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(사전 준비)

- 1. vmware 설치(vmware workstation pro 30일 평가판)
- 2. xmanager(30일 평가판) or xming(open source) 설치
- 3. putty 설치(open source)
- 4. winscp 설치(open source)

vmware로 서버 구성

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** 파일시스템 구성 /boot 500M Swap 8192M / 나머지

** software selection : Legacy UNIX Compatibility, Development Tools 추가

- ** kdump : disable
- ** security policy : disable
- ** network 설정 시 hostname 변경

** ip 설정

1번서버 public ip 172.16.179.100(뒷자리 100) : NAT 영역

< 설치 후 설정 > 1. 공유디스크 추가(ASM 영역 구성) : vmware 17버전부터 nvme 디스크 타입으로 구성(SATA, SCSI 인식 오류) 디스크 추가 후 configuration 파일에 아래 추가 disk.locking = "FALSE" diskLib.dataCacheMaxSize = "0" nvme1.sharedBus = "virtual" nvme1:0.deviceType = "disk" 2. 네트워크 어댑터 추가(host-only) 1번서버 private ip 10.10.10.10 (뒷자리 10) : host-only 영역 Netmask : 24 Gateway : 설정안함 <1번 서버 구성 완료 후 추가 환경 설정 > 1. /etc/hosts 설정, 아래 내용 추가 후 저장 # vi /etc/hosts localhost localhost.localdomain localhost4 localhost4.localdomain4 127.0.0.1 localhost localhost.localdomain localhost6 localhost6.localdomain6 ::1 ##Public 172.16.179.100 oel19db1 172.16.179.200 oel19db2 ##Private 10.10.10.10 oel19db1-priv 10.10.10.20 oel19db2-priv ##Virtual 172.16.179.110 oel19db1-vip 172.16.179.210 oel19db2-vip ##SCAN 172.16.179.150 oel19db-scan 2. Hostname 확인 및 변경 # cat /etc/hostname # oel19db1 ** hostname 잘못 설정 시 아래 명령어로 변경 후 reboot # hostnamectl set-hostname oel19db1 # reboot < 오라클 설치 전 환경 설정 > 1. preinstall 실행

yum install -y oracle-database-preinstall-19c

2. 오라클 계정 생성 확인 및 패스워드 변경(생성이 안됐을 경우 아래처럼 수행)(수행계정 : root)

groupadd dba

usermod -g dba -G dba oracle
passwd oracle

<----- 패스워드 변경 명령어

3. selinux disable 설정 (수행계정 : root)

vi /etc/selinux/config SELINUX=disabled

4. 불필요한 서비스 정지

systemctl stop firewalld	
systemctl disable firewalld	
systemctl stop bluetooth	
systemctl disable bluetooth	
systemctl stop chronyd	
systemctl disable chronyd	
mv /etc/chrony.conf /etc/chrony.conf.bak	
systemctl stop ntpdate	# error
systemctl disable ntpdate	
systemctl stop avahi-daemon.socket	
systemctl disable avahi-daemon.socket	
systemctl stop avahi-daemon	
systemctl disable avahi-daemon	
systemctl stop libvirtd	
systemctl disable libvirtd	

추가 rpm 다운 및 설치

wget https://download.oracle.com/otn_software/asmlib/oracleasmlib-2.0.17-1.el8.x86_64.rpm
rpm -ivh oracleasmlib-2.0.17-1.el8.x86_64.rpm

wget https://yum.oracle.com/repo/OracleLinux/OL8/addons/x86_64/getPackage/oracleasmsupport-2.1.12-1.el8.x86_64.rpm # rpm -ivh oracleasm-support-2.1.12-1.el8.x86_64.rpm

Temp 파일시스템 할당

# vi /etc/fstab	
tmpfs	/dev/shm

tmpfs size=7g 00

/dev/shm 영역 remount

# mount -o remount /dev/shm	# systemctl daemon-reload	
	# mount -o remount /dev/shm	

추가한 디스크 확인(/dev/nvme1n1 30GB)

fdisk -l

디스크 포맷(n --> p --> 1 --> Enter --> Enter --> w)

fdisk /dev/nvme1n1

확인

fdisk -l

Pv Lv 생성

pvcreate /dev/nvme1n1p1
vgcreate 19c /dev/nvme1n1p1
lvcreate -L 2g -n OCR_VOTE1 19c
lvcreate -L 2g -n OCR_VOTE2 19c
lvcreate -L 2g -n OCR_VOTE3 19c
lvcreate -L 20G -n DATA 19c

< 결과 화면 >

messame:[root@eel8db1 ~]# pvcreate /dev/nvmein1p1
Physical volume '/dev/nvmein1p1" successfully created.
[root@eel8db1 ~]# vgcreate 19c /dev/nvmein1p1
volume group '19c' successfully created
[root@eel8db1 ~]# lvcreate -L 2g -n OCL_VOTE1 19c
Logical volume 'OCK_VOTE1' created.
[root@eel8db1 ~]# lvcreate -L 2g -n OCL_VOTE2 19c
Logical volume 'OCK_VOTE2' created.
[root@eel8db1 ~]# lvcreate -L 2g -n OAL_VOTE3 19c
Logical volume 'OCK_VOTE3' created.
[root@eel8db1 ~]# arcreated.
[root@eel8db1 ~]#]

Oracle ASM 설정 및 시작(oracle, dba, y, y 순서대로 입력)

oracleasm configure -i

< 결과 화면 >

[root@oel8db1 ~]# oracleasm configure -i Configuring the Oracle ASM library driver.

This will configure the on-boot properties of the Oracle ASM library driver. The following questions will determine whether the driver is loaded on boot and what permissions it will have. The current values will be shown in brackets ('[]'). Hitting <ENTER> without typing an answer will keep that current value. Ctrl-C will abort.

Default user to own the driver interface []: oracle Default group to own the driver interface []: dba Start oracle ASM library driver on boot (y/n) [n]: y Scan for oracle ASM disks on boot (y/n) [y]: y Writing Oracle ASM_library driver configuration: done

ASM 디스크 생성

oracleasm init

<결과 화면 >

@roteGoel8db1 ~]# oracleasm init [root@oel8db1 ~]# oracleasm init Creating /dev/oracleasm mount point: /dev/oracleasm Loading module "oracleasm": oracleasm Configuring "oracleasm" to use device physical block size Mounting ASMlib driver filesystem: /dev/oracleasm [root@oel8db1 ~]# ■ # oracleasm status

oracleasm configure

< 결과 화면 >

usedenation: [root@oel8dbl ~]# oracleasm status Checking if ASM is loaded: yes Checking if /dev/oracleasm is mounted: yes [root@oel8dbl -]# oracleasm configure ORACLEASM_UIDBooraCle ORACLEASM_UIDBooraCle ORACLEASM_SCANBOOT=true [root@oel8dbl ~]# ■

공유 디스크 생성

oracleasm createdisk OCR_VOTE1 /dev/19c/OCR_VOTE1 oracleasm createdisk OCR_VOTE2 /dev/19c/OCR_VOTE2 oracleasm createdisk OCR_VOTE3 /dev/19c/OCR_VOTE3 oracleasm createdisk DATA01 /dev/19c/DATA

< 결과 화면 >

megawatest-[root@el8db1 ~]# oracleasm createdisk OCR_VOTE1 /dev/19c/OCR_VOTE1 Writing disk header: done Instantiating disk: done [root@el8db1 ~]# oracleasm createdisk OCR_VOTE2 /dev/19c/OCR_VOTE2 Writing disk header: done Instantiating disk: done [root@el8db1 ~]# oracleasm createdisk OCR_VOTE3 /dev/19c/OCR_VOTE3 Writing disk header: done Instantiating disk: done [root@el8db1 ~]# oracleasm createdisk DATA01 /dev/19c/DATA Writing disk header: done Instantiating disk: done [root@el8db1 ~]#

디스크 스캔

oracleasm scandisks

<결과 화면>

Pront@nel8db1:-

rotacients: [root@oel8db1 ~]# oracleasm scandisks
 Reloading disk partitions: done
 Cleaning any stale ASM disks...
 Scanning system for ASM disks...
 [root@oel8db1 ~]#
 [

생성 리스트 확인(4개가 나와야 정상)

oracleasm listdisks

<결과 화면>

[root@oel8db1 ~]# oracleasm listdisks DATA01 DATAOL OCR_VOTE1 OCR_VOTE2 OCR_VOTE3 [root@oel8db1 ~]# []

디렉토리 생성 및 권한 부여

#

mkdir -p /oracle/media mkdir -p /oracle/app/oracle/product/19c mkdir -p /oracle/app/grid/19c

mkdir -p /oracle/oralnventory mkdir -p /oraarch chown -R oracle:dba /oracle chmod -R 775 /oracle chown -R oracle:dba /oraarch chmod -R 775 /oraarch chown -R oracle:dba /dev/oracleasm chown -R oracle:dba /dev/19c chmod 777 /oracle/media

oracle bash_profile 수정

su - oracle # vi .bash profile 아래 추가 # env export ORACLE_BASE=/oracle/app/oracle export ORACLE_HOME=\$ORACLE_BASE/product/19c export ORACLE SID=ORADB1 export GRID_HOME=/oracle/app/grid/19c export GRID_SID=+ASM1 export PATH=\$ORACLE_HOME/bin:\$GRID_HOME/bin:\$PATH export LD_LIBRARY_PATH=\$ORACLE_HOME/lib:/lib:/usr/lib export CLASSPATH=\$ORACLE_HOME/jlib:\$ORACLE_HOME/rdbms/jlib alias grid='export ORACLE_HOME=\$GRID_HOME; export ORACLE_SID=\$GRID_SID; export PATH=\$ORACLE_HOME/bin:\$GRID_HOME/bin:\$PATH; echo \$ORACLE_SID; echo \$ORACLE_HOME' alias db='. ~oracle/.bash_profile;export PATH=\$ORACLE_HOME/bin:\$GRID_HOME/bin:\$PATH; echo \$ORACLE_SID;echo \$ORACLE_HOME'

alias oh='cd \$ORACLE_HOME;pwd'

alias ss='sqlplus / as sysdba'

oracle bash_profile 적용

. .bash_profile

3. 2번 노드 구성

Step1) 서버 shutdown 후 서버 copy (vmware 설치 디렉토리로 이동 후 서버1 디렉토리 복사 후 이름 변경)



Step2) 2번 서버 디렉토리 클릭 후 configuration file 클릭



Step3) 서버2 환경 설정



Step4) nework adapter 설정 변경(NAT)



Step5) mac address Generate -> OK

_

Virtual Machine Settings		Vetwork Adapter Advanced Settings 🛛 🕹	<
Virtual Machine Settings Hardware Options Device Memory Processors Hard Disk (NWNe) Hard Disk (NWNe) CO/DVO (DE) Network Adapter Display	Summary 4 GB 4 60 GB 30 GB (Persistr Using file C: M NAT Host-only Auto detect	vetwork Adapter Advanced Settings > Incoming Transfer > Bandwidth: Unlimited > Vacket Loss (%): 0.0 > Outgoing Transfer + + Bandwidth: Unlimited > Outgoing Transfer + + Bandwidth: Unlimited > Kbps: + + Packet Loss (%): 0.0 > Packet Loss (%): 0.0 >	<
		Packet Loss (%): 0.0 + Latency (ms): 0 + MAC Address 00:0C:29:02:12:7D Generate OK Cancel Help	

Step6) nework adapter 설정 변경(host-only)

evice Memory Processors Hard Disk (NVMe) Hard Disk 2 (NVMe) CD/DVD (IDE) Network Adapter Network Adapter 2	Summary 4 GB 4 60 GB 30 GB (Persistent) Using file C: WUsers WITWILL NAT Host-only	Device status Connected Connected Connect at power on Network connection Replicate physical network Replicate physical network connection state
_JDisplay	Auto detect	(Init 1 Used under the Flots & Paddress (Flots only: A private network shared with the host Custom: Specific virtual network (VMnet0 (LAN segment: LAN Segments (Advanced.)

Step7) mac address Generate -> OK

opuona	_	Danadaridaha	the base of			
Device Memory Hard Disk 2 (NVMe) Hard Disk 2 (NVMe) Hard Disk 2 (NVMe) OC/D/DVD (DDE) Network Adapter Network Adapter 2 Display	Summary 4 GB 4 30 GB (Persis Using file C: ¹ NAT Host-only Auto detect	Bandwidth: Kbps: Packet Loss (%): Latency (ms): Outgoing Transfer Bandwidth: Kbps: Packet Loss (%): Latency (ms): MAC Address 00:0C:29:02:12:	Unlimited 0.0 ↓ 0.0 ↓ 0 ↓ Unlimited 0.0 ↓ 0 ↓ 87 G	~ ~	to the physical network k connection state s IP address :shared with the host ork	× ×

Step8) 서버명 변경



Step9) 서버 기동







🕞 oel8db1 🛛 🕞 oel8db2 🗡 Activities **⅔** Settings Sep 12 12:20 **₽** ● ● • % Q × Cancel Wired 훆 Wi-Fi Details Identity IPv4 IPv6 Security \$ Bluetooth IPv4 Method Automatic (DHCP) 🔘 Link-Local Only Background Manual Disable + A Notification Addresses Gateway Netmask Q Search 172.16.65.20 255.255.255.0 172.16.65.2 0 🛤 Region & L Θ 4

Restart(다시 on이 보이게 누름)

CP .	oel8db2 - VMware workstation			
File	Edit View VM Tabs Help	┃ - 母 ♀ ♀ ♀ □ □ □ ▷ 次 ▶ ↗ -		
0 🗇	el8db1 × 🕞 oel8db2 ×			
۵	Activities 🤸 Settings 🗸	Sep 12 12:22	A (1)	(¹) -
%	Q Settings	Network		×
(1	Wi-Fi			
*	Bluetooth	Ethernet (ens160)	+	
⊴	Background	10000 Mb/s OFF 3	\$	
A	Notifications	Ethernet (ens224)	+	
۹	Search	Connected - 10000 Mb/s	\$	
9	Region & Language	VPN	+	

같은 방법으로 아래 환경설정 누르고 아이피 변경 후 restart

oel8db2 - Vi	Aware Workstation				- 🗆 ×
File Edit Viev	VM Tabs Help	- 🗣 🗭 🚇 🛙		~	
i oel8db1 ×	🕞 oel8db2 🗙				
Activities	¥ Settings →	Sep 12 12:24			≞ ●) () ▼
% Q	Cancel	Wired		Apply	×
후 Wi-Fi	Details Identity	IPv4 IPv6 Securi	ty		
Bluetooth	IPv4 Method	Automatic (DHCP)	🔵 Link-Local Only		
Backgrou	יר	 Manual 	 Disable 		+
A Notificatio	Addresses				-
Q Search	Address	Netmask	Gateway	0	
	10.10.10.20	200.200.205.0		•	
Region &	L			0	+

2번 서버 접속 후(putty) 네트워크 정보 확인

Photogeodedition [itwill@oel8db1~]\$ ifconfig ens160: flage_4163_up_ppoppCAST_RUNNING_MULTICAST> mtu 1500 inet_172.16.65.20 netmask 255.255.255.0 broadcast 172.16.65.255 ineto_120.050.565:25:d6:8f prefixlen 64 scopeid 0x20<link> ether 00:50:56:25:d6:8f txqueuelen 1000 (Ethernet) RX packets 234 bytes 40800 (39.8 KiB) RX errors 0 dropped 0 overruns 0 frame 0 TX packets 146 bytes 16767 (16.3 KiB) TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0 ens224: flage_4163_up_sponpCAST_RUNNING_MULTICAST> mtu 1500 inet_10.10.10.20_etmask 255.255.255.0 broadcast 10.10.10.255 ineto_reov.ar/s.cr1c:9848:71ec_prefixlen 64_scopeid 0x20<link> ether 00:50:56:24:d5:06_txqueuelen 1000 (Ethernet) RX packets 18 bytes 1728 (1.6 KiB) RX errors 0 dropped 0 overruns 0 frame 0 TX packets 34_bytes 2462 (2.4 KiB) TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

Step11) hostname 변경 후 restart

hostnamectl set-hostname oel19db2 # reboot <- 실행 직후 putty 세션 종료(vmware 재기동중임)

< 결과 화면> [itwill@oel8db1 ~]\$ su - root Password: [root@oel8db1 ~]# hostnamectl set-hostname oel8db2 [root@oel8db1 ~]# reboot

Step12) 1번 서버 start -> 각 서버 접속 후(root계정) 서버 간 통신 확인

1번 노드(2번노드의 ip로 ping 시도)

ping oel19db2

ping oel19db2-priv

ctrl + c로 ping test stop

2번 노드(1번노드의 ip로 ping 시도)

ping oel19db1

ping oel19db1-priv

STEP13) 2번 노드 bash_profile 수정(2번 서버 접속, oracle 계정 수행)

=> ORACLE_SID=ORADB2, GRID_SID=+ASM2로 변경

vi .bash_profile

<pre>@ oracle@os8db2- # .bash_profile</pre>	
<pre># Get the aliases and functions if [-f ~/.bashrc]; then</pre>	
# User specific environment and startup programs	
<pre># env export ORACLE_BASE=/oracle/app/oracle export ORACLE_HOME_SONACLE_BASE/product/19c export ORACLE_SID_ORADB2 export GRID_HOME_FINITE/app/grid/19c export GRID_SI =+ASM2 export PATH=\$ORACLE_HOME/bin:\$PATH export LD_LIBRARY_PATH=\$ORACLE_HOME/lib:/lib:/usr/lib export CLASSPATH=\$ORACLE_HOME/jlib:\$ORACLE_HOME/rdbms/ export DISPLAY=192.168.17.31:0.0</pre>	jlib

STEP14) bash_profile 적용

. .bash_profile

4. GRID 설치 전 준비사항

STEP1) node1에 설치파일 업로드(winscp 사용, oracle 계정으로 /oracle/media 디렉토리로)

- 🗆 ×

STEP2) GRID 설치파일 압축해제(node1 에서 작업, oracle user로 접속)

cd \$GRID_HOME

unzip /oracle/media/V982068-01.zip

STEP3) cvuqdisk-1.0.10-1.rpm 설치(root 계정에서 작업)

rpm -ivh /oracle/app/grid/19c/cv/rpm/cvuqdisk-1.0.10-1.rpm

< 결과 화면 >

STEP4) 2번 노드 싱크 (1번 노드에서 작업) : yes -> root 패스워드 입력

rsync --progress /oracle/app/grid/19c/cv/rpm/cvuqdisk-1.0.10-1.rpm oel19db2:/root/

<결과 화면 >
[root@oel8db1 ~]# rsync --progress /oracle/app/grid/19c/cv/rpm/cvuqdisk-1.0.10-1.rpm oel8db2:/r oot/ The authenticity of host 'oel8db2 (172.16.65.20)' can't be established. ECDSA key fingerprint is SHA256:nFtViPTFYM7hrZBHIHaKEHa0sn14h0nRhIgoFgumC+4. Are you sure you want to continue connecting (yes/no/[fingerprint])? yes root@oel8db2's password: coot@oel8db2's password: 11,412 100% 0.00kB/s 0:00:00 (xfr#1, to-chk=0/1) [root@oel8db1 ~]#

STEP5) 2번 노드 설치(root계정 수행)

STEP6) 스크립트 실행(node1, oracle 계정 수행) : yes -> oracle 패스워드 입력 -> oracle 패스워드 입력 -> oracle 패스워드 입력 -> oracle 패스워드 입력

cd \$GRID_HOME/oui/prov/resources/scripts

./sshUserSetup.sh -user oracle -hosts "oel19db1 oel19db2" -noPromptPassphrase -advanced

< 실행 결과 >

[oracle@oel19db1 scripts]\$./sshUserSetup.sh -user oracle -hosts "oel19db1 oel19db2" -noPromptPass phrase -
advanced
The output of this script is also logged into /tmp/sshUserSetup_2023-09-12-14-04-10.log
Hosts are oel19db1 oel19db2
NOTE 2:
AS PER SSH REQUIREMENTS, THIS SCRIPT WILL SECURE THE USER HOME DIRECTORY
AND THE .ssh DIRECTORY BY REVOKING GROUP AND WORLD WRITE PRIVILEGES TO THESE
directories.
Do you want to continue and let the script make the above mentioned changes (yes/no)?
yes
The script would create ~oracle/.ssh/config file on remote host oel19db1. If a config file exist s already at
~oracle/.ssh/config, it would be backed up to ~oracle/.ssh/config.backup.
The user may be prompted for a password here since the script would be running SSH on host oel8 db1.
Warning: Permanently added 'oel19db1,172.16.65.10' (ECDSA) to the list of known hosts.
oracle@oel19db1's password: <- oracle user 패스워드 입력
Done with creating .ssh directory and setting permissions on remote host oel19db1.
Creating .ssh directory and setting permissions on remote host oel19db2
THE SCRIPT WOULD ALSO BE REVOKING WRITE PERMISSIONS FOR group AND others ON THE HOME DIRECTORY
FOR oracle. THIS IS AN SSH REQUIREMENT.
The script would create ~oracle/.ssh/config file on remote host oel19db2. If a config file exist s already at
~oracle/.ssh/config, it would be backed up to ~oracle/.ssh/config.backup.
The user may be prompted for a password here since the script would be running SSH on host oel8 db2.
Warning: Permanently added 'oel19db2,172.16.65.20' (ECDSA) to the list of known hosts.
oracle@oel19db2's password: <- oracle user 패스워드 입력

STEP7) 설치 전 사전 점검(생략 가능)

cd \$GRID_HOME

./runcluvfy.sh stage -pre crsinst -n oel19db1,oel19db2

STEP8) GRID 설치(1번노드, oracle user)

** xmanager나 xming으로 display 연결 후 아래 실행

\$ cd \$GRID_HOME

\$./gridSetup.sh

** oel8 서버와의 호환성 문제 해결



해결) CV_ASSUME_DISTID 값을 설정 후 다시 설치 시도

\$ export CV_ASSUME_DISTID=RHEL7.6
\$./gridSetup.sh

5. GRID 설치



Solution Oracle Grid Infrastructure 19c I	nstaller - Step 2 of 9 - 🗆 🗙
Select Cluster Configura	ation 19° CRACLE' Grid Infrastructure
Configuration Option Cluster Configuration Operating System Groups Installation Location Root script execution Prerequisite Checks Summary Install Product	Choose the required cluster configuration. Configure an Oracle Standalone Cluster Configure an Oracle Domain Services Cluster Configure an Oracle Member Cluster for Oracle Databases Configure an Oracle Member Cluster for Applications
J Finish	multiple sites. Specify a minimum of 3 site names and a maximum of 5 (e.g., siteA, siteB, siteC). Configure as an Oracle Extended cluster Site names:
Help	< Back Next > Install Cancel

SCAN NAME 확인) 변경 없음

🛃 Oracle Grid Infrastructure 19c Ir	istaller - Step 3 of 17	– 🗆 ×
Grid Plug and Play Inform	nation 19 ^c	ORACLE [®] Grid Infrastructure
Configuration Option	Single Client Access Name (SCAN) allows clients to use one name in conne to the cluster as a whole. Client connect requests to the SCAN name can be cluster node.	ction strings to connect e handled by any
🧅 Grid Plug and Play	 Create Local SCAN 	
Cluster Node Information	Cluster Name? oel8db	
Network Interface Usage	SCAN Name: oel8db-scan	
Storage Option	SCAN Port: 1521	
🗼 Create Grid Infrastructure Ma	🔿 Use Shared SCAN	
Grid Infrastructure Managem	SCAN Client Data:	Browse
Create ASM Disk Group ASM Password Operating System Groups Installation Location Root script execution Prerequisite Checks Summary Install Product Finish	Configure GNS Configure nodes Virtual IPs as assigned by the Dynamic Networks Create a new GNS GNS VIP Address: GNS Sub Domain: CUSe Shared GNS GNS Client Data:	B <u>r</u> owse
 ✓ ✓ Help 	< <u>B</u> ack Next >	Install Cancel



2번 노드 정보 추가

🛓 Oracle Grid Infrastructur	e 19c Installer - Step 4 of 17	$ \Box$ \times
Cluster Node Inform	nation 19 ^c	Grid Infrastructure
🚊 Configuration Option	Provide the list of nodes to be managed by Oracle Grid Infrastructure with	their Public Hostname
Cluster Configuration	🛃 Add Cluster Node Information	×
Grid Plug and Play		me
Cluster Node Inform	n	
Vetwork Interface Usa	Add a single node	
Storage Option	Specify the name for the public host name. If you want to configure virtual	
Create Grid Infrastruc	host name manually, then you will be prompted for the virtual IP address.	
Grid Infrastructure Ma	Public <u>H</u> ostname: oel8db2	
🔶 Create ASM Disk Grou	Virtual Hostname: oel8db2-vip	
Ŷ ASM Password	○ Add a range of nodes	
Operating System Gro	Specify the node range expression for the required nodes. You can use the	
Installation Location	following patterns to build the expression: Constant strings such as	
Root script execution	sequences such as "[ab]cd]]".	
Summany	Public Hostname Expression:	
Q Install Product	Virtual Hostname Suffix:	
O Finish	Nodes to be generated: 0	Edit Remove
	Nodes to be generated.	
• ****	<u>OK</u> Can	cel
Help	< Back Next >	Install Cancel

Ssh connectivity test



Passwd 입력 후 테스트

🛃 Oracle Grid Infrastructure 19c In	staller - Step 4 of 17	- 🗆 ×
Cluster Node Information		19° ORACLE Grid Infrastructure
Configuration Option Cluster Configuration Grid Plug and Play	Provide the list of nodes to be managed by Orac and Virtual Hostname. Public Hostname oel8db1 oel8db2	le Grid Infrastructure with their Public Hostname Virtual Hostname oel8db1-vip oel8db2-vip
Network Interface Usage Storage Option Create Grid Infrastructure Managem Grid Infrastructure Managem Create ASM Disk Group ASM Password Operating System Groups Installation Location Root script execution Prerequisite Checks Summary Install Product Finish	SSH <u>connectivity</u> QS Username: oracle Reuse private and public <u>k</u> eys existing in the	Configuration File Add Edit Bemove OS Password: user home Test Setup
Help		< Back Next > Install Cancel



🛓 Oracle Grid Infrastructure 19c Ir	istaller - Step 4 of 17	- 🗆 ×
Cluster Node Information	1	19° ORACLE Grid Infrastructure
Configuration Option	Provide the list of nodes to be managed by and Virtual Hostname. Public Hostname	v Oracle Grid Infrastructure with their Public Hostname Virtual Hostname
	oel8db1	oel8db1-vip
Cluster Node Information Network Interface Usage Storage Option Create Grid Infrastructure Ma		
Grid Infrastructure I 🛃 Orac	e Grid Infrastructure 19c Installer	×
Create ASM Disk Gr ASM Password Operating System G Installation Location Root script executio Prerequisite Checks	Passwordless SSH connectivity betwee established.	in the selected nodes already
Summary Install Product	Reuse private and public keys existing	in the user home
 Finish ▲ ▲ Help 		< Back Next > Install Cancel

에러) [INS-06006] Passwordless SSH connectivity not set up between the following node(s): 노드1,2) root 계정 아래 수행 후 재 테스트 # mv /usr/bin/scp /usr/bin/scp.orig # vi /usr/bin/scp ☆ /usr/bin/scp.orig -T \$* 입력 후 저장 # chmod 555 /usr/bin/scp 모든 설치 완료 후 다시 원복 # mv /usr/bin/scp.orig /usr/bin/scp

Network 설정(ASM & Pribate으로 변경)

Gracle Grid Infrastructure 19c Ins	staller - Step 5 of 17		-	
Specify Network Interfac	e Usage		19° ORAC Grid Infra	CLE structure
Configuration Option	Private interfaces are used I	by Oracle Grid Infrastructure fo	or internode traffic.	
Grid Plug and Play	Interface Name	Subnet	Use for	
Cluster Node Information	ens160	172.16.65.0	Public	
	ens224	10.10.10.0	ASM & Private	
Network Interface Usage				
* Storage Option				
Create Grid Infrastructure Ma				
Grid Infrastructure Managem				
Create ASM Disk Group				
ASM Password				
Operating System Groups				
Installation Location				
Root script execution				
Prerequisite Checks				
Summary				
Install Product				
. Finish				
Help		< <u>B</u> ack	<u>N</u> ext > Install	Cancel

Structure 19c Infrastructure 19c In	staller - Step 6 of 17 — 🗆 🗙
Storage Option Informati	on 19° CRACLE Grid Infrastructure
Configuration Option Cluster Configuration Grid Plug and Play Cluster Node Information Network Interface Usage Storage Option Create Grid Infrastructure Managem Create ASM Disk Group ASM Password Operating System Groups Installation Location Root script execution Prerequisite Checks Summary Install Product Einish	You can place Oracle Cluster Registry (OCR) files and voting disk files on Oracle ASM storage, or on a file system. • Use Oracle Flex <u>A</u> SM for storage Choose this option to configure OCR and voting disks on ASM storage. ASM instance will be configured on reduced number of cluster nodes. • <u>U</u> se Shared File System Choose this option to configure OCR and voting disk files on an existing shared file system.
Create Grid Infrastructure 19c Ir	re Management Reposit
Configuration Option Cluster Configuration Grid Plug and Play Cluster Node Information Network Interface Usage Storage Option Create Grid Infrastructure Grid Infrastructure Managem Create ASM Disk Group	The Grid Infrastructure Management Repository is an essential component for complete operation of the Autonomous Health Framework, that offers enhanced real time diagnostics and performance management, and Rapid Homes Provisioning for patching. The components that depend on the repository in whole or in part are Cluster Health Advisor, Cluster Health Monitor, QoS Management, Rapid Homes Provisioning and Cluster Atvityt Log. It is best practice to install this option and failure to do so could compromise timely resolution of issues as well as available functionality for patching. Configure Grid Infrastructure Management Repository 文 Yes ③ No
Operating System Groups Installation Location Root script execution Prerequisite Checks Summary Install Product Finish	
Help	< Back Next > Install Cancel

VOTING DIST 설정(OCR_VOTE 입력 후 NORMAL 설정 시도)

🛃 Oracle Grid Infrastructure 19c In	staller - Step 8 of 1	6			-	- [x c
Create ASM Disk Group				19			_E ` tructure
Configuration Option Cluster Configuration Grid Plug and Play Cluster Node Information Network Interface Usage Storage Option Create Grid Infrastructure Ma Create Grid Infrastructure Ma Create ASM Disk Group ASM Password Operating System Groups Installation Location	OCR and Voting c characteristics o Disk group name Redundancy Allocation Unit Si: Select Disks	iisk data will be stored in the fo f this Disk group. OCR_VOTE ○ Flex ○ High ④ Normal ze 4 ♥ MB Disk Path	Externa	M Disk group	. Select dis ndidate/Prov Status	ks and risioned Failur	Disks 💌 e Group
Prerequisite Checks Summary Install Product Finish	Disk Discovery F Change Discov Configure Ora Select this option disk devices by C	'ath:'/dev/sd*' ery <u>Path</u> cle ASM <u>F</u> ilter Driver 1 to configure ASM Filter Driver(A Dracle ASM.	AFD) to sim	ıplify configu	Specify <u>F</u>	ailure G	ment of
Help			< <u>B</u> ack	<u>N</u> ext >	Insta		Cancel

아래 Select Disk에 보이지 않으면 change discovery path 클릭 후

/dev/oracleasm/disks 입력

🛓 Oracle Grid Infrastructure 19c Ins	staller - Step 8 of 16	- 🗆 ×
Create ASM Disk Group		19° ORACLE Grid Infrastructure
Configuration Option Cluster Configuration Grid Plug and Play Cluster Node Information Network Interface Usage Storage Option	OCR and Voting disk data will be stored in the following At characteristics of this Disk group. Disk group name OCR_VOTE Redundancy ○ Flex ○ High ④ Normal ○ Extern Allocation Unit Size 4 ▼ MB Select Disks	SM Disk group. Select disks and al Show Candidate/Provisioned Disks 💌
Create Grid Infrastructure Ms Create ASM Disk Group ASM Password Operating System Groups Installation Location Root script execution Prerequisite Checks Summary Install Product Finish	Disk Path Change Disk Discovery Path Changing the Disk Discovery Path will affect all Disk G Disk Discovery Path: /dev/oracleasm/disks QK Change Discovery Path: /dev/oracleasm/disks QK Change Discovery Path: Configure Oracle ASM Filter Driver Select this option to configure ASM Filter Driver(AFD) to si disk devices by Oracle ASM.	Size (in MB) Status Failure Group x roups Cancel Specify Failure Groups mplify configuration and management of
< <u>H</u> elp		k Next > Install Cancel

정상 출력 확인 및 보팅 디스크 선택

🛃 Oracle Grid Infrastructure 19c In	staller - Step 8 of 16		- 🗆 X
Create ASM Disk Group			ACLE Infrastructure
Configuration Option Cluster Configuration Grid Plug and Play Cluster Node Information Network Interface Usage	OCR and Voting disk data will be stored in the following Archaracteristics of this Disk group. Disk group name OCR_VOTE Redundancy Flex High ⊙ Normal Extern Allocation Unit Size ■ MB MB	SM Disk group. Select dis	sks and
<u>Storage Option</u>	Select Disks	Show Candidate/Pro	visioned Disks 🔻
Create Grid Infrastructure Ma	Disk Path	Size (in MB) Status	Failure Group
Create ASM Disk Group	/dev/oracleasm/disks/DATA01	20480 Provisioned	
ASM Password	/dev/oracleasm/disks/OCR_VOTE1	2048 Provisioned	
Operating System Groups	/dev/oracleasm/disks/OCR_VOTE2	2048 Provisioned	
Installation Location Root script execution		2046 Provisioned	·
Prerequisite Checks	Disk Discovery Path:'/dev/oracleasm/disks'		
Summary	Change Discovery Path	Specify [ailure Groups
 Install Product Finish 	Configure Oracle ASM <u>Filter</u> Driver Select this option to configure ASM Filter Driver(AFD) to si	mplify configuration and	management of
	disk devices by Oracle ASM.		
I I I I I I I I I I I I I I I I I I I			
Help	< <u>B</u> ac	:k <u>N</u> ext > Inst	all Cancel

ASM passwd 입력

🔬 Oracle Grid Infrastructure 19c In	staller - Step 9 of 16			– 🗆 X
Specify ASM Password			19	Grid Infrastructure
Configuration Option Cluster Configuration Grid Plug and Play Cluster Node Information Network Interface Usage Storage Option	The new Oracle Automat with SYSASM privileges f ASMSNMP user with SYS Specify the password for Use <u>d</u> ifferent password	ic Storage Manager or administration. (DBA privileges to m r these user accour rds for these accou	nent (Oracle ASM) instance ra Oracle recommends that you onitor the ASM instance. its. nts	equires its own SYS user create a less privileged
Create Grid Infrastructure Ma	Password	1	Confirm Password	
Create ASM Disk Group	ASMSNMP			
🙀 ASM Password				
Operating System Groups Installation Location Root script execution Prerequisite Checks Summary Install Product Finish	 Use <u>same</u> passwords Specify <u>P</u>assword: [<u>Messages:</u> <u>Specify Password: [INS</u>] 	for these accounts	Confirm Password:	••••••
	^{arecommended} standar	ds.		
Help			< <u>B</u> ack <u>N</u> ext >	Install Cancel

패스워드 충족 조건 불일치 -> 무시하고 넘어감

🛓 Oracle Grid Infrastructure 19c Installer - Step 9 of 16



Specify ASM Password	19° ORACLE Grid Infrastructure
Configuration Option Cluster Configuration Grid Plug and Play Cluster Node Information Network Interface Usage Storage Option	The new Oracle Automatic Storage Management (Oracle ASM) instance requires its own SYS user with SYSASM privileges for administration. Oracle recommends that you create a less privileged ASMSNMP user with SYSDBA privileges to monitor the ASM instance. Specify the password for these user accounts. O Use different passwords for these accounts
Create Grid Infrastr	e Grid Infrastructure 19c Installer X
Create ASM Disk Gr	[INS-30011] The password entered does not conform to the Oracle recommended standards.
Operating System Installation Location	Are you sure you want to continue ?
Root script executic	Yes Details
Summary	
O Install Product	
Finish	
	Messages:
I I I I I I I I I I I I I I I I I I I	▲ Specify Password:[INS-30011] The password entered does not conform to the Oracle recommended standards.
Help	< Back Next > Install Cancel

🛃 Oracle Grid Infrastructure 19c Ir	staller - Step 10 of 18 - 🗆 🗙
Failure Isolation Support	19° CRACLE Grid Infrastructure
Configuration Option Cluster Configuration Grid Plug and Play Cluster Node Information Network Interface Usage Storage Option Create Grid Infrastructure Ma Create ASM Disk Group ASM Password Failure Isolation Management Options Operating System Groups Installation Location Root script execution Prerequisite Checks Summary Install Product Finish	Choose one of the following Failure Isolation Support options. Use Intelligent Platform Management Interface (IPMI) To ensure successful installation with IPMI enabled, ensure your IPMI drivers are properly installed and enabled. Uger Name : Password : Do not use Intelligent Platform Management Interface (IPMI) O to not use Intelligent Platform Management Interface (IPMI)
Help	< Back Next > Install Cancel

EM 체크하지 않고 넘어감

Control reaction Option Storage Management to be managed by Enterprise Manager Cloud Control. Specify the details of the Cloud Control configuration to perform the registration. Grid Plua and Play Register with Enterprise Manager (EM) Cloud Control Cluster Node Information OMS host: Network Interface Usage OMS host: Storage Option EM Admin User Name: Create Grid Infrastructure Ma EM Admin Password: Failure Isolation Management Options Operating System Groups Installation Location Root script execution Prerequisite Checks Summary Install Product Einbah Einbah	0	You can configure to have this inst	ance of Oracle Grid Infrastr	ucture and Oracle A	utomatic	
Grid Plug and Play Register with Enterprise Manager (EM) Cloud Control Cluster Node Information OMS host: Network Interface Usage OMS host: Storage Option EM Admin User Name: Create Grid Infrastructure Ms EM Admin User Name: Create ASM Disk Group EM Admin Password: Failure Isolation Management Options Operating System Groups Installation Location Root script execution Prerequisite Checks Summary Install Product Endeb Emted	Cluster Configuration	Storage Management to be manage the Cloud Control configuration to p	ed by Enterprise Manager (perform the registration.	Cloud Control. Specif	y the deta	ils of
Cluster Node Information OMS host: Network Interface Usage OMS port: Storage Option EM Admin User Name: Create ASM Disk Group EM Admin Password: Failure Isolation Management Options Operating System Groups Installation Location Root script execution Prerequisite Checks Summary Install Product Einleh Emergination	Grid Plug and Play	Register with Enterprise Manage	r (EM) Cloud Con <u>t</u> rol			
Network Interface Usage OMS port: Storage Option EM Admin User Name: Create Grid Infrastructure Ms EM Admin User Name: Create ASM Disk Group EM Admin Password: Failure Isolation Management Options Operating System Groups Installation Location Root script execution Prerequisite Checks Summary Install Product Endeb Endeb	Cluster Node Information	O <u>M</u> S host:			1	
Storage Option EM Admin User Name: Create Grid Infrastructure Ms EM Admin User Name: Create ASM Disk Group EM Admin Password: Failure Isolation EM Admin Password: Management Options Installation Location Root script execution Prerequisite Checks Summary Install Product Endeb Endeb	Network Interface Usage	OMS port:			7	
Create Grid Infrastructure Magnin User Name: Create ASM Disk Group ASM Password Failure Isolation Management Options Operating System Groups Installation Location Root script execution Prerequisite Checks Summary Install Product Epish	Storage Option	The design lines in the second				
	Create Grid Infrastructure M	EM Agmin User Name:				
ASM Password Failure Isolation Management Options Operating System Groups Installation Location Root script execution Prerequisite Checks Summary Install Product Endeb	Create ASM Disk Group	EM Admin Pass <u>w</u> ord:				
	3 ASM Password					
Management Options Operating System Groups Installation Location Root script execution Prerequisite Checks Summary Install Product Enish	Failure Isolation					
Operating System Groups Installation Location Root script execution Prerequisite Checks Summary Install Product Einish	Management Options	_				
Installation Location Root script execution Prerequisite Checks Summary Install Product Enich	Operating System Groups					
Root script execution Prerequisite Checks Summary Install Product Finish	Installation Location					
Prerequisite Checks Summary Install Product Einish	Root script execution					
Summary Install Product Ensish	Prerequisite Checks					
Install Product Enjeh) Summary					
Ú Finish	Install Product					
	🔾 Finish					
FIDISD	Prerequisite Checks Summary Install Product					

System group 설정(DBA)

🛃 Oracle Grid Infrastructure 19c In	staller - Step 12 of 18			_		×
Privileged Operating Sys	tem Groups		19°	ORAC Grid Infra	LE astruc	ture
Configuration Option Cluster Configuration Ciluster Node Information Cluster Node Information Network Interface Usage Storage Option Create Grid Infrastructure Ma Create ASM Disk Group ASM Password Failure Isolation Management Options Operating System Groups Installation Location Root script execution Prerequisite Checks Summary Install Product Finish	Select the name of the operating system authentication to Oracle Automatic Storag Oracle ASM Administrator (OSASM) Group Oracle ASM <u>D</u> BA (OSDBA for ASM) Group Oracle ASM <u>Operator (OSOPER for ASM) O</u>	group, that you wa le Management. d Group (Optional 🖗 🛾	ant to use for c Iba v Iba v Iba v	perating syst	tem	
Help		< <u>B</u> ack	<u>N</u> ext >	Install	Car	ncel

4	Oracle	Grid	Infrastructure	19c Installer	- Step	12 of 1	8
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- 🗆 🛛

< Back Next > Install Cancel

Install location 설정

•

<u>H</u>elp

Solution of the second	taller - Step 13 of 18 — 🗆 🗙
Specify Installation Locati	on 19° ORACLE [®] Grid Infrastructure
Configuration Option Cluster Configuration Grid Plug and Play Cluster Node Information	Specify the Oracle base. The Oracle base directory for the Oracle Grid Infrastructure installation is the location where diagnostic and administrative logs, and other logs associated with Oracle ASM and Oracle Clusterware are stored. This location would also contain files pertaining to the configuration of Oracle Clusterware. <u>O</u> racle base: [oracle/app/oracle] Browse
Storage Option	This software directory is the Oracle Grid Infrastructure home directory.
Create Grid Infrastructure Ma	Software location: /oracle/app/grid/19c
Create ASM Disk Group	
g ASM Password	
Failure Isolation	
Management Options	
Operating System Groups	
Installation Location	
Root script execution	
Prerequisite Checks	
ý Summary	
🔶 Install Product	
Ó Finish	
Help	< Back Next > Install Cancel

Specify Installation Loca	tion 19° CRACLE' Grid Infrastructu	× ure
Configuration Option Cluster Configuration Grid Plug and Play	Specify the Oracle base. The Oracle base directory for the Oracle Grid Infrastructure installation is the location where diagnostic and administrative logs, and other logs associated with Oracle ASM and Oracle Clusterware are stored. This location would also contain files pertaining to the configuration of Oracle Clusterware.	r
<u>Cluster Node Information</u>	Oracle base: /oracle/app/oracle	
<u>Network Interface Usage</u>	The effects device the Arabia Arabia and the standard and the standard	
T Storage Option	This software directory is the Oracle Grid Infrastructure nome directory.	
Create Grid Infrastructure M	Software location: /oracle/app/grid/19c	
Create ASM Disk Gr		
ASM Password Failure Isolation	[INS-40109] The specified Oracle Base location is not empty on this server.	
Management Option		
 Operating System G 	Are you sure you want to continue ?	
Installation Locat		
Root script execution	Yes <u>No</u> <u>D</u> etails	
Prerequisite Checks		
Summary		
🖕 Install Product		
Finish		
Help	< Back Next > Install Cance	el

oralnventory 위치 설정

🛃 Oracle Grid Infrastructure 19c In	staller - Step 14 of 19		– 🗆 ×
Create Inventory			RACLE [®]
Configuration Option Cluster Configuration Grid Plug and Play Cluster Node Information Network Interface Usage Storace Option Create Grid Infrastructure Ms Create ASM Disk Group ASM Password Failure Isolation Management Options Operating System Groups Installation Location Create Inventory Root script execution Prerequisite Checks Summary Install Product Finish	You are starting your first insta files (for example, install log fil automatically sets up subdirect for each product typically requi Inventory <u>Directory</u> : <u>foracle/ap</u> Members of the following opera to the inventory directory (orair oralnventory Group Name: dba	Ilation on this host. Specify a directory for install es). This directory is called the "inventory directo ories for each product to contain inventory data. res 150 kilobytes of disk space. p/oralnventory thing system group (the primary group) will have ventory).	ation metadata ry". The installer The subdirectory Browse write permission
Help		< Back Next > In:	stall Cancel

Run script 자동 수행 여부(root 계정 패스워드 입력)

🛓 Oracle Grid Infrastructure 19c In	staller - Step 15 of 19			_		×
Root script execution co	nfiguration		19°		CLE [.] astruc	ture
Configuration Option Cluster Configuration Grid Plug and Play Cluster Node Information Network Interface Usage	During the software cont can choose to have the one of the options below additional prerequisite of Automatically run cont O Use "root" user <u>c</u>	iguration, certain operations h nstaller perform these operatic . The input specified will also b necks. iguration scripts - cedential	ave to be performed ons automatically by ne used by the install	as "root" (specifying er to perfo	user. You inputs fo orm	ı or
K Storage Option	Pass <u>w</u> ord :	•••••				
Create Grid Infrastructure Ma	🔵 Use <u>s</u> udo					
Create ASM Disk Group	Program path :	/usr/bin/sudo			Browse	B
Rest ASM Password	<u>U</u> ser name :	oracle				
Management Options	Passw <u>o</u> rd :					
Operating System Groups						
Installation Location						
Create Inventory						
Root script execution						
Prerequisite Checks						
ý Summary						
Install Product						
O Finish						
▲ ////////////////////////////////////						
Help		< <u>B</u>	ack <u>N</u> ext >	Install	Car	icel

사전 요구사항 체크중

🛃 Oracle Grid Infrastructure 19c Ins	staller - Step 16 of 19			-		×
Perform Prerequisite Che	ecks		19 °	Grid Infra	LE struc	ture
Configuration Option Cluster Configuration Grid Plug and Play Cluster Node Information Network Interface Usage Storage Option Create Grid Infrastructure Ms Create ASM Disk Group ASM Password Failure Isolation Management Options Operating System Groups Installation Location Create Inventory Root script execution Prerequisite Checks Summary Install Product Finish	Verifying that the target enviror for products you have selected Checking resolv.conf Integrity	nment meets minimum ins . This can take time. Pleas 57% 	stallation and con se wait.	figuration req		nts
Help		< <u>B</u> ac	:k <u>N</u> ext >	Install	Can	cel

Scan ip가 도메인 등록되어 있지 않아 발생하는 워닝(모두 무시)



설치 진행

🔮 Oracle Grid Infrastructure 19c Ir	staller - Step 17 of 19 - 🗆 🗙
Summary	19° CRACLE Grid Infrastructure
Configuration Option Cluster Configuration Grid Plug and Play Cluster Node Information Network Interface Usage Storage Option Create Grid Infrastructure Ma Create Grid Infrastructure Ma Create ASM Disk Group ASM Password Failure Isolation Management Options Operating System Groups Installation Location Create Inventory Root script execution Prerequisite Checks Summary Install Product Finish	Oracle Grid Infrastructure 19c Installer Global Settings Config Option: Configure Oracle Grid Infrastructure for a New Cluster [Edit] Oracle base for Oracle Grid Infrastructure: /oracle/app/oracle [Edit] Grid home: /oracle/app/grid/19c Privileged Operating System Groups: dba (OSDBA), dba (OSOPER), dba (OSASM) [Edit Root script execution configuration: Root user credential [Edit] Inventory information Inventory location: /oracle/app/oralnventory [Edit] Central inventory (oralnventory) group: dba [Edit] Management information Management method: None [Edit] Cluster Configuration: Standalone Cluster [Edit] Cluster Name: oel8db [Edit] SCAN Type: Local SCAN Single Client Access Name (SCAN): oel8db-scan [Edit] SCAN Port: 1521 [Edit] Public Interface(s): ens024 [Edit] ASM & Private Interface(s): ens224 [Edit]
↓ Help	Save Response File < Back Next > Install Cancel

설치 중



Root 스크립트 자동 실행 여부(YES)

🛓 Oracle Grid Infrastruct	ure 19c Installer - Step 18 of 19	—
Install Product		RACLE
🔍 Configuration Option	Progress	
Cluster Configuratio	32%	
	Savies Chuster Isuaster -	
Grid Plug and Play	Saving Cluster Inventory	
Cluster Node Inform	ation	
Network Interface U	sage Status	
Storage Option		Succeeded
) Create Grid Infracts		Succeeded
Create ond minast		Succeeded
Create ASM Disk Gr	Configuration scripts generated by the Installer need to be run as a	Succeeded
ASM Password	privileged user (root). Installer will run these scripts using the	Succeeded
Eailure Isolation	privileged user credentials provided earlier.	Succeeded
r unare recorderent		Succeeded
Management Option	Are you sure you want to continue ?	Succeeded
Operating System (In Progress
Installation Location	Yes <u>N</u> o	Pending
		Pending
Create Inventory		
Root script executio	h	
Prerequisite Checks		
Summary	Details Revert All Revert	<u>R</u> etry <u>S</u> k
Install Product		
Finish		
Help	<pre>< Back Next > Ins</pre>	tall Canc

SCAN IP가 DNS에 등록되어 있지 않아서 발생한 문제 무시 해도됨 OK



위 fail로 인한 configure cluster fail 발생이지만 정상(next)

Solution of the second	taller - Step 18 of 19	– 🗆 X
Install Product	19°	ORACLE Grid Infrastructure
Configuration Option Cluster Configuration Grid Plug and Play Cluster Node Information Network Interface Usage	Progress- 100% Oracle Cluster Verification Utility failed. CStatus	
Storage Option Create Grid Infrastructure Ma Create ASM Disk Group ASM Password Failure Isolation Management Options Operating System Groups Installation Location Create Inventory Root script execution	Configure Local Node Configure Local Node Configure Action and	Succeeded Succeeded Succeeded Succeeded Succeeded Succeeded Succeeded Succeeded Succeeded Succeeded Succeeded Succeeded Succeeded
Prerequisite Checks Summary Install Product Finish	Details Revert All Rev	evert Retry Skip
Help	< <u>B</u> ack <u>N</u> ext >	Install <u>C</u> lose



설치 종료(Close)

Gracle Grid Infrastructure 19c In	staller - Step 19 of 19 ×
Finish	19° CRACLE Grid Infrastructure
Finish Configuration Option Cluster Configuration Grid Plug and Play Cluster Node Information Network Interface Usage Storage Option Create Grid Infrastructure Ma Create ASM Disk Group ASM Password Failure Isolation Management Options Operating System Groups Installation Location Create Inventory Root script execution Prerequisite Checks	The configuration of Oracle Grid Infrastructure for a Cluster was successful, but some configuration assistants failed, were cancelled or skipped.
Summary Install Product Finish	
Help	< <u>Back</u> Next > Install Close

설치 후 crs 상태 확인)

crsctl stat res -t
ocrcheck

< 실행 결과 >

Poracle@oel8db1:/oracle/app/gri	d/19c			- 🗆 X
[oracle@oel8db:	1 19c]\$	crsctl stat re	es -t	
Name	Target	State	Server	State details
Local Resources	5			
ora.LISTENER.1	snr			
ona chad	ONLINE ONLINE	ONLINE ONLINE	oel8db1 oel8db2	STABLE STABLE
or a . Chau	ONLINE ONLINE	ONLINE ONLINE	oel8db1 oel8db2	STABLE STABLE
ora.net1.netwo	rk ONLINE ONLINE	ONLINE	oel8db1 oel8db2	STABLE STABLE
ora.ons	ONLINE ONLINE		oel8db1 oel8db2	STABLE STABLE
cluster Resour	ces			
ora.ASMNET1LSN	R ASM. 1s	nr(ora.asmoro	(qu	
1 2 3 ora LISTENER SC	ONLINE ONLINE OFFLINE	ONLINE ONLINE OFFLINE	oel8db1 oel8db2	STABLE STABLE STABLE
1	ONLINE	ONLINE	oel8db1	STABLE
ora.OCR_VOTE.de 1 2	g(ora.ası ONLINE ONLINE	ngroup) ONLINE ONLINE	oel8db1 oel8db2	STABLE STABLE
3 ora.asm(ora.asm	OFFLINE mgroup)	OFFLINE] 0.4b.1	STABLE
1 2 3 ora asmnet1 asu	ONLINE ONLINE OFFLINE	ONLINE ONLINE OFFLINE	oel8db1 oel8db2	Started,STABLE Started,STABLE STABLE
1 2 3	ONLINE ONLINE OFFLINE	ONLINE ONLINE OFFLINE	oel8db1 oel8db2	STABLE STABLE STABLE



7. asm 디스크 구성

asmca <- xclock 가능한 세션에 계속 설치 진행(1번 노드)

Disk group 선택 후 create

X ASM Configuration Ass	istant: Disk Groups					- C	ı x
Disk Groups					1	Grid Infrast	. E' ructure
ASM ASM Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances In	Disk Group Name OCR_VOTE	size (GB) 6.00 e more options. 2ismount All Refrest	Free (GB) 5.11	Usable (GB) 1.55	Redundancy NORMAL	State MOUNTED(2 of 2)	
Help							E⊻it

EXTERNAL DATA DISK 생성

X ASM Configuration Ass	istant: Create Disk Group							-		×
Create Disk Group							19° G	RAC rid Infra	LE' astruc	ture
ASM ASM Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances Instances In	Disk Group Name: Redundancy: Allocation Unit Size (MB): Show Eligible Show Disk Path /dev/oracleasm/dis	DATA High <u>h</u>	lermal Extern Header St PROVISIONED	al (None)) Ele	sx Size (20480	Quorum	Site	a <u>b</u> el disk	s using	AFD
	Disk Discovery Path: /dev/	oracleasm/dis	ks Sho <u>w</u> Advar	nced Options	<u>o</u> k ca	ancel	Change Dis	k Discove	ery <u>P</u> ath	
Help									E	⊻it

확인 후 EXIT

X ASM Configuration Ass	sistant: Disk Groups					-	
Disk Groups					1	9° ORACI Grid Infras	L C structure
ASM B-B ASM Instances C DIsk C. C DA C OCR_VOTE Settings	Disk Group Name DATA OCR_VOTE	Size (GB) 20.00 6.00	Free (GB) 19.87 5.11	Usable (GB) 19.87 1.55	Redundancy EXTERN NORMAL	Grid Infras))
	Note: Use right click to see	more options. smount All	h				
Help	1						E⊻it

YES로 빠져 나옴

🗙 ASM Configuration Ass	istant: Disk Groups					- 🗆 ×
Disk Groups					1	9 ^c ORACLE ^c Grid Infrastructure
ASM Constraints ASM Instances Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints	Disk Group Name DATA OCR_VOTE	Size (GB) 20.00 6.00 Confirm exit Pre options. Hount All Refress	Free (GB) 19.87 5.11 re you sure you xit the applicatio	Usable (GB) 19.87 1.55 X want to n? <u>No</u>	Redundancy EXTERN NORMAL	State MOUNTED(2 of 2) MOUNTED(2 of 2)
Help						Exit

확인)

crsctl stat res -t

P oracle@oel8db1:/oracle/app/gr	id/19c			- C	x נ
Cluster Resour	ces				^
ora.ASMNET1LSN	R_ASM.lsi	nr(ora.asmgrou	up)		
1	ONLINE	ONLINE	oel8db1	STABLE	
2	ONLINE	ONLINE	oel8db2	STABLE	
3	OFFLINE	OFFLINE		STABLE	
ora.DATA.dg(or	a.asmgro	up)			
1	ONLINE	ONLINE	oe]8db1	STABLE	
2	ONLINE	ONLINE	oe18db2	STABLE	_
3	ONLINE	OFFLINE		STABLE	
ora.LISTENER_S	CAN1.lsn	r			
1	ONLINE	ONLINE	oel8db1	STABLE	
ora.OCR_VOTE.d	g(ora.ası	ngroup)	W -		
1	ONLINE	ONLINE	oel8db1	STABLE	
2	ONLINE	ONLINE	oe18db2	STABLE	
3	OFFLINE	OFFLINE		STABLE	
ora.asm(ora.as	mgroup)		7.5.11.1		
1	ONLINE	ONLINE	oel8db1	Started,STABLE	
2	ONLINE	ONLINE	oe I 8db2	Started,STABLE	
3	OFFLINE	OFFLINE		STABLE	
ora.asmnet1.as	mnetwork	(ora.asmgroup))		
1	ONLINE	ONLINE	oe]8db1	STABLE	
2	ONLINE	ONLINE	oe I 8db2	STABLE	
3	OFFLINE	OFFLINE		STABLE	~

8. DB 엔진 설치

압축 해제(1번 노드, oracle 유저)

- # cd \$ORACLE_HOME
- # unzip /oracle/media/V982063-01.zip

설치 진행(1번 노드, oracle 유저, xclock 가능한 세션)

- # cd \$ORACLE_HOME
- # ./runInstaller

Software만 설치 진행(뒤에 DBCA로 DB 따로 구성)

Solution Oracle Database 19c Installer -	Step 1 of 9				_		×
Select Configuration Op	tion			19 °	Data		-e.
Select Configuration Option Configuration Option Database Installation Option Install Type Typical Installation Root script execution Prerequisite Checks Summary Install Product Finish	 Select any of the following insta Create and configure a sing This option creates a starte Set Up Software Only Note 1: For RAC install, do 'Set Assistant) from the oracle hom Note 2: To upgrade an Oracle D (Database Upgrade Assistant) f 	all options. Ile instance datab er database. Up Software Only e. Patabase, do 'Set rom the oracle ho	ase. ' and then execute Up Software Only' me.	DBCA (Datal and then ex	Data	onfigurat BUA	ion
					stall		
<u>H</u> elp			< <u>B</u> ack <u>N</u> ex	t >	stall	Can	cel

RAC 선택

_		
🛓 Oracle Database 19c Installer - S	Step 2 of 9 — C) X
Select Database Installat	ion Option 19° ORA	Se
Configuration Option Database Installation Opt Install Type Typical Installation Prerequisite Checks Summary Install Product Finish	Select the type of database installation you want to perform. Single instance database installation Social Application Clusters database installation	
<u>H</u> elp	< <u>Back</u> <u>N</u> ext > Install	Cancel

노드 확인(2번 선택 필수)

Gracle Database 19c Installer -	Step 3 of 1	D						-		\times
Select List of Nodes							19 °	Data	RAC abase	LE.
	Selectin RAC or (odes (in addition Dracle RAC One.	n to the local r	iode) in th	e cluster wh	ere the ir	nstaller sh	ould in:	stall Ora	cle
T Database Installation Options					Node name					
Nodes Selection	✓ 1	oel8db1								_
🗼 Install Type	2	oel8db2								_
Typical Installation										
Root script execution										
Prerequisite Checks										
y summary										
Install Product										
Ó Finish										
	SSH c	onnectivity					Select a		eselect	all
↓ ////// ↓										
Help					< Back	Next	> 1	stall	Car	ncel

설치 edition 선택

4	Oracle Database 19c Installer - S	tep 4 of 11 -		\times
Se	lect Database Edition		RACL abase	-E.
	Configuration Option Database Installation Options Nodes Selection Database Edition	 Which database edition do you want to install? Enterprise Edition Oracle Database 19c Enterprise Edition is a self-managing database that has the sperformance, high availability, and security features required to run the most dem mission-critical applications. Ended and Edition 2 	anding,	
	Operating System Groups Root script execution Prerequisite Checks Summary Install Product Finish	Oracle Database 19c Standard Edition 2 is a full-featured data management solution suited to the needs of medium-sized businesses.	on ideally	
	Help	< Back Next > Install	Can	cel

설치 위치 확인

🔮 Oracle Database 19c Installer - S	Step 5 of 11			-		×
Specify Installation Locat	ion		19 °	Of Data	RACI abase	_E .
Configuration Option	Specify a path installation ov	to place all Oracle software and configurationer. This location is the Oracle base directo	on-related files instal ry for the installation	led by owne	this r.	
Vodes Selection	<u>O</u> racle base:	/oracle/app/oracle		-	Browse	ə
 <u>Database Edition</u> 						
Installation Location	This software	directory is the Oracle Database home direc	tory.			
Operating System Groups	Software loca	tion: /oracle/app/oracle/product/19c				
Root script execution						
• Prerequisite Checks						
y Summary						
 Install Product 						
J Finish						
Help		< <u>B</u> ack	Next >	stall	Can	icel

그룹 설정

	4	Oracle Database 19c Installer - S	tep 6 of 11	-		×
	Pr	ivileged Operating Syst	tem groups 19 ^c	OR Datal	ACL	.e
		Configuration Option Database Installation Options Nodes Selection Database Edition Installation Location Operating System Groups Root script execution Prerequisite Checks Summary Install Product Finish	SYS privileges are required to create a database using operating system (OS) a Membership in OS Groups grants the corresponding SYS privilege, eg. members grants the SYSDBA privilege. Database Administrator (OSDBA) group: Database Operator (OSOPER) group (Optional): Database Backup and Recovery (OSBACKUPDBA) group: Data Guard administrative (OSDGDBA) group: Encryption Key Management administrative (OSKMDBA) group: Beal Application Cluster administrative (OSRACDBA) group: dba •	uthentic	ation. DSDBA	
ĺ		Help	< Back Next > Int	stall	Canc	el

Root script 자동 실행 여부(root계정 패스워드 입력)

🗟 Oracle Database 19c Installer - S	Step 7 of 11		– 🗆 ×
Root script execution co	nfiguration	19	C ORACLE Database
Configuration Option Database Installation Options Database Installation Database Edition Database Edition Installation Location Operating System Course	During the software conf can choose to have the ii one of the options below additional prerequisite ct <u>Automatically run conf</u> Use "root" user <u>cr</u> <u>Password</u>	iguration, certain operations have to be performed as nstaller perform these operations automatically by sp . The input specified will also be used by the installer necks. iguration scripts redential	s "root" user. You secifying inputs for to perform
Operating System Groups Post script execution	Pass <u>w</u> ord . N		
Prerequisite Checks Summary Install Product Finish	O Use gudo Program path : User name : Password :	[/usr/bin/sudo	Browse
1			
Help		< <u>B</u> ack <u>N</u> ext >	Install Cancel

사전 요구사항 체크중

Solution Oracle Database 19c Installer - S	tep 8 of 11				-		×
Perform Prerequisite Che	cks			19 °	Data		Ľ€.
Configuration Option Database Installation Optione Nodes Selection Database Edition Installation Location Operating System Groups Root script execution Prerequisite Checks Summary Install Product Finish	Verifying that the targe for products you have a Checking Soft Limit: ma	t environment meets r selected. This can take aximum stack size	minimum installation a e time. Please wait. 32%	nd configura	tion rec	quiremen	nts
Help			< <u>B</u> ack Nex	d >	stall	Car	cel

Scan IP 관련 에러 무시

🛃 Oracle Database 19c Installer - S	tep 8 of 11	-	\Box ×
Perform Prerequisite Che	ecks 1		ACLE.
Configuration Option Database Installation Options Nodes Selection Database Edition Installation Location Operating System Groups Root script execution Prerequisite Checks Summary Install Product Finish	Yerification Result Some of the minimum requirements for installation are not completed. Revised in the following table, and recheck the system. Check A Ex & Check Again Show Failed Image: All Nodes Checks Checks Image: Single Client Access Name (SCAN) Single Client Access Name (SCAN) Image: DNS/NIS name service 'oel8db-scan' DNS/NIS name service 'oel8db-scan'	view and fix th Status Ignored	le issues
	This test verifies the Single Client Access Name configuration. (more detail	ils)	
<hr/>	Check Failed on Nodes: [oel8db2, oel8db1]		
Help	< Back Next >	Install	Cancel

설치 진행



설치중

🔮 Oracle Database 19c Installer - St	ep 10 of 11	-		×
Install Product	19 °	Datab	ACL ase	-e.
Configuration Option Database Installation Options Nodes Selection Database Edition Installation Location	Progress- 12% instantiating '/oracle/app/oracle/product/19c/network/install/sbs/netmgr.sbs'. Status			
Operating System Groups Root script execution Prerequisite Checks Summary Install Product Finish	Configure Local Node Prepare Setup Copy Files to Remote Nodes Prepare Setup Setup Setup Setup Setup Setup	In Pr In Pr Penc Penc Penc Penc Penc Penc Penc Penc	ogres: ogres: Jing Jing Jing Jing Jing Jing Jing	<i>S S</i>
Help	Details Revert All Rever 19° ORACLE Stabase	t <u>R</u> etry) <u>S</u> i	<pre></pre>

Root script 실행 여부(YES)



설치 종료(CLOSE)

State Oracle Database 19c Installer -	Step 11 of 11			-		×
Finish		1	9 °	OR Datal	ACL base	- E.
Configuration Option Database Installation Option Database Installation Option Database Edition Installation Location Operating System Groups Root script execution Prerequisite Checks Summary	The registration of Oracle Database was successful.					
Finish		ack Nevt ~		tall		

10. DBCA로 DB 생성

DBCA 수행(1번 노드, oracle 계정, xclock 가능한 세션)

\$ dbca

데이터베이스 생성



생성 모드 선택

19 ^c	עסר		
	ataba	ACL ase	.e
SM)		rowse	
	SM)	SM) B B Character set	SM) Browse. Browse. Browse. Browse. SH Browse. Browse

Deployment type 선택(반드시 custom database 선택)

🛓 Database Configuration Assistan	nt - Create a database -	Step 3 of 14		– 🗆 X
Select Database Deployn	nent Type		19 °	ORACLE [.] Database
Database Operation <u>Creation Mode</u> Deployment Type Database Identification Storage Option Fast Recovery Option Database Options Configuration Options Management Options User Credentials Creation Option	Select the type of d <u>D</u> atabase type: Configuration type: Select a template fr Templates that incl database quickly. U to change attributer Data Warehouse Custom Database General Purpos	latabase you want to create. Oracle Real Application Cluster (RAC) Admin Managed or your database. ude datafiles contain pre-created datab lse templates without datafiles only wh s like block size that cannot be altered see or Transaction Processing	datab asses. They allow you t en necessary, such as after database creation Include datafi Yes No Yes	o create a new when you need <u>View details</u> <u>View details</u> <u>View details</u>
Progress Page Finish	Template location: .	/oracle/app/oracle/product/19c/assistar 	nts/dbca/templates	Change

노드 선택(2번 반드시 선택)

4	Database Configuration Assist	ant -	Cre	ate	a database - Step 4 of 16		-		×
Se	lect List of Nodes					19	C Ol Dat	RAC abase	LE.
Ŷ	Database Operation Creation Mode		Sele sho	ect uld	he nodes on which you want to create the cluster database always be selected.	. The loca	l node "o	el8db1"	
	Deployment Type			_	Node name				
	Nodes Selection		 Image: A = 1 Image	2	pel8db2				
J	Database Identification	-							
ļ	Storage Option								
0	Fast Recovery Option								
0	Database Options								
4	Configuration Options								
0	Management Options								
4	User Credentials								
4	Creation Option								
4	Prerequisite Checks								
4	Summary								
Ý	Progress Page								
6	Finish			_					
						<u>S</u> el	ect all	Deselec	t all
		Ιr							
_							marah		
	Helb				< Back Ne>		Finish	Car	ncel

SSH 관련 에러는 무시했음

글로벌 DB 이름 설정

🔬 Database Configuration Assistan	nt - Create a database - Step	5 of 16		-		×
Specify Database Identif	ication Details		19 °	OF Data		_€ .
Database Operation Creation Mode Deployment Type Nodes Selection Database Identification Storage Option Past Recovery Option Database Options Configuration Options User Credentials Creation Option Prerequisite Checks Summary Progress Page Finish	Provide a unique databa Global database name, Global database name: SJD Prefix: Service name: Create as Container A Container database and it enables data pluggable databaset Use Local Undo ta Create an empty Create a container Nymber of PDBs: PDB name:	Ase identifier information. An Oracle of typically of the form "name.domain". ORADB ORADB ORADB database de can be used for consolidating multi ase virtualization. A Container databas (PDB). ablespace for PDBs Container database er database with one or more PDBs 1 1 pdb	atabase is unique]]] ple databases into se (CDB) can have	a singl zero or	fied by a	9.95e,
Help		< <u>B</u> ack	<u>N</u> ext > E	nish	Car	icel

STORAGE 선택

🛓 Database Configuration Assista	nt - Create 'ORADB' database - Step 6	5 of 16		- 0	×
Select Database Storage	Option		19°	ORACI Database	_ €'
Database Operation Creation Mode Deployment Type Nodes Selection Database Identification Storage Option Database Option Database Options Configuration Options User Credentials Creation Option Prerequisite Checks Summary Progress Page Finish	 Use template file for databas Storage type and location for (Custom Database). Use following for the databas All the database files will be I and location of each datafile Database files storage type: Database files location: Oracle Managed files option datafiles for simplified datab Use Qracle-Managed Files 	e storage attributes database files will be pick e storage attributes put at the specified location in the subsequent screen. Automatic Storage Manag (+DATA/{DB_UNIQUE_NAM will enable Oracle to autom ase management. (OMF)	ed up from the specifie h below. You can custo gement (ASM) E} tatically generate the n Multiplex redo logs a File loc	ed template mize the nam Brows Brows names of the nd control file	e e s
Help]	< <u>B</u> ack	<u>N</u> ext > <u>F</u> ini	sh Can	cel

RECOVERY OPTION

Database Configuration Assistar	it - Create 'ORADB' database - Step 7 tion	7 of 16	- D
 Database Operation Creation Mode Deployment Type Nodes Selection Database Identification Storage Option Fast Recovery Option Database Options Configuration Options Management Options User Credentials Creation Option Prerequisite Checks Summary Progress Page Finish 	Choose the recovery options for Specify East Recovery Area Recovery files gtorage type: Fast Recovery Area: Fast Recovery Area size: Enable archiving Edit grchi	the database. Automatic Storage Management (ASM) +OCR_VOTE 7851 MB ve mode parameters	Browse
Help		< Back Next >	Finish

구성요소 선택

🔬 Database Configuration Assistant - C	Create 'ORADB' database - Step	8 of 16			-		×
Select Database Options				19 °	OR Data	base	.e.
Database Operation Creation Mode Deployment Type Nodes Selection Database Identification Storage Option Fast Recovery Option Database Options Configuration Options User Credentials Creation Option Prerequisite Checks Summary Progress Page Finish	Database <u>components</u> elect the standard database in racle recommends that you a rese components may cause ubsequent page. elect Component] Oracle [VM] Oracle [M] Oracle [ext] Oracle Multimedia] Oracle OLAP] Oracle OLAP] Oracle Spatial] Oracle Label Security] Oracle Label Security] Oracle Database Yault	components you v always install thes you to no longer l Tablespace SYSAUX * SYSAUX * SYSAUX * SYSAUX * SYSAUX * SYSAUX * SYSAUX *	vant to configure f e components in y se able to choose	or use in you rour database some compo	r databa , Desel nents o	ase. ecting n the	
Help			< <u>B</u> ack <u>N</u> e	xt > E	nish	Can	cel

메모리 구성(사이즈는 권장 사항 그대로 따름)

Database Operation	Memory Sizing	<u>C</u> haracter sets	Connection mode	Sampl <u>e</u> schem	as	
Creation Mode Deployment Type Nodes Selection	 <u>Use Automatic Sh</u> S<u>G</u>A size: <u>P</u>GA Size: 	1176 ÷	MB MB MB	1569	3924	
Storage Option Fast Recovery Option <u>Database Options</u>	○ Use Manual Share Shared pool size Buffer cache size	e <u>d</u> Memory Manag :: e:		MB V		
Configuration Options Management Options User Credentials Creation Option	java pool size: Large pool size: <u>P</u> GA size:			MB V		
Prerequisite Checks Summary Progress Page	Total memory fo Use <u>A</u> utomatic Me Memory <u>t</u> arget:	r database 0 MB emory Managemer 1569 MB	nt			399
Finish			490	1569	3924	

캐릭터 셋 선택

4	Database Configuration Assistan	t - Create 'ORADB' database	e - Ste	p 9 of 16	-		\times
Sp	ecify Configuration Op	tions		19	Data	RACI abase	- E.
0-0-0-0-0-0-0-0-0-0-0-0	Database Operation Creation Mode Deployment Type Nodes Selection Database Identification Storage Option Fast Recovery Option Database Options Configuration Options Management Options User Credentials	Memory Sizing CH The database character Use Unicode (AL32UT Setting character se Use OS <u>c</u> haracter se Character set is bas Ochoose from the list D <u>a</u> tabase character	naract F8) t to U t (WE) ed on of ch set:	er sets Connection mode Sample schemas determines how character data is stored in the da nicode (AL32UTF8) enables you to store multiple I SMSWIN1252) the language setting of this operating system. aracter sets KO16MSWIN949 - MS Windows Code Page 949 Ko Show recommended character sets only	anguago orean	e groups	
	Creation Option Prerequisite Checks Summary Progress Page Finish	Natjonal character set: Default <u>l</u> anguage: Default <u>t</u> erritory:	ALLO	SUTF16 - Unicode UTF-16 Universal character set rican ed States			
	Help			< <u>B</u> ack <u>N</u> ext >	inish	Can	cel

Dedicated server mode



EM 체크 해제

🛓 Database Configuration Assistan	nt - Create 'ORADB' database - Step 10 of 16		– 🗆 X
Specify Management Op	tions	19	Database
Database Operation Creation Mode Deployment Type Nodes Selection Database Identification Storage Option Fast Recovery Option Database Options Configuration Options User Credentials Creation Option Prerequisite Checks Summary Progress Page Finish	Specify the management options for the datab Run Cluster Verification Utility (CVU) checks Configure Enterprise Manager (EM) database EM database express port: 5500 Begister with Enterprise Manager (EM) cloud QMS host: OMS port: EM admin username: EM admin password: ASMSNME user password:	ase. periodically e express d control	
Help		< Back Next >	Einish Cancel

관리자 패스워드 설정

Database Configuration Assistan	at Create 'OBADB' database. Step 11 of 16
Balabase Configuration Assistan	
Specify Database User C	redentials 10° ORACLE
	Database
Database Operation Creation Mode Deployment Type Nodes Selection Database Identification Storage Option Past Recovery Option Database Options Configuration Options Management Options User Credentials Creation Option Prerequisite Checks Summary Progress Page Finish	You must specify passwords for the following user accounts in the new database for security reasons. Use different administrative passwords Password Confirm password SYS
Help	< Back Next > Einish Cancel

데이터 베이스 생성 옵션

🛃 Database Configuration Assista	nt - Create 'ORADB' database - Step 12 of 16	– 🗆 ×
Select Database Creatio	n Option 19 ^c	ORACLE [®] Database
Database Operation Creation Mode Deployment Type Nodes Selection Database Identification Storage Option Fast Recovery Option Database Options Configuration Options Management Options	Select the database creation options. ✓ <u>C</u> reate database Specify the SQL scripts you want to run after the database is created. The state order listed below. Post DB crgation scripts: □ Save as a database template Template name: <u>dbca_template_2023-09-12_04-37-4</u> Template location: /oracle/app/oracle/product/19c/assistants/dbca/template Degcription:	es/ Browse
Creation Option Prerequisite Checks Summary Progress Page Finish	Generate database creation scripts Destination directory: [ORACLE_BASE}/admin/{DB_UNIQUE_NAME}/scripts Following advanced configuration options can be used to configure initialization customize database storage locations. All Initialization Parameters Customize Sto	Browse parameters and prage Locations
Help	Sack Next >	nish Cancel

설치 환경 체크 중



Scan 에러 무시



다음 단계 진행(YES)



설치 설정 종료(finish)

🛓 Database Configuration Assistan	nt - Create 'ORADB' database - Step 14 of 16 - 🗆 🗙
Summary	19° Database
Database Operation Creation Mode Deployment Type Nodes Selection Database Identification Storage Option Database Option Database Options Configuration Options Management Options User Credentials Creation Option Prerequisite Checks Summary Progress Page Finish	Database Configuration Assistant Global Settings Global database name: ORADB Node List: oel8db1,oel8db2 Configuration type: Oracle Real Application Cluster (RAC) database - Admin Managed SID: ORADB Create as Container database: No Database Files Storage Type: Automatic Storage Management (ASM) Memory Configuration Type: Automatic Storage Management (ASM) Memory Configuration Type: Automatic Shared Memory Management Template name: New Database Database components Oracle JYM: Yes Initialization Parameters audit_trail: db cluster_database: true compatible: 19.0.0 db_block_size: 8192 BYTES db_create_file_dest: +DATA/{DB_UNIQUE_NAME}/ db_aname: ORADB diagnostic_dest: {ORACLE_BASE} dispatchers: (PROTOCOL=TCP) (SERVICE=ORADBXDB) family.dw_helper.instance_mode: read-only
Help	< Back Next > Finish Cancel

설치중



설치 종료

🛃 Database Configuration Assistan	nt - Create 'ORADB' database - Step 16 of 16 - 🗆 🗙
Finish	19° ORACLE Database
Database Operation Creation Mode Deployment Type Nodes Selection Database Identification Storage Option Fast Recovery Option Database Options Configuration Options User Credentials Creation Option Prerequisite Checks Summary Progress Page Finish	Database creation complete. For details check the logfiles at: //rracle/app/oracle/cfgtoollogs/dbca/ORADB. Database Information: Global Database Name: ORADB System Identifier(SID) Prefix: ORADB Server Parameter File name: +DATA/ORADB/PARAMETERFILE/spfile.268.1147367499 Note: All database accounts except SYS and SYSTEM are locked. Select the Password Management button to view a complete list of locked accounts or to manage the database accounts. From the Password Management window, unlock only the accounts you will use. Oracle strongly recommends changing the default passwords immediately after unlocking the account. Password Management
Help	< <u>B</u> ack <u>Next</u> <u>Finish</u>

DB 생성 확인

# crsctl stat res -t	
# sqlplus / as sysdba	
SQL> select instance_name, version,	status from gv\$instance;
INSTANCE_NAME VERSION	STATUS

ORADB1	19.0.0.0.0 OPEN
ORADB2	19.0.0.0.0 OPEN

Root 유저 bash_profile 수정

su – root
vi .bash_profile
(아래 등록)
grid env
export ORACLE_BASE=/oracle/app/oracle
export ORACLE_HOME=\$ORACLE_BASE/product/19c
export GRID_HOME=/oracle/app/grid/19c
export PATH=\$ORACLE_HOME/bin:\$GRID_HOME/bin:\$PATH
export LD_LIBRARY_PATH=\$ORACLE_HOME/lib:/lib:/usr/lib
export CLASSPATH=\$ORACLE_HOME/jlib:\$ORACLE_HOME/rdbms/jlib

. .bash_profile

참고 : xlock 설치 및 구동

- 1) xming 다운 및 설치 : <u>https://sourceforge.net/projects/xming/</u>
- 2) xclock 설치

# dnf config-managerenable ol8_codeready_builder					
# dnf install xorg-x11-apps					
(생략)					
Installing:					
xorg-x11-apps	x86_64	7.7-21.el8	ol8_codeready_builder	334 k	
Installing dependencies:					
xorg-x11-fonts-misc	noarch	7.5-19.el8	ol8_appstream	5.8 M	
xorg-x11-xbitmaps	noarch	1.1.1-13.el8	ol8_appstream	42 k	
Install 3 Packages					
Total download size: 6.1 N	1				
Installed size: 8.0 M					
Is this ok [y/N]: y	← 설기	← 설치 진행을 위해 y 입력			

- 3) xclock 실행
 - 1. putty실행(설치를 진행할 서버 아이피 입력)



2. 왼쪽 목록에서 SSH -> X11 설정후 접속(oracle 계정으로)



3. display 설정 및 xclock 호출

export DISPLAY=localhost:10.0
xclock