_rac_db_install : Creating done file]
skipping: [rac22] \Rightarrow (item=/u01/19c/db19c)
skipping: [rac22]
changed: [rac21] \Rightarrow (item=/u01/19c/db19c)
TASK [podba rac db install : Checking if new 19c home is already installed and patched]
skipping: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
skipping: [rac22]
ok: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
TASK [podba_rac_db_install : Set facts for rootpre.sh scripts]
skipping: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
skipping: [rac22]
ok: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
TASK [podba rac db install : Executing rootpre.sh]
                                                  skipping: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
skipping: [rac22]
changed: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
TASK [podba_rac_db_install : Copying Oracle RDBMS Install response file]
skipping: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
skipping: [rac22]
changed: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
TASK [podba_rac_db_install : Copying oracle_install.sh]
skipping: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
skipping: [rac22]
changed: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
TASK [podba_rac_db_install : Installing 19c RDBMS and applying patch]
skipping: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
skipping: [rac22]
changed: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
TASK [podba_rac_db_install : Oracle Install Output]
                                                 *****************
ok: [rac21] => (item=['Oracle install prerequisite checks completed successfully.', 'Oracle software installation completed
successfully.', 'RU Patch 36582629 applied successfully.']) => {
   "msg": [
       "Oracle install prerequisite checks completed successfully.",
       "Oracle software installation completed successfully.",
       "RU Patch 36582629 applied successfully."
   ]
TASK [podba rac db install : Reading Oracle Inventory File Again for root.sh]
ok: [rac22]
ok: [rac21]
TASK [podba rac db install : Setting Fact for Inventory File after Install for root.sh]
ok: [rac21]
ok: [rac22]
TASK [podba rac db install : Preparing Oracle Homes List for Installation after install for root.sh]
ok: [rac21] => (item=None)
ok: [rac21]
ok: [rac22] => (item=None)
ok: [rac22]
TASK [podba_rac_db_install : Check if the root.sh has been already executed]
skipping: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
skipping: [rac22]
ok: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
TASK [podba rac db install : Set facts for root.sh scripts]
skipping: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
skipping: [rac22]
ok: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
TASK [podba_rac_db_install : Checking if Oracle home was already installed]
skipping: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
skipping: [rac22]
ok: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
TASK [podba rac db install : Set facts for Oracle home installation]
skipping: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
skipping: [rac22]
ok: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
TASK [podba_rac_db_install : Create the flag file if root.sh does not executed]
skipping: [rac22] => (item=u0119cdb19c)
skipping: [rac22]
changed: [rac21] => (item=u0119cdb19c)
TASK [podba_rac_db_install : Executing root.sh]
******
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skipping: [rac22] => (item=u0119cdb19c)
skipping: [rac22]
changed: [rac21] => (item=u0119cdb19c)
TASK [podba_rac_db_install : Reading Oracle Inventory File for RAC Install]
ok: [rac21]
ok: [rac22]
TASK [podba_rac_db_install : Setting Fact for Inventory File for RAC Install]
ok: [rac21]
ok: [rac22]
TASK [podba rac db install : Preparing Oracle Homes List for Installation before detach home for RAC Install]
ok: [rac21] => (item=None)
ok: [rac21]
ok: [rac22] => (item=None)
ok: [rac22]
TASK [podba_rac_db_install : Checking if Oracle home detach script already executed]
skipping: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
skipping: [rac22]
ok: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
TASK [podba_rac_db_install : Set facts for Oracle home detach scripts]
skipping: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
skipping: [rac22]
ok: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
TASK [podba rac db install : Checking if Oracle rac home was installed successfully]
skipping: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
skipping: [rac22]
ok: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
TASK [podba_rac_db_install : Set facts for Oracle home installation]
skipping: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
skipping: [rac22]
ok: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
TASK [podba_rac_db_install : Templating out Oracle home detach script]
skipping: [rac22]
changed: [rac21]
TASK [podba_rac_db_install : Run Oracle home detach script for each home]
skipping: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
skipping: [rac22]
changed: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
TASK [podba_rac_db_install : Reading Oracle Inventory File Again for RAC Install after detach]
ok: [rac22]
ok: [rac21]
TASK [podba_rac_db_install : Setting Fact for Inventory File after detach home for RAC Install]
ok: [rac21]
ok: [rac22]
TASK [podba rac_db_install : Preparing Oracle Homes List for Installation after detach home for RAC Install]
ok: [rac21] => (item=None)
ok: [rac21]
ok: [rac22] => (item=None)
ok: [rac22]
TASK [podba rac db install : Checking if Oracle home detach script executed successfully]
skipping: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
skipping: [rac22]
ok: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
TASK [podba_rac_db_install : Set facts for Oracle home detach scripts]
skipping: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
skipping: [rac22]
ok: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
TASK [podba_rac_db_install : Checking if new 19c home is already installed]
skipping: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
skipping: [rac22]
ok: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
TASK [podba rac db install : Set facts for rootpre.sh scripts]
skipping: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
skipping: [rac22]
ok: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
TASK [podba_rac_db_install : Executing rootpre.sh]
                                                        skipping: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
skipping: [rac22]
changed: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
TASK [podba rac db install : Templating out Oracle RDBMS Install response file]
skipping: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
skipping: [rac22]
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changed: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
TASK [podba_rac_db_install : Templating out oracle_racdb_install.sh script]
skipping: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
skipping: [rac22]
changed: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
TASK [podba rac db install : Installing 19c RDBMS home in all RAC nodes]
skipping: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
skipping: [rac22]
changed: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
TASK [podba_rac_db_install : Oracle Install Output]
                                                  skipping: [rac22] => (item=No output)
skipping: [rac22]
ok: [rac21] => (item=['Oracle install done']) => {
   "msq": [
       "Oracle install done"
   ]
TASK [podba_rac_db_install : Reading Oracle Inventory File Again for root.sh]
ok: [rac22]
ok: [rac21]
TASK [podba_rac_db_install : Setting Fact for Inventory File after Install for root.sh]
ok: [rac21]
ok: [rac22]
TASK [podba_rac_db_install : Preparing Oracle Homes List for Installation after install for root.sh]
ok: [rac21] => (item=None)
ok: [rac21]
ok: [rac22] => (item=None)
ok: [rac22]
TASK [podba rac db install : Checking if new 19c RAC home is installed successfully]
ok: [rac22 -> rac21(129.40.76.242)] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
ok: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
ok: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
ok: [rac22 -> rac21(129.40.76.242)] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
TASK [podba_rac_db_install : Set facts for 19c RAC home is installed]
ok: [rac21 -> rac22(129.40.76.243)]
ok: [rac22]
TASK [podba_rac_db_install : Create the flag file for 19c RAC home install in remote node]
skipping: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
skipping: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
skipping: [rac21]
changed: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
changed: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
TASK [podba_rac_db_install : Reading Oracle Inventory File Again for root.sh]
ok: [rac22]
ok: [rac21]
TASK [podba rac_db_install : Setting Fact for Inventory File after Install for root.sh]
ok: [rac21]
ok: [rac22]
TASK [podba_rac_db_install : Preparing Oracle Homes List for Installation after install for root.sh]
ok: [rac21] => (item=None)
ok: [rac21]
ok: [rac22] => (item=None)
ok: [rac22]
TASK [podba rac db install : Check if the root.sh has been already executed]
ok: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
ok: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
ok: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
ok: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
ok: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
ok: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
TASK [podba_rac_db_install : Set facts for root.sh scripts]
ok: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
ok: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
ok: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
ok: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
ok: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
ok: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
TASK [podba rac db install : Checking if new 19c RAC home is installed successfully]
************************
ok: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
ok: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
ok: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
ok: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
ok: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
ok: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
TASK [podba_rac_db_install : Set facts for 19c RAC home is installed]
******
```

```
ok: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
ok: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
ok: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
ok: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
ok: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
ok: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
TASK [podba_rac_db_install : Create the flag file if root.sh if not executed]
changed: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
changed: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
changed: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
changed: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
changed: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
changed: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle home': '/u01/19c/db19c'})
TASK [podba rac db install : Executing root.sh across all nodes]
changed: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
changed: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
changed: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
changed: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
changed: [rac22] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
changed: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
TASK [podba_rac_db_install : Checking if new 19c RAC home is installed successfully]
************
ok: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
ok: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
ok: [rac21] => (item={'oh': 'u0119cdb19c', 'oracle_home': '/u01/19c/db19c'})
TASK [podba rac db install : Set fact for missing root done files]
ok: [rac21]
TASK [podba rac db install : Fail if any db root script not executed]
skipping: [rac21]
TASK [podba_rac_db_install : End play if any db root script not executed]
skipping: [rac21]
TASK [podba_rac_db_upgrade : Run initialization tasks]
skipping: [rac21]
skipping: [rac22]
TASK [podba_rac_db_upgrade : Checking if DB Upgrade was already done]
ok: [rac21] => (item={'source_db_name': 'orcl', 'source_db_sid': 'orcl1', 'source_db_home':
'/u01/app/oracle/product/12.1.0/dbhome_1', 'target_db_home': '/u01/19c/db19c', 'log_dir':
'run_utlrp': 'yes', 'timezone upg': 'yes', 'target_cdb_name': None, 'target_pdb_name': None})
TASK [podba_rac_db_upgrade : Set fact if DB Upgrade was done for any database]
skipping: [rac21] => (item={'changed': False, 'stat': {'exists': False}, 'invocation': {'module_args': {'path':
'/tmp/podba db upgrade/done/orcl.success', 'follow': False, 'get_md5': False, 'get_checksum': True, 'get_mime': True,
 get attributes': True, 'checksum_algorithm': 'shal'}}, 'failed': False, 'item': {'source_db_name': 'orcl', 'source_db_sid':
'orcll', 'source_db_home': '/u01/app/oracle/product/12.1.0/dbhome_1', 'target_db_home': '/u01/19c/db19c', 'log_dir': '/u01/upgrade_121_19c/autoupgrade_1/dbupgrdlogs', 'start_time': 'NOW', 'restoration': 'yes', 'upgrade_node': 'localhost',
'run_utlrp': "yes", 'timezone_upg": 'yes', 'target_cdb_name': None, 'target_pdb_name': None}, 'ansible_loop_var': 'item'})
skipping: [rac21]
TASK [podba_rac_db_upgrade : Set fact for no upgrade done if none were found]
ok: [rac21]
TASK [podba_rac_db_upgrade : Exit if DB Upgrade was already done]
skipping: [rac21]
TASK [podba rac db upgrade : End play if DB Upgrade Task was done]
skipping: [rac21]
TASK [podba_rac_db_upgrade : Stage Autoupgrade Utility]
skipping: [rac21]
skipping: [rac22]
TASK [podba rac db upgrade : Autoupgrade Full DB | Checking source database name in /etc/oratab file]
skipping: [rac22] => (item=None)
skipping: [rac22]
changed: [rac21] => (item=None)
changed: [rac21]
TASK [podba rac db upgrade : Fail if source database name doesn't exist in oratab file.]
skipping: [rac22] => (item=None)
skipping: [rac22]
skipping: [rac21] => (item=None)
skipping: [rac21]
TASK [podba rac db upgrade : Autoupgrade Full DB | Checking the status of the Source Database]
skipping: [rac22] => (item=None)
skipping: [rac22]
changed: [rac21] => (item=None)
changed: [rac21]
TASK [podba rac db upgrade : Autoupgrade Full DB | Fail if Source database is not running.]
skipping: [rac22] => (item=None)
skipping: [rac22]
```

```
skipping: [rac21] => (item=None)
skipping: [rac21]
TASK [podba rac db upgrade : Autoupgrade Non-CDB to PDB | Checking target database name in /etc/oratab file]
skipping: [rac22] => (item=None)
skipping: [rac22]
changed: [rac21] => (item=None)
changed: [rac21]
TASK [podba_rac_db_upgrade : Autoupgrade Non-CDB to PDB | Fail if Target database name doesn't exist in oratab file.]
skipping: [rac22] => (item=None)
skipping: [rac22]
skipping: [rac21] => (item=None)
skipping: [rac21]
TASK [podba_rac_db_upgrade : Autoupgrade Non-CDB to PDB | Checking the status of the Target Container Database]
skipping: [rac22] => (item=None)
skipping: [rac22]
changed: [rac21] => (item=None)
changed: [rac21]
TASK [podba_rac_db_upgrade : Autoupgrade Non-CDB to PDB | Fail if Target database is not up.]
skipping: [rac22] => (item=None)
skipping: [rac22]
skipping: [rac21] => (item=None)
skipping: [rac21]
TASK [podba rac db upgrade : Autoupgrade Full DB | Generating response file for autoupgrade]
skipping: [rac22] => (item=None)
skipping: [rac22]
changed: [rac21] => (item=None)
changed: [rac21]
TASK [podba_rac_db_upgrade : Autoupgrade - Analyze]
skipping: [rac22] => (item={'source_db_name': 'orcl', 'source_db_sid': 'orcl1', 'source_db_home':
'/u01/app/oracle/product/12.1.0/dbhome_1', 'target_db_home': '/u01/19c/db19c', 'log_dir':
'/u01/upgrade_121_19c/autoupgrade_1/dbupgrdlogs', 'start_time': 'NOW', 'restoration': 'yes', 'upgrade_node': 'localhost',
run_utlrp': 'yes', 'timezone_upg': 'yes', 'target_cdb_name': None, 'target_pdb_name': None})
skipping: [rac22]
changed: [rac21] => (item={'source_db_name': 'orcl', 'source_db_sid': 'orcll', 'source_db_home':
    '/u01/app/oracle/product/12.1.0/dbhome_1', 'target_db_home': '/u01/19c/db19c', 'log_dir':
    '/u01/upgrade_121_19c/autoupgrade_1/dbupgrdlogs', 'start_time': 'NOW', 'restoration': 'yes', 'upgrade_node': 'localhost',
'run_utlrp': TyesT, 'timezone_upgT: 'yes', 'target_cdb_name': None, 'target_pdb_name': None})
TASK [podba_rac_db_upgrade : debug]
                      ****
ok: [rac21] => {
    "analyze.results[0].stdout_lines": [
        "AutoUpgrade 24.4.240426 launched with default internal options",
        "Processing config file ...",
        "+----
       "| Starting AutoUpgrade execution |",
        "+----+",
        "1 Non-CDB(s) will be analyzed",
        "Job 100 database orcl1",
        "Job 100 completed",
        "-----",
        "Number of databases
                                 [ 1 ]",
        "",
        "Jobs finished
                                         [1]",
        "Jobs failed
                                         [0]",
        "",
        "Please check the summary report at:",
        "/u01/upgrade 121 19c/autoupgrade 1/cfgtoollogs/upgrade/auto/status/status.html",
        "/u01/upgrade_121_19c/autoupgrade_1/cfgtoollogs/upgrade/auto/status/status.log"
   ]
skipping: [rac22]
TASK [podba_rac_db_upgrade : Autoupgrade - Deploy] *****************************
skipping: [rac22] => (item={'source_db_name': 'orcl', 'source_db_sid': 'orcll', 'source_db_home':
'/u01/app/oracle/product/12.1.0/dbhome_1', 'target_db_home': '/u01/19c/db19c', 'log_dir':
 /u01/upgrade 121_19c/autoupgrade_1/dbupgrdlogs', 'start_time': 'NOW', 'restoration': 'yes', 'upgrade_node': 'localhost',
 run_utlrp': 'yes', 'timezone_upg': 'yes', 'target_cdb_name': None, 'target_pdb_name': None})
skipping: [rac22]
changed: [rac21] => (item={'source_db_name': 'orcl', 'source_db_sid': 'orcll', 'source_db_home':
'/u01/app/oracle/product/12.1.0/dbhome_1', 'target_db_home': '/u01/19c/db19c', 'log_dir':
'/u01/upgrade_121_19c/autoupgrade_1/dbupgrdlogs', 'start_time': 'NOW', 'restoration': 'yes', 'upgrade node': 'localhost',
'run_utlrp': 'yes', 'timezone_upg': 'yes', 'target_cdb_name': None, 'target_pdb_name': None})
TASK [podba_rac_db_upgrade : Copying DB upgrade file] ********************
skipping: [rac22] => (item={'source db name': 'orcl', 'source db sid': 'orcl1', 'source db home':
'/u01/app/oracle/product/12.1.0/dbhome_1', 'target_db_home': '/u01/19c/db19c', 'log_dir':
'/u01/upgrade 121 19c/autoupgrade 1/dbupgrdlogs', 'start time': 'NOW', 'restoration': 'yes', 'upgrade node': 'localhost',
'run utlrp': 'yes', 'timezone upg': 'yes', 'target cdb name': None, 'target pdb name': None})
skipping: [rac22]
changed: [rac21] => (item={'source db name': 'orcl', 'source db sid': 'orcl1', 'source db home':
/u01/app/oracle/product/12.1.0/dbhome_1', 'target_db_home': '/u01/19c/db19c', 'log_dir':
'/u01/upgrade_121_19c/autoupgrade_1/dbupgrdlogs', 'start_time': 'NOW', 'restoration': 'yes', 'upgrade_node': 'localhost',
'run_utlrp': 'yes', 'timezone_upg': 'yes', 'target_cdb_name': None, 'target_pdb_name': None})
TASK [podba_rac_db_upgrade : Get "Stages Summary"] *****************************
skipping: [rac22]
changed: [rac21]
TASK [podba_rac_db_upgrade : Display the Summary] ******************************
ok: [rac21] => {
   "msg": [
      "2024-11-06 11:14:22.197 INFO -
                                                     -Stages Summary-----
                                                                                      ---- - Utilities.writeStageSummary#960 ",
      "2024-11-06 11:14:22.197 INFO
                                     SETUP
                                                      <1 min
                                                                                          - Utilities.writeStageSummary#960 ",
      "2024-1<u>1-06 11:14:22.198 INFO</u>
                                                                                           - Utilities.writeStageSummary#960 ",
```

PRECHECKS

<1 min

```
"2024-11-06 11:14:22.198 INFO
                                    DISPATCH
                                                    <1 min
                                                                                         - Utilities.writeStageSummary#960 ",
                                                                                         - Utilities.writeStageSummary#960 ",
      "2024-11-06 11:14:22.198 INFO
                                    COMPLETED
                                                    <1 min
      "2024-11-06 11:14:22.198 INFO End of dispatcher instance for orcl - CommonBackBone.finalJobLogging#423 "
      "2024-11-06 12:51:54.015 INFO -
                                          "2024-11-06 12:51:54.015 INFO
                                    SETUP
                                                    <1 min
                                                                                         - Utilities.writeStageSummary#960 "
      "2024-11-06 12:51:54.015 INFO
                                                                                         - Utilities.writeStageSummary#960 "
                                    GRP
                                                    <1 min
                                                                                         - Utilities.writeStageSummary#960 "
      "2024-11-06 12:51:54.015 INFO
                                    PREUPGRADE
                                                    <1 min
                                                                                         - Utilities.writeStageSummary#960 "
      "2024-11-06 12:51:54.016 INFO
                                    PRECHECKS
                                                    <1 min
      "2024-11-06 12:51:54.016 INFO
                                    PREFIXUPS
                                                    <1 min
                                                                                         - Utilities.writeStageSummary#960
      "2024-11-06 12:51:54.016 INFO
                                    DRAIN
                                                    7 min
                                                                                         - Utilities.writeStageSummary#960
      "2024-11-06 12:51:54.016 INFO
                                    DBUPGRADE
                                                    75 min
                                                                                         - Utilities.writeStageSummary#960
      "2024-11-06 12:51:54.016 INFO
                                    DISPATCH
                                                                                         - Utilities.writeStageSummary#960 "
                                                    <1 min
      "2024-11-06 12:51:54.016 INFO
                                    POSTCHECKS
                                                    <1 min
                                                                                         - Utilities.writeStageSummary#960
      "2024-11-06 12:51:54.017 INFO
                                                    <1 min
                                                                                         - Utilities.writeStageSummary#960
      "2024-11-06 12:51:54.017 INFO
                                                    11 min
                                                                                         - Utilities.writeStageSummary#960
                                    POSTFIXUPS
      "2024-11-06 12:51:54.017 INFO
                                    POSTUPGRADE
                                                    <1 min
                                                                                         - Utilities.writeStageSummary#960 ",
      "2024-11-06 12:51:54.017 INFO
                                    SYSUPDATES
                                                                                         - Utilities.writeStageSummary#960 ",
                                                    1 min
      "2024-11-06 12:51:54.017 INFO
                                                                                         - Utilities.writeStageSummary#960 ",
                                    COMPLETED
                                                    <1 min
      "2024-11-06 12:51:54.018 INFO End of dispatcher instance for orcl - CommonBackBone.finalJobLogging#423 "
skipping: [rac22]
TASK [podba_rac_db_upgrade : Checking the status of the DBs] ******************
skipping: [rac22] => (item=None)
skipping: [rac22]
changed: [rac21] => (item=None)
changed: [rac21]
TASK [podba_rac_db_upgrade : Status of the DBs] *************************
ok: [rac21] => (item=orcl) => {
   "msg": " Status: orcl Instance orcl1 is running on node rac21\nInstance orcl2 is running on node rac22"
skipping: [rac22] => (item=orcl)
skipping: [rac22]
rac21
                              : ok=141
                                          changed=65
                                                         unreachable=0
                                                                            failed=0
                                                                                                                       ignored=0
rac22
                                ok=73
                                                                            failed=0
                                         changed=12
                                                         unreachable=0
                                                                                          skipped=172
```

GI Version after the upgrade:

```
-bash-5.1$ crsctl query has releaseversion

Oracle High Availability Services release version on the local node is [19.0.0.0.0]

-bash-5.1$ hostname

rac21
```

To execute this playbook from AAP2 use the playbook upgade_rac _aap2.yml. An example document is provided here: https://github.com/IBM/ansible-power-aix-oracle-dba/blob/main/docs/PowerODBA_using_AAP2.pdf