



ABLESTACK Online Docs
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Oracle 데이터베이스 구성

Oracle 데이터베이스 구성

Oracle 데이터베이스 소프트웨어 설치 및 데이터베이스를 구성하는 가이드입니다.

Info

가이드에 사용되는 입력값은 예시입니다. 필요시 환경에 맞게 변경 가능합니다.

데이터베이스 소프트웨어 구성

Oracle RAC 데이터베이스 엔진 소프트웨어를 설치합니다.

Oracle 설치 폴더 생성 및 권한설정 (노드 : 전체 / 계정 : root)

```
mkdir -p /u02/app/oracle
mkdir -p /u02/app/oraInventory
chown -R oracle:dba /u02/app/oracle
chown -R oracle:dba /u02/app/oraInventory
chmod -R 775 /u02/app
```

oracle 계정 bash_profile 수정 (노드 : node1 / 계정 : oracle)

```
su - oracle
vi .bash_profile

(추가)
export LANG=C
export ORACLE_BASE=/u02/app/oracle
export ORACLE_HOME=/u02/app/oracle/product/19.0.0/dbhome_1
export ORACLE_SID=ORA191
export LD_LIBRARY_PATH=$ORACLE_HOME/lib:/lib:/usr/lib
export NLS_LANG=AMERICAN_AMERICA.AL32UTF8
export PATH=$ORACLE_HOME/bin:$PATH

alias oh='cd $ORACLE_HOME'
```

oracle 계정 bash_profile 수정 (노드 : node2 / 계정 : oracle)

```
su - oracle
vi .bash_profile

(추가)
export LANG=C
export ORACLE_BASE=/u02/app/oracle
export ORACLE_HOME=/u02/app/oracle/product/19.0.0/dbhome_1
export ORACLE_SID=ORA192
export LD_LIBRARY_PATH=$ORACLE_HOME/lib:/lib:/usr/lib
export NLS_LANG=AMERICAN_AMERICA.AL32UTF8
export PATH=$ORACLE_HOME/bin:$PATH

alias oh='cd $ORACLE_HOME'
```

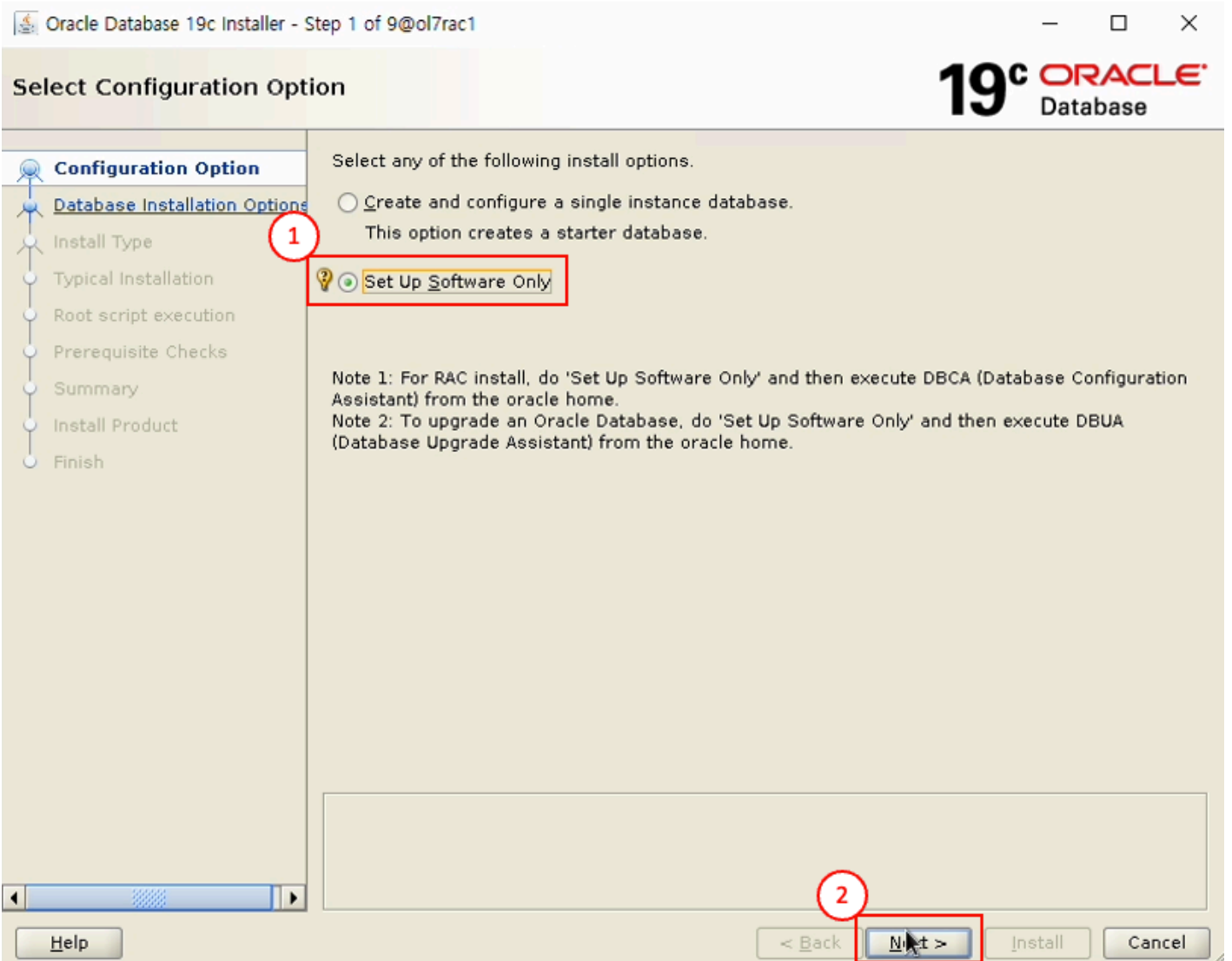
oracle 설치파일 압축 풀기 (노드 : node1 / 계정 : oracle)

```
mkdir -p /u02/app/oracle/product/19.0.0/dbhome_1
cd /u02/app/oracle/product/19.0.0/dbhome_1
unzip -q /home/STAGE/LINUX.X64_193000_db_home.zip
(1번노드에서만 풀면 됨 > 설치시 다른노드에 자동 복사함)
```

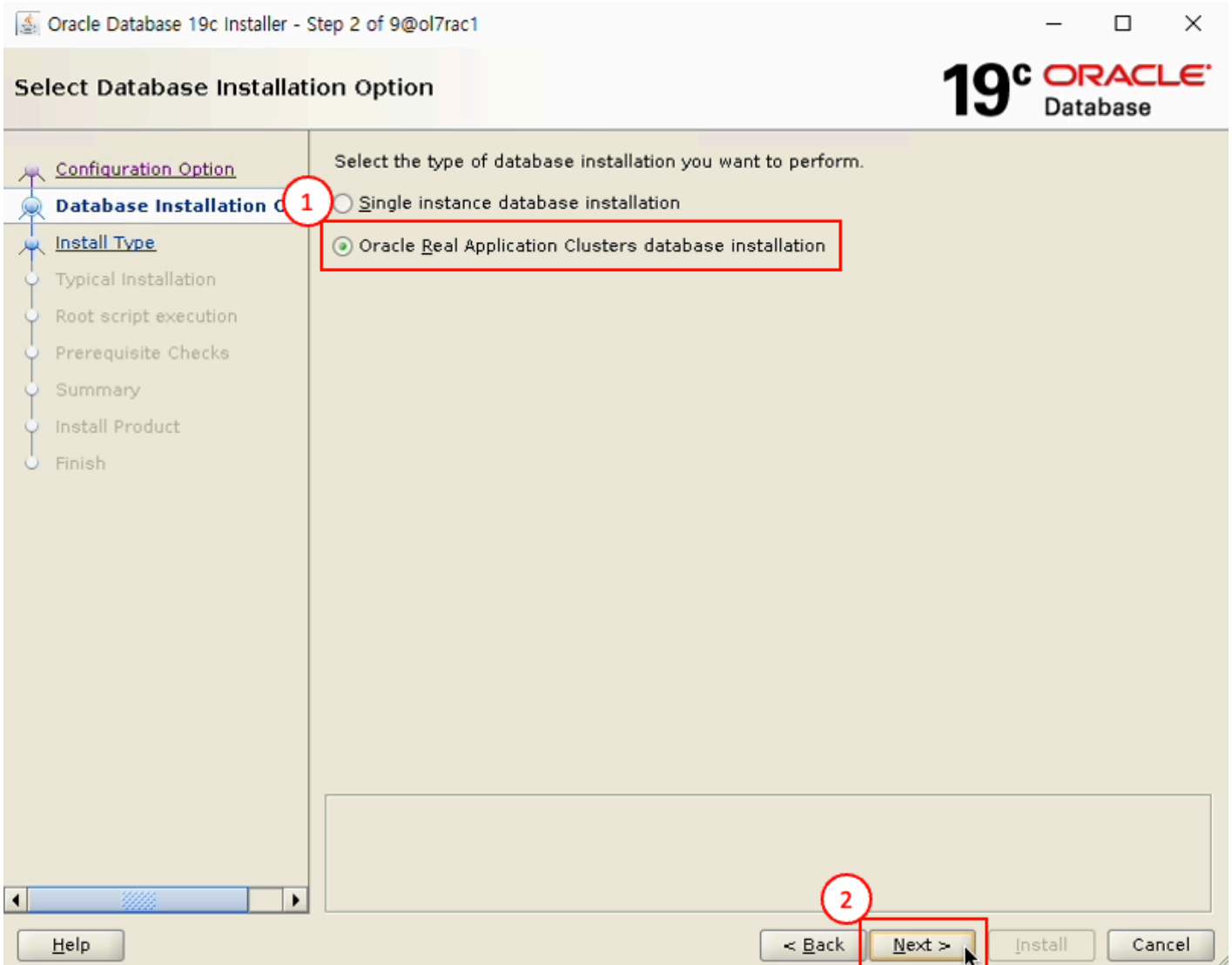
oracle 설치 ui 구동 (노드 : node1 / 계정 : oracle)

```
> 윈도우 x-trem으로 접속하여 실행 (mac os 에서는 설치 UI 화면 깨짐 / windows MobaXtrem 사용)
su - oracle

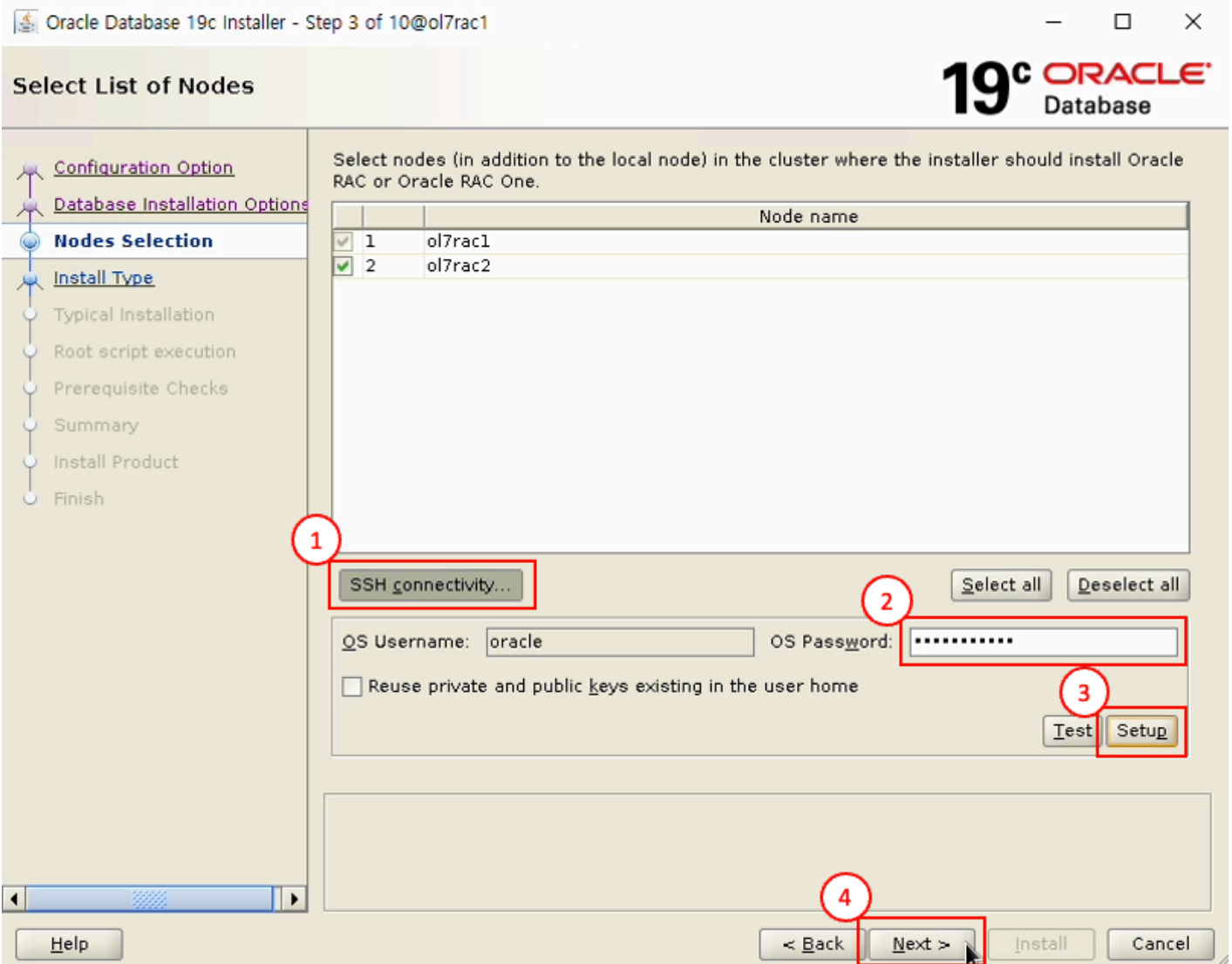
cd /u02/app/oracle/product/19.0.0/dbhome_1
./runInstaller
```



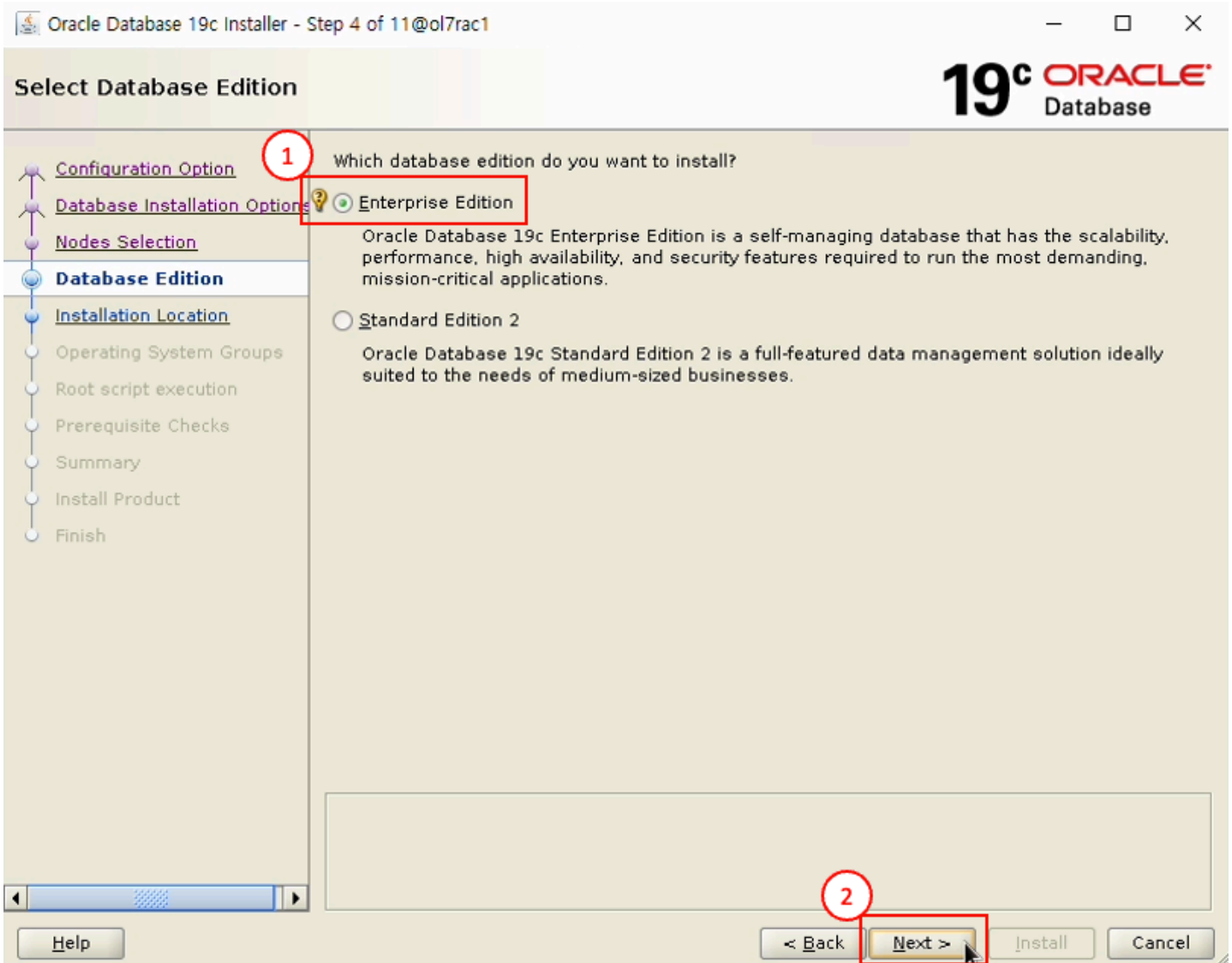
- Set Up Software Only 선택
- Next 버튼 클릭



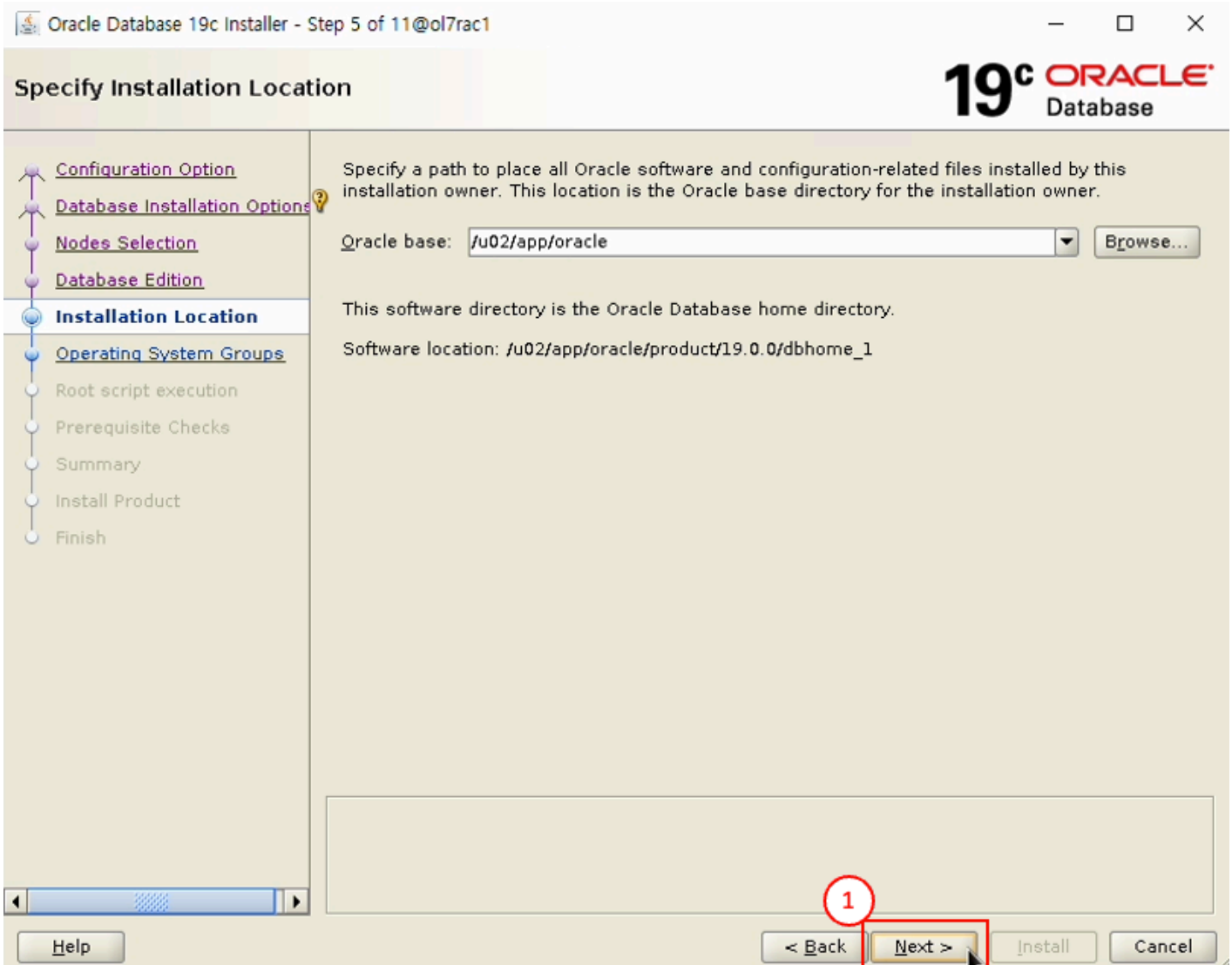
- Oracle Real Application Clusters database installation 선택
- Next 버튼 클릭



- SSH connectivity 버튼 클릭
- OS Password : oracle 계정 비밀번호 입력
- Setup 버튼 클릭
- Next 버튼 클릭



- Enterprise Edition 선택
- Next 버튼 클릭



- Next 버튼 클릭

Privileged Operating System groups



- 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) authentication. Membership in OS Groups grants the corresponding SYS privilege, eg. membership in OSDBA 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:

Real Application Cluster administrative (OSRACDBA) group:

1

2

< Back **Next >** Install Cancel

- group 을 dba로 선택
- Next 버튼 클릭

Root script execution configuration

19^c ORACLE[®]
Database

During the software configuration, certain operations have to be performed as "root" user. You can choose to have the installer perform these operations automatically by specifying inputs for one of the options below. The input specified will also be used by the installer to perform additional prerequisite checks.

Automatically run configuration scripts

Use "root" user credential

Password :

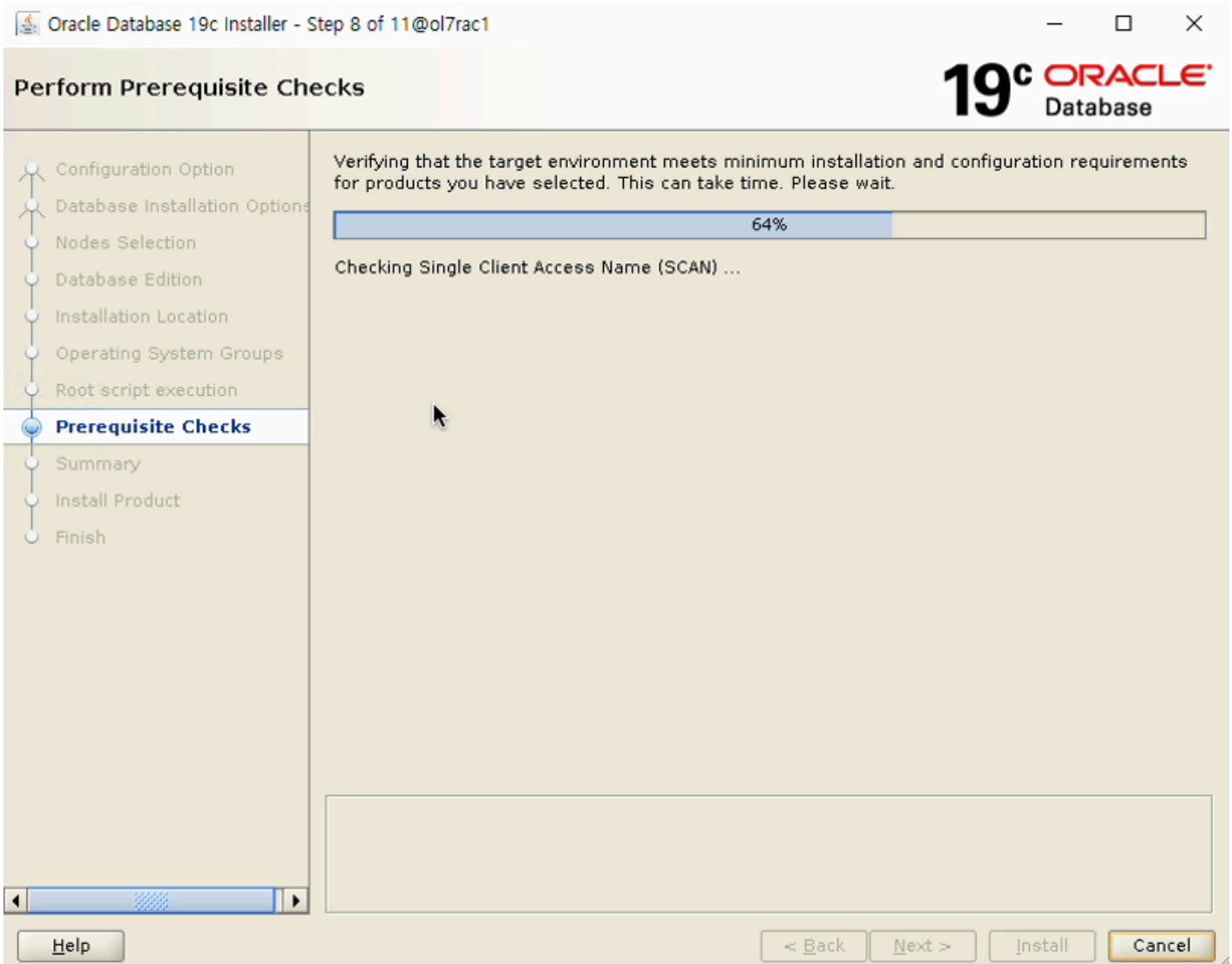
Use sudo

Program path :

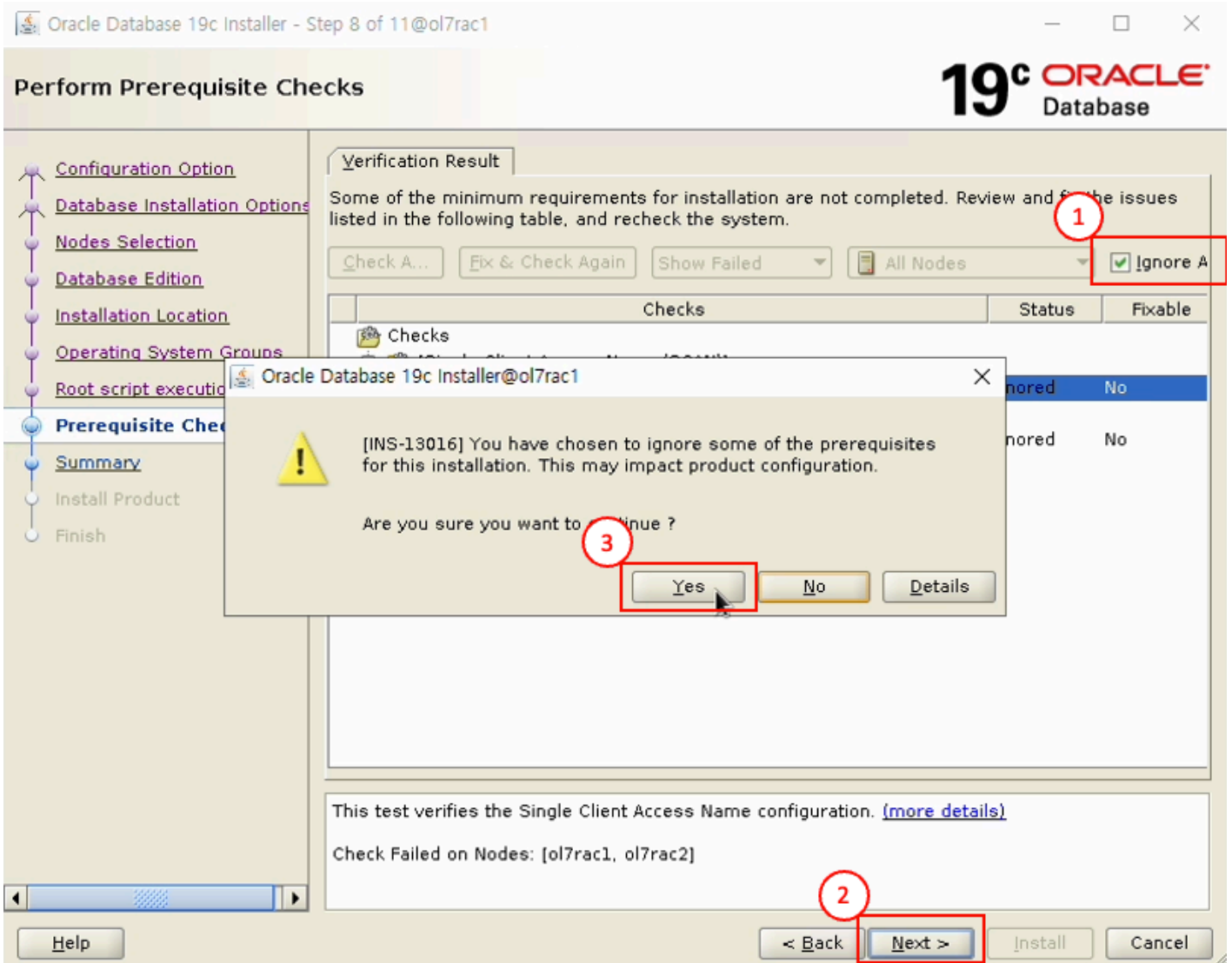
User name :

Password :

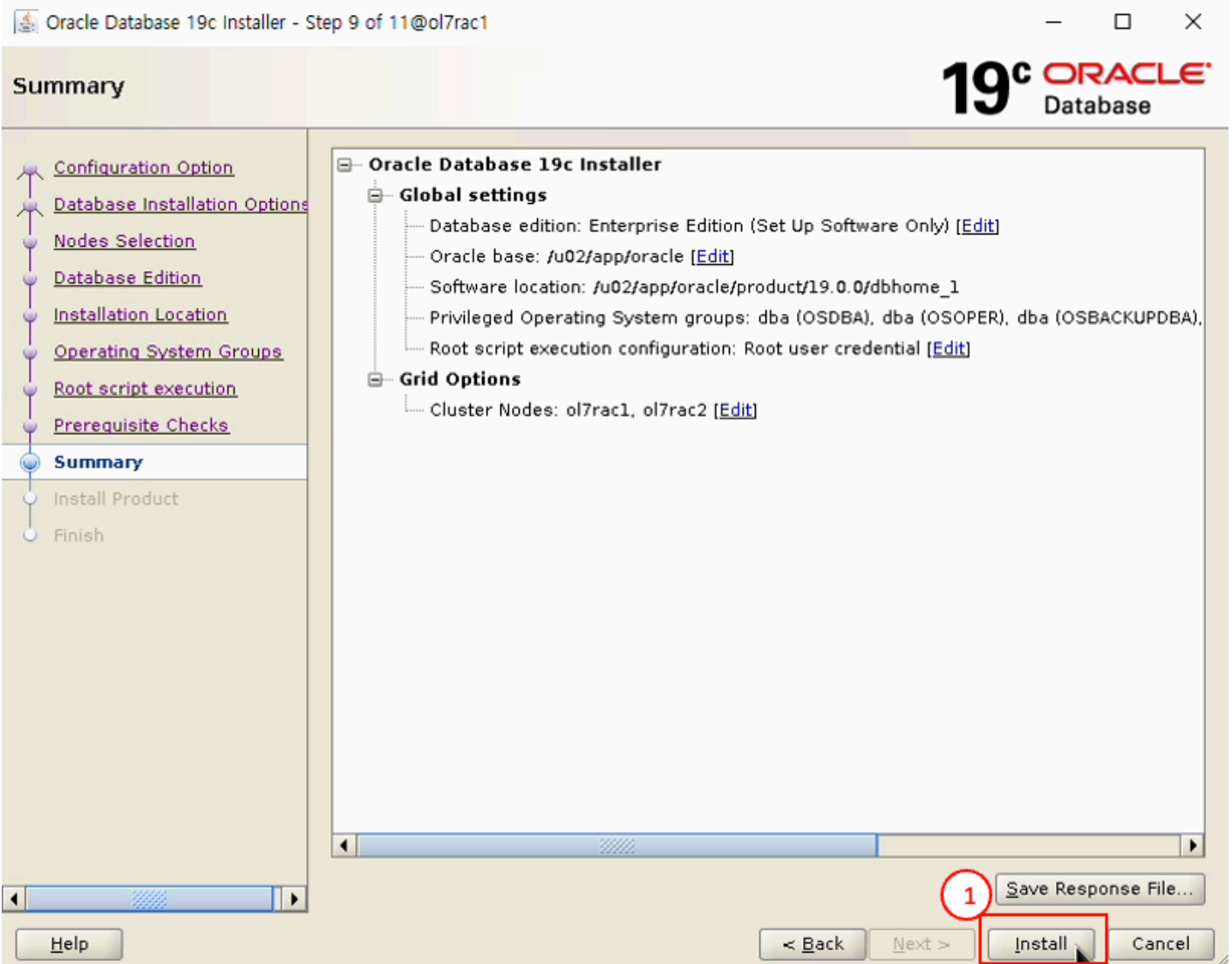
- Automatically run configuration scripts 선택
- Password 입력
- Next 버튼 클릭



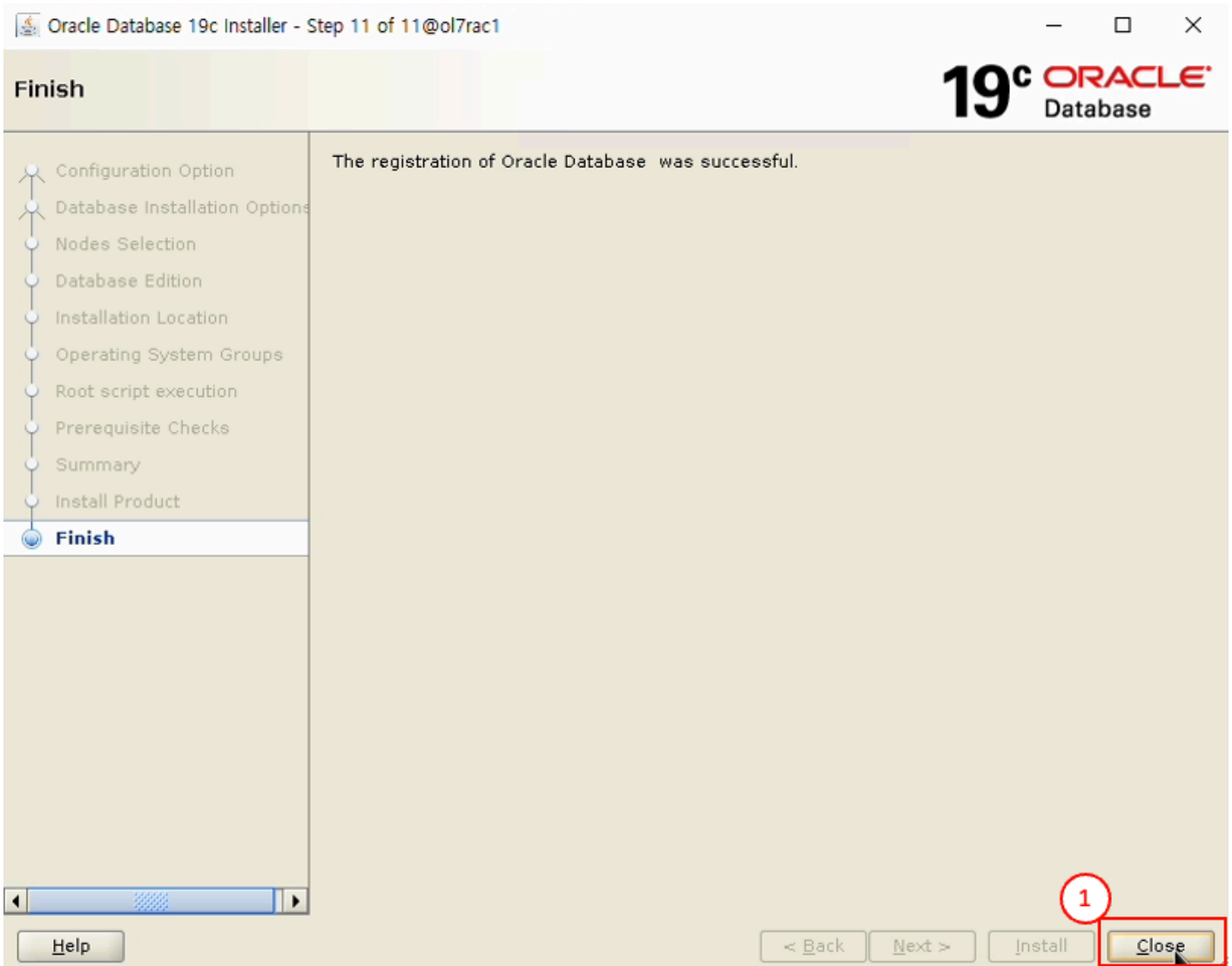
- 설치 전 체크 테스트 화면



- Ignore 선택
- Next 버튼 클릭
- Yes 버튼 클릭



- Install 버튼 클릭

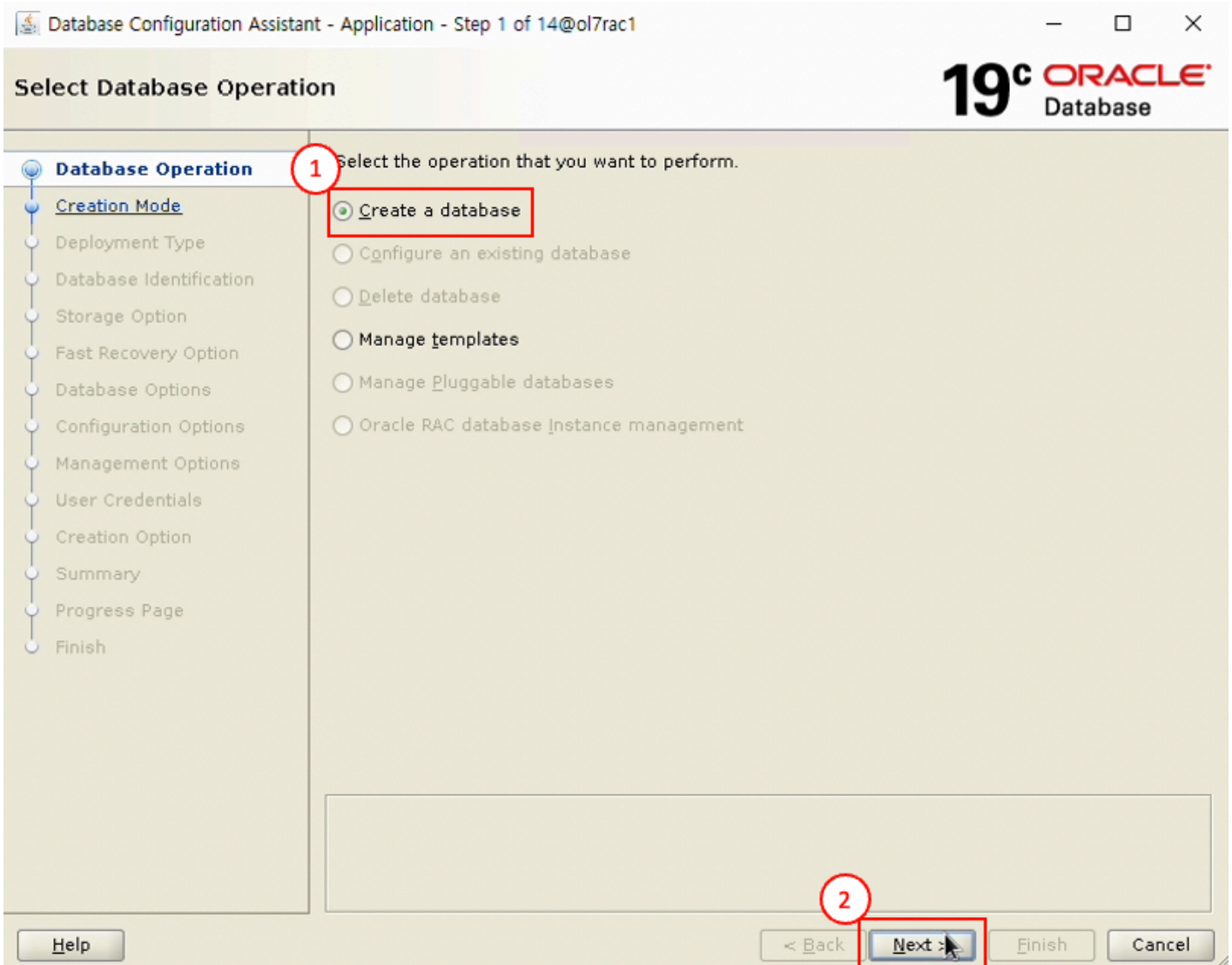


- Close 버튼 클릭

oracle 데이터베이스 구성 ui 구동 (노트 : node1 / 계정 : oracle)

```
> 윈도우 x-trem으로 접속하여 실행 (mac os 에서는 설치 UI 화면 깨짐 / windows MobaXtrem 사용)
su - oracle

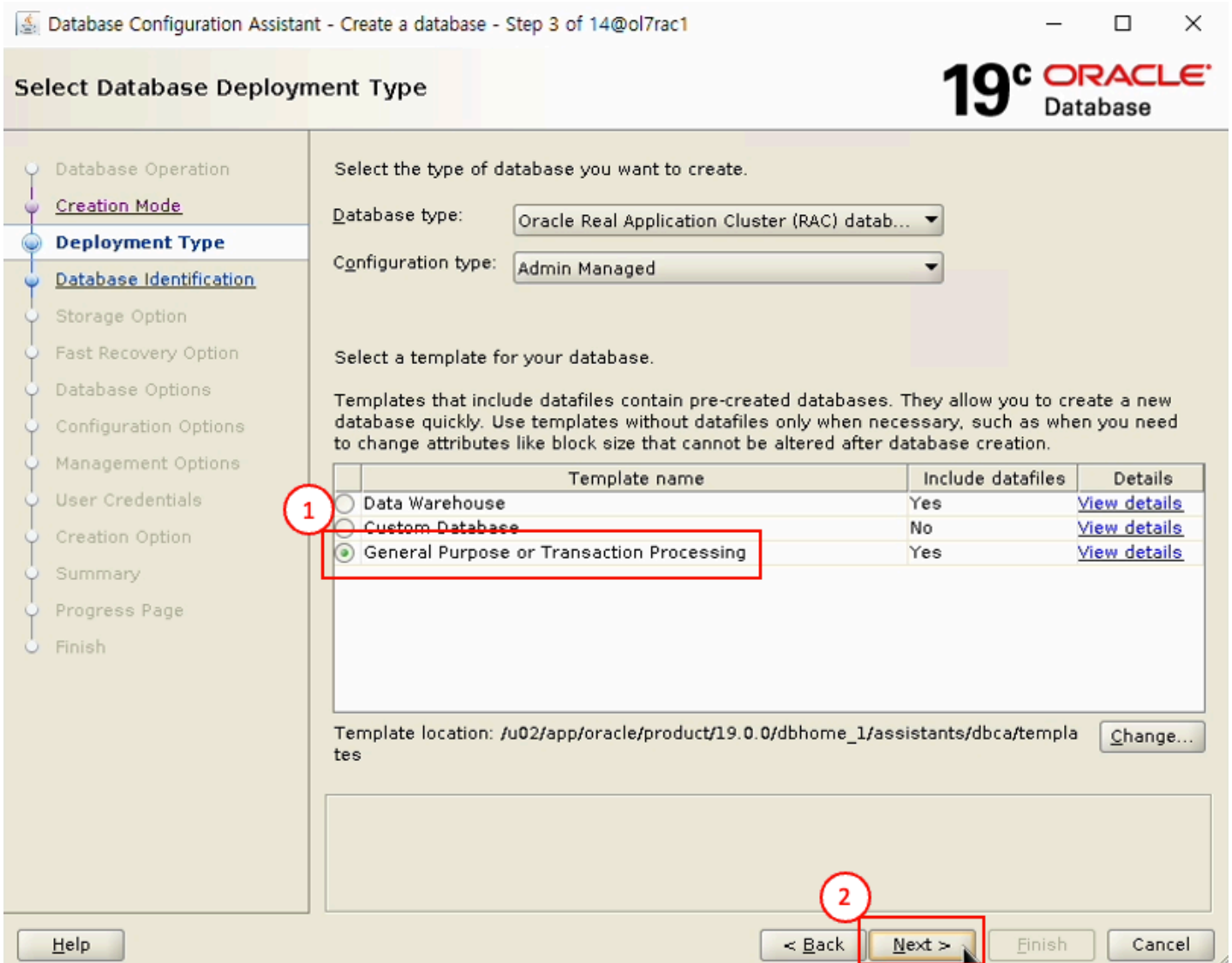
dbca
```



- Create a databases 선택
- Next 버튼 클릭



- Advanced configuration 선택
- Next 버튼 클릭



- General Purpose or Transaction Processing 선택
- Next 버튼 클릭

Select List of Nodes

- 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

Select the nodes on which you want to create the cluster database. The local node "ol7rac1" should always be selected.

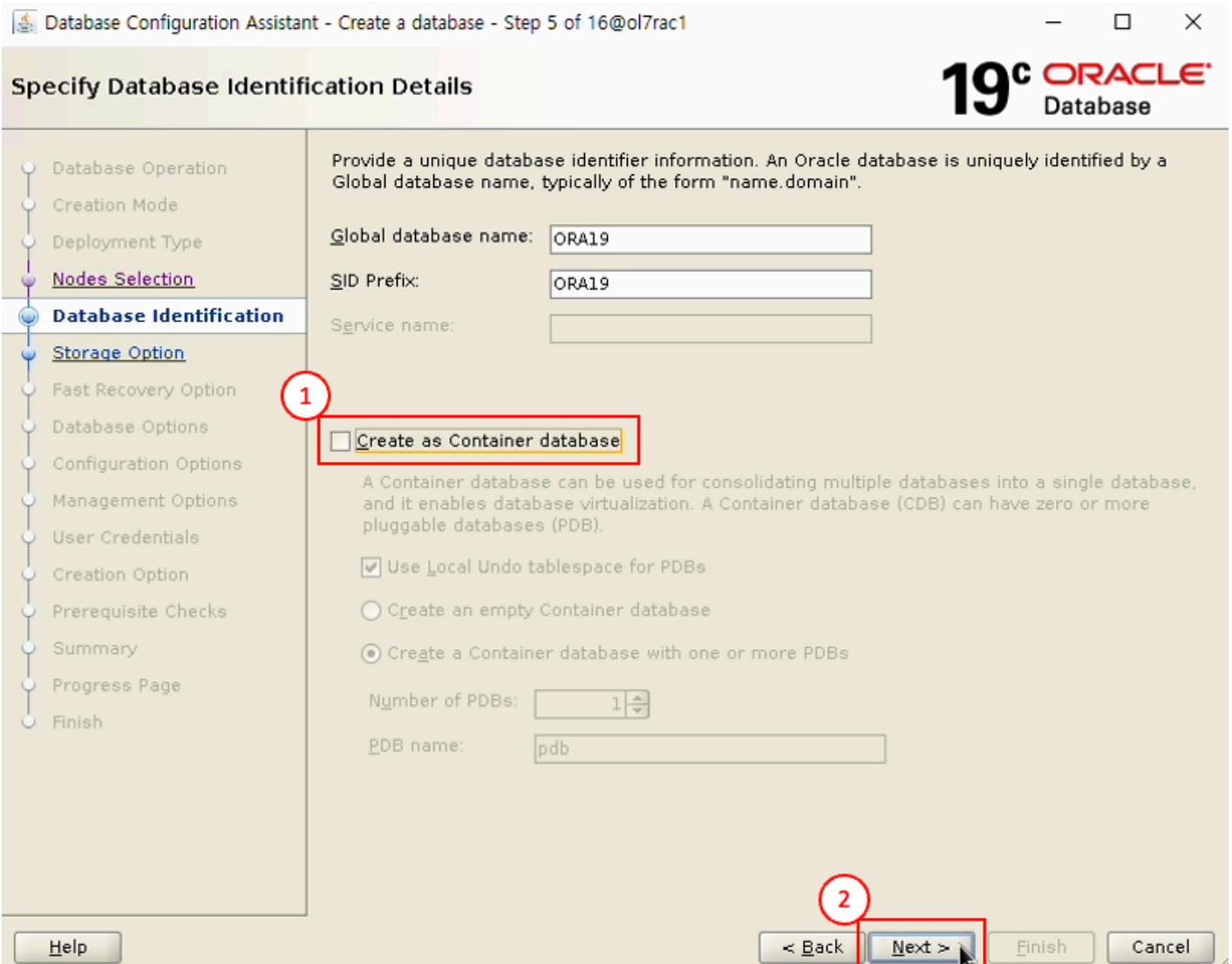
	Node name
<input checked="" type="checkbox"/>	1 ol7rac1
<input checked="" type="checkbox"/>	2 ol7rac2

Select all Deselect all

Help

< Back **Next >** Finish Cancel

- Next 버튼 클릭



- Create as Container database 해제
- Next 버튼 클릭



- Next 버튼 클릭

Select Fast Recovery Option

- 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 the database.

Specify **F**ast Recovery Area

Recovery files **s**torage type: Automatic Storage Management (ASM)

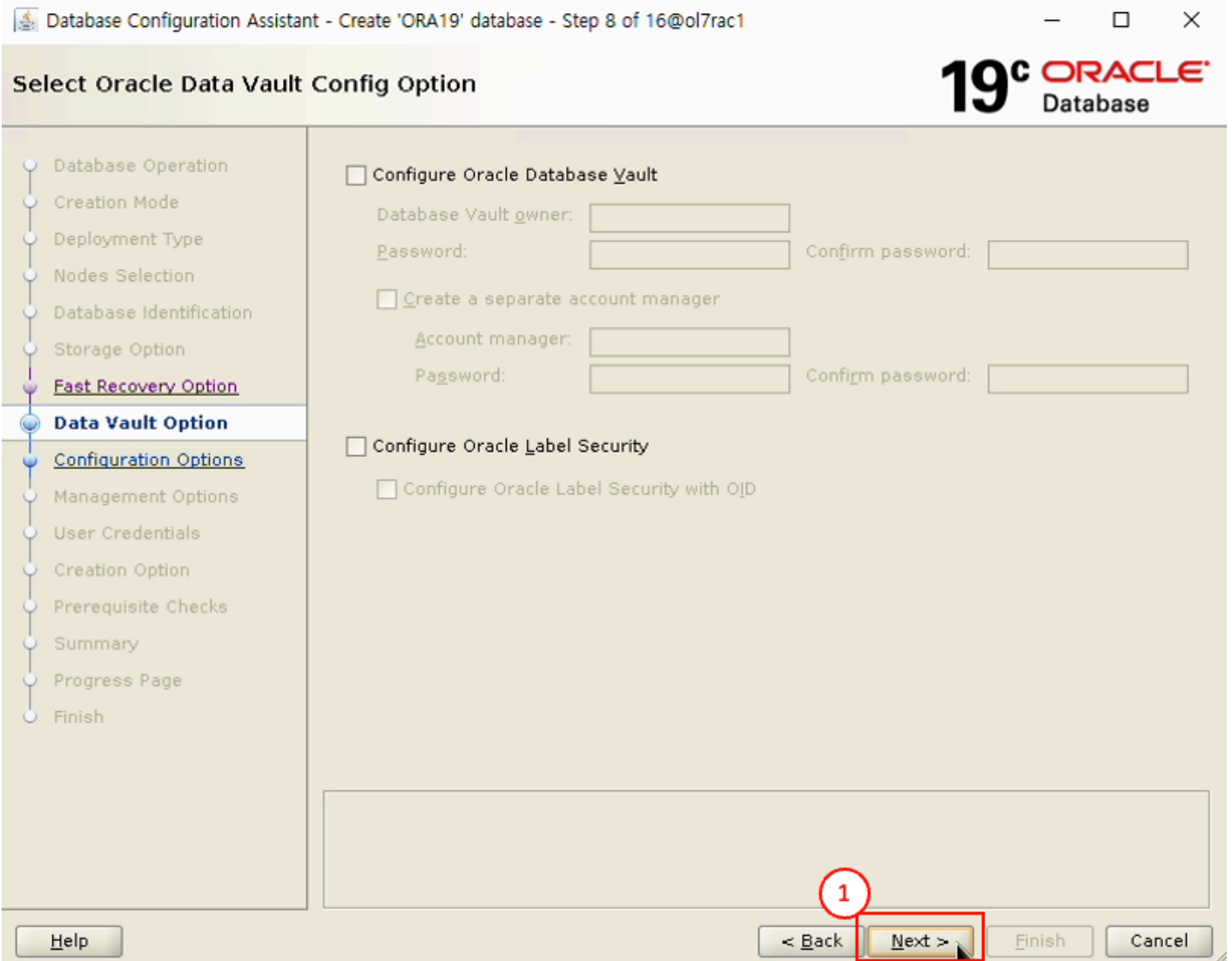
Fast **R**ecover Area: +DATA

Fast Recovery Area size: 8256 MB

Enable archiving

1

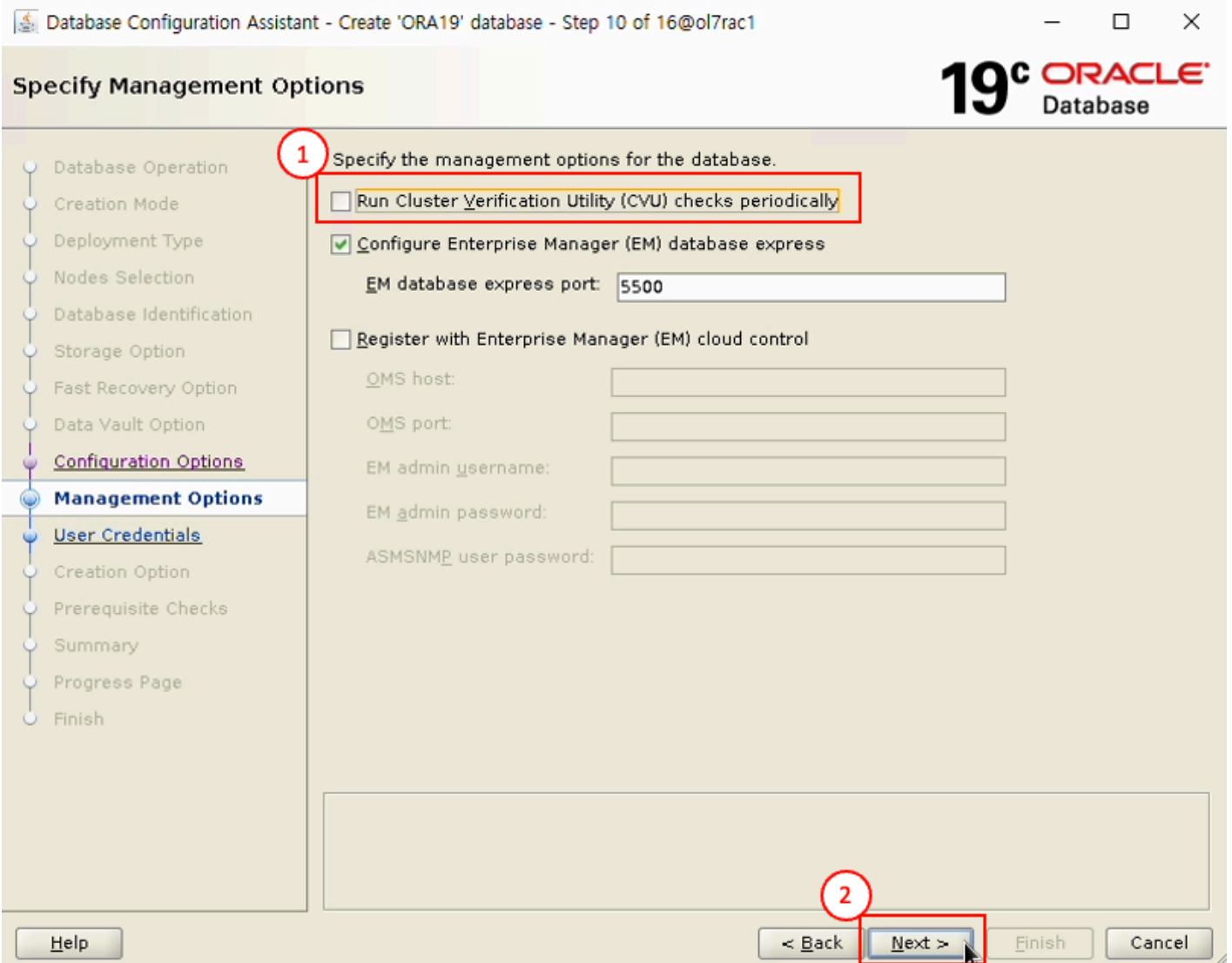
- Next 버튼 클릭



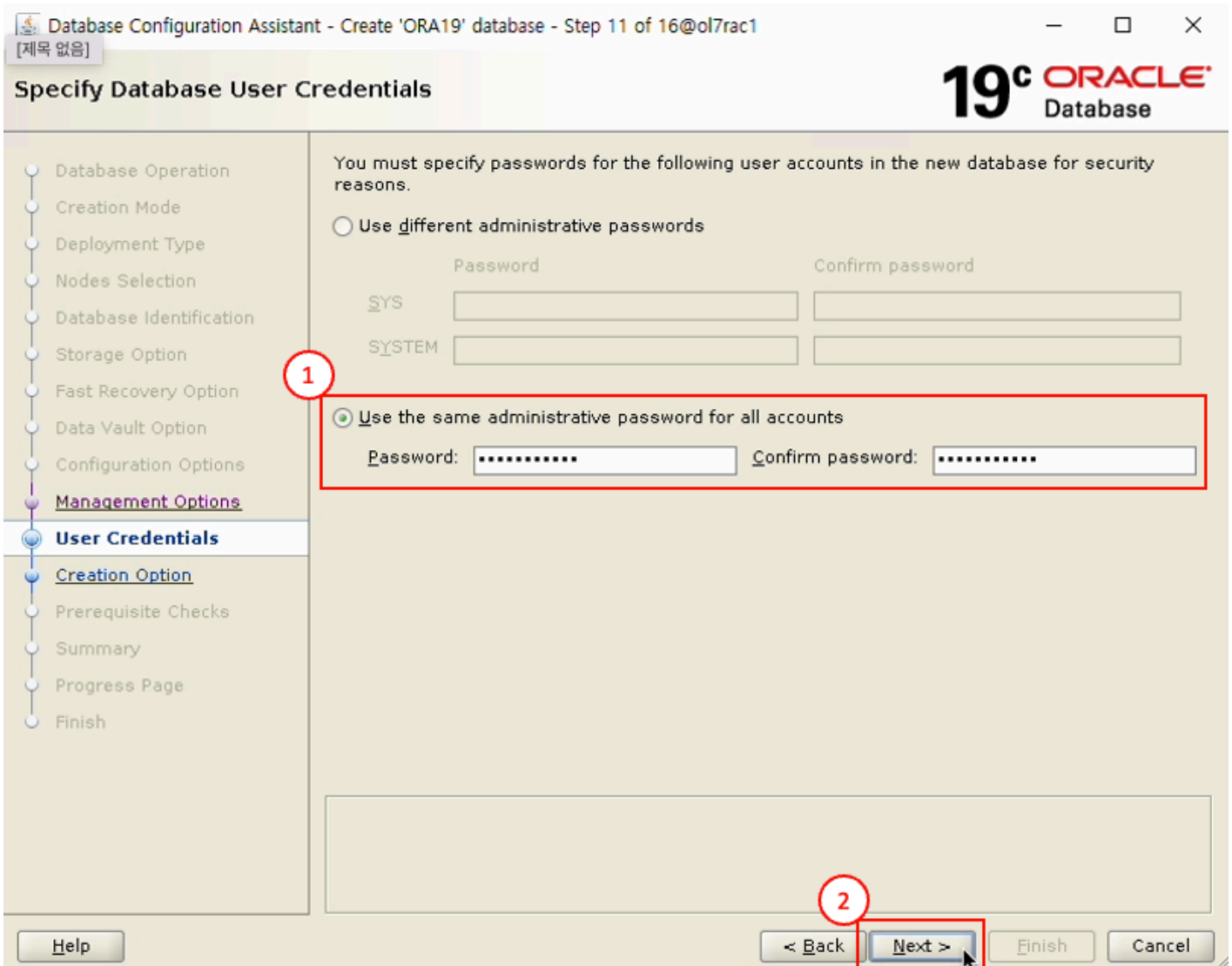
- Next 버튼 클릭



- Sample schemas 탭 클릭
- Add sample schemas to the database 선택
- Next 버튼 클릭

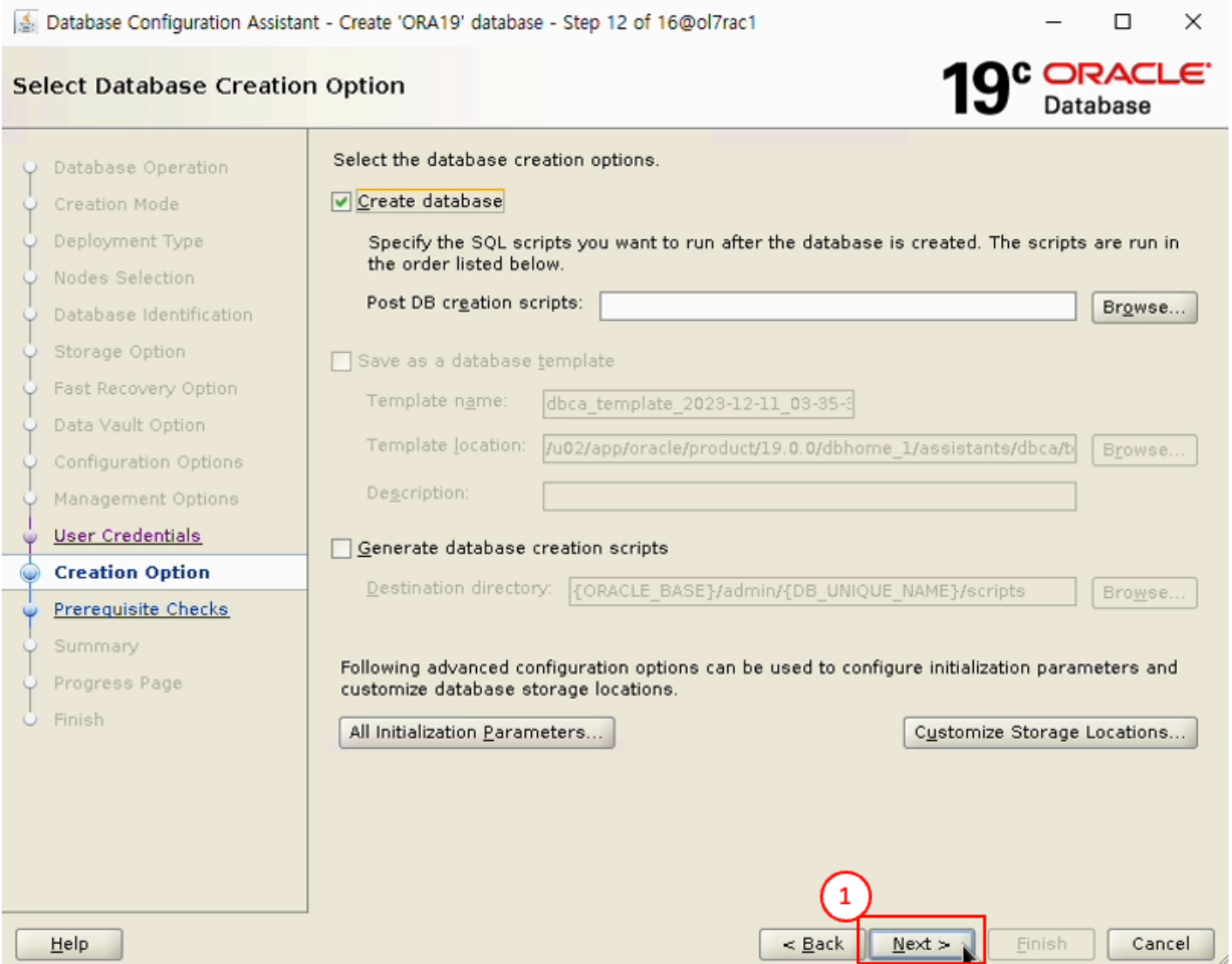


- Run Cluster Verification Utility (CVU) checks periodically 해제
- Next 버튼 클릭

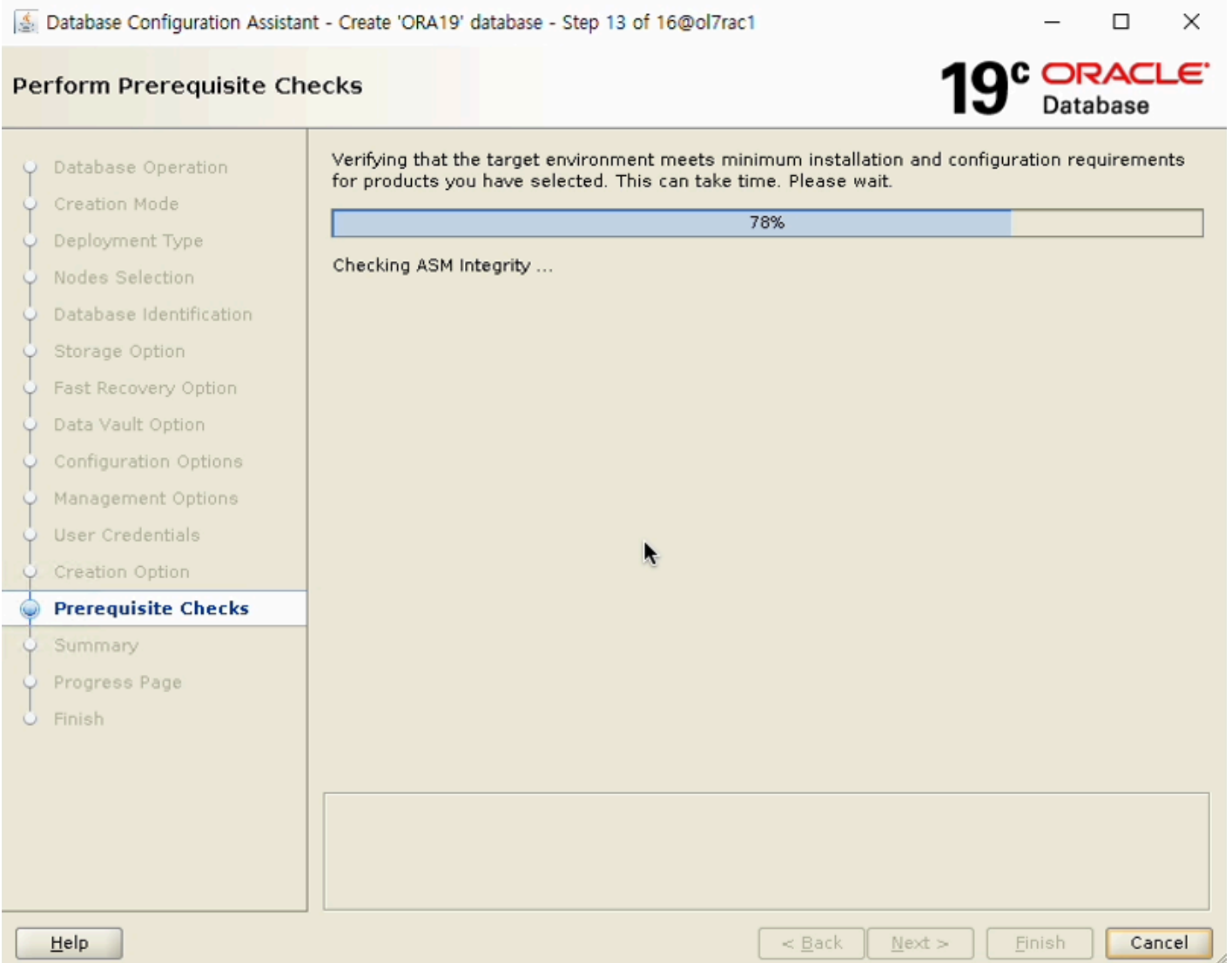


오라클 관리자 계정 비밀번호 입력

- Use the same administrative password for all accounts 선택
- 비밀번호 입력
- Next 버튼 클릭



- Next 버튼 클릭



- 설치 전 체크 테스트 화면

Database Configuration Assistant - Create 'ORA19' database - Step 13 of 16@ol7rac1

19^c ORACLE[®] Database

Perform Prerequisite Checks

Verification Result

Some of the minimum requirements for installation are not completed. Review and fix the issues listed in the following table, and recheck the system.

Ignore A

Checks	Status	Fixable
Checks	Ignored	No
	Ignored	No

Database Configuration Assistant@ol7rac1

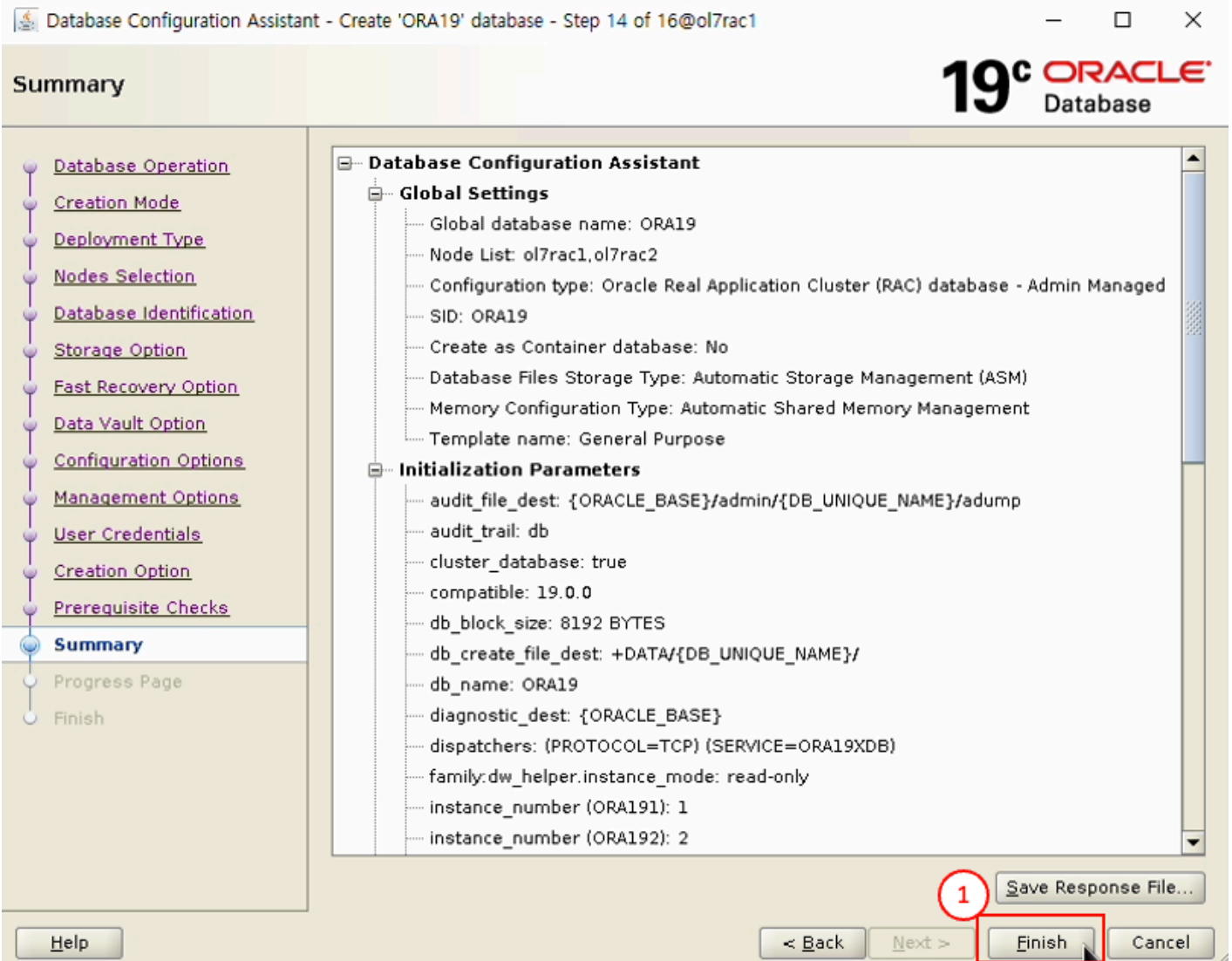
[DBT-17001] You have chosen to ignore some of the prerequisites for this DBCA operation. This may impact DBCA operation.

Are you sure you want to continue ?

This test verifies the Single Client Access Name configuration. [more details](#)

Check Failed on Nodes: [ol7rac1, ol7rac2]

- Ignore 선택
- Next 버튼 클릭
- Yes 버튼 클릭



- Finish 선택

Database Configuration Assistant - Create 'ORA19' database - Step 15 of 16@ol7rac1

19^c ORACLE Database

Progress Page

- Database Operation
- Creation Mode
- Deployment Type
- Nodes Selection
- Database Identification
- Storage Option
- Fast Recovery Option
- Data Vault Option
- Configuration Options
- Management Options
- User Credentials
- Creation Option
- Prerequisite Checks
- Summary
- Progress Page**
- Finish

Progress

71%

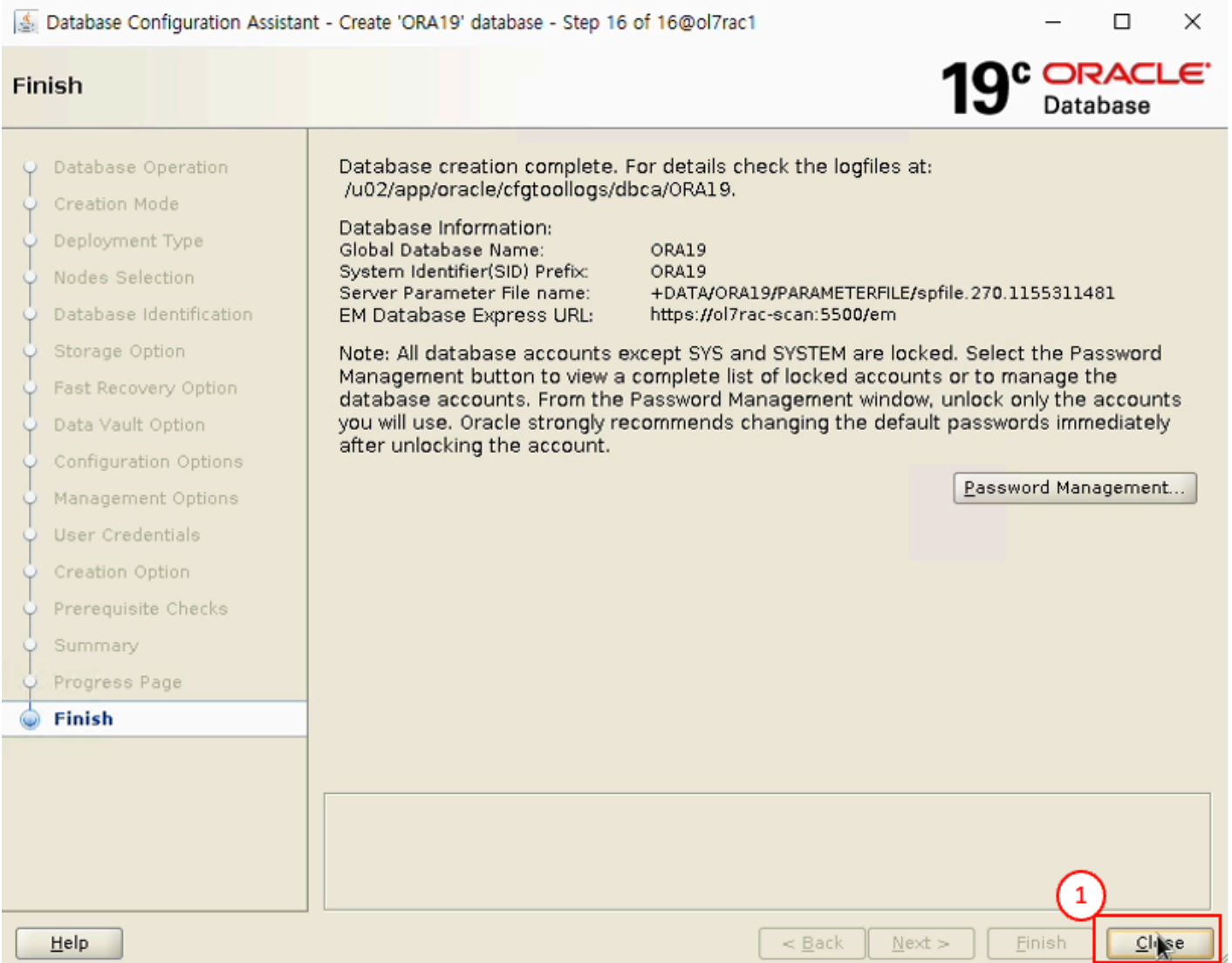
Completing Database Creation : In Progress

Status

➔ DB Creation	In Progress
• Prepare for db operation	Succeeded
• Copying database files	Succeeded
• Creating and starting Oracle instance	Succeeded
• Creating cluster database views	Succeeded
• Completing Database Creation	In Progress
• Executing Post Configuration Actions	Pending

DBCA Log Location:
 /u02/app/oracle/cfgtoollogs/dbca/ORA19/trace.log_2023-12-11_03-35-33PM
 Database Alert Log Location:
 /u02/app/oracle/diag/rdbms/ora19/ORA191/trace/alert_ORA191.log

- 설치 진행 화면



- Close 버튼 클릭

Oracle 데이터베이스 구성 완료

Oracle 데이터베이스 구성 확인 (노드 : node1 / 계정 : grid)

```
crsctl stat res -t
```

```
[grid@ol7rac1 ~]$ crsctl stat res -t
-----
Name                Target State      Server          State details
-----
Local Resources
-----
ora.LISTENER.lsnr
  ONLINE ONLINE    ol7rac1         STABLE
  ONLINE ONLINE    ol7rac2         STABLE
ora.chad
  ONLINE ONLINE    ol7rac1         STABLE
  ONLINE ONLINE    ol7rac2         STABLE
ora.net1.network
  ONLINE ONLINE    ol7rac1         STABLE
  ONLINE ONLINE    ol7rac2         STABLE
ora.ons
  ONLINE ONLINE    ol7rac1         STABLE
  ONLINE ONLINE    ol7rac2         STABLE
-----
Cluster Resources
-----
ora.ASMNET1LSNR_ASM.lsnr(ora.asmgroup)
  1 ONLINE ONLINE    ol7rac1         STABLE
  2 ONLINE ONLINE    ol7rac2         STABLE
  3 ONLINE OFFLINE   STABLE
ora.DATA.dg(ora.asmgroup)
  1 ONLINE ONLINE    ol7rac1         STABLE
  2 ONLINE ONLINE    ol7rac2         STABLE
  3 OFFLINE OFFLINE  STABLE
ora.LISTENER_SCAN1.lsnr
  1 ONLINE ONLINE    ol7rac2         STABLE
ora.LISTENER_SCAN2.lsnr
  1 ONLINE ONLINE    ol7rac1         STABLE
ora.LISTENER_SCAN3.lsnr
  1 ONLINE ONLINE    ol7rac1         STABLE
ora.asm(ora.asmgroup)
  1 ONLINE ONLINE    ol7rac1         Started,STABLE
  2 ONLINE ONLINE    ol7rac2         Started,STABLE
  3 OFFLINE OFFLINE  STABLE
ora.asmnet1.asmnetwork(ora.asmgroup)
  1 ONLINE ONLINE    ol7rac1         STABLE
  2 ONLINE ONLINE    ol7rac2         STABLE
  3 OFFLINE OFFLINE  STABLE
ora.cvu
  1 ONLINE ONLINE    ol7rac1         STABLE
ora.ol7rac1.vip
  1 ONLINE ONLINE    ol7rac1         STABLE
ora.ol7rac2.vip
  1 ONLINE ONLINE    ol7rac2         STABLE
ora.ora19.db
  1 ONLINE ONLINE    ol7rac1         Open,HOME=/u02/app/oracle/product/19.0.0/dbhome_1,STABLE
  2 ONLINE ONLINE    ol7rac2         Open,HOME=/u02/app/oracle/product/19.0.0/dbhome_1,STABLE
ora.qosmserver
  1 ONLINE ONLINE    ol7rac1         STABLE
ora.scan1.vip
  1 ONLINE ONLINE    ol7rac2         STABLE
ora.scan2.vip
  1 ONLINE ONLINE    ol7rac1         STABLE
ora.scan3.vip
  1 ONLINE ONLINE    ol7rac1         STABLE
-----
```

- ora19.db에 항목에 ol7rac1, ol7rac2 노드의 상태가 ONLINE인지 확인
- 설치 완료

RAC 테스트 구성

Oracle RAC 데이터베이스 구성후 테스트는 1번 노드와 2번 노드에서 각각 insert 쿼리를 실행하고 양방향 저장 및 조회가 정상적으로 가능한지 확인

```
[oracle@ol7rac1 ~]$
[oracle@ol7rac1 ~]$ sqlplus tester/Ablecloud1!

SQL*Plus: Release 19.0.0.0.0 - Production on Wed Dec 13 15:03:46 2023
Version 19.3.0.0.0

Copyright (c) 1982, 2019, Oracle. All rights reserved.

Last Successful login time: Wed Dec 13 2023 14:59:57 +09:00

Connected to:
Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.3.0.0.0

1 SQL> CREATE TABLE member_info ( id NUMBER(4) NOT NULL, name VARCHAR2(10));
Table created.

2 SQL> SELECT * FROM member_info ORDER by id DESC;
no rows selected

3 SQL> INSERT INTO member_info VALUES((SELECT NVL(MAX(id),0)+1 FROM member_info), 'kim');
1 row created.

3 SQL> COMMIT;
Commit complete.

4 SQL> SELECT * FROM member_info ORDER by id DESC;
ID NAME
-----
1 kim

8 SQL> SELECT * FROM member_info ORDER by id DESC;
ID NAME
-----
2 lee
1 kim

SQL>

[oracle@ol7rac2 ~]$
[oracle@ol7rac2 ~]$ sqlplus tester/Ablecloud1!

SQL*Plus: Release 19.0.0.0.0 - Production on Wed Dec 13 15:03:47 2023
Version 19.3.0.0.0

Copyright (c) 1982, 2019, Oracle. All rights reserved.

Last Successful login time: Wed Dec 13 2023 15:03:46 +09:00

Connected to:
Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.3.0.0.0

5 SQL> SELECT * FROM member_info ORDER by id DESC;
ID NAME
-----
1 kim

6 SQL> INSERT INTO member_info VALUES((SELECT NVL(MAX(id),0)+1 FROM member_info), 'lee');
1 row created.

6 SQL> COMMIT;
Commit complete.

7 SQL> SELECT * FROM member_info ORDER by id DESC;
ID NAME
-----
2 lee
1 kim

SQL> []
```

ol7rac1

ol7rac2

- 1번 노드에서 테스트 테이블 member_info 생성
- 1번 노드에서 테이블 데이터 조회, 데이터 없음 확인
- 1번 노드에서 insert 데이터 kim
- 1번 노드에서 데이터 조회, 입력된 kim 데이터 확인
- 2번 노드에서 데이터 조회, 입력된 kim 데이터 확인
- 2번 노드에서 insert 데이터 lee
- 2번 노드에서 데이터 조회, 입력된 kim, lee 데이터 확인
- 1번 노드에서 데이터 조회, 입력된 kim, lee 데이터 확인

Oracle RAC 구성 완료

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