



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'
```

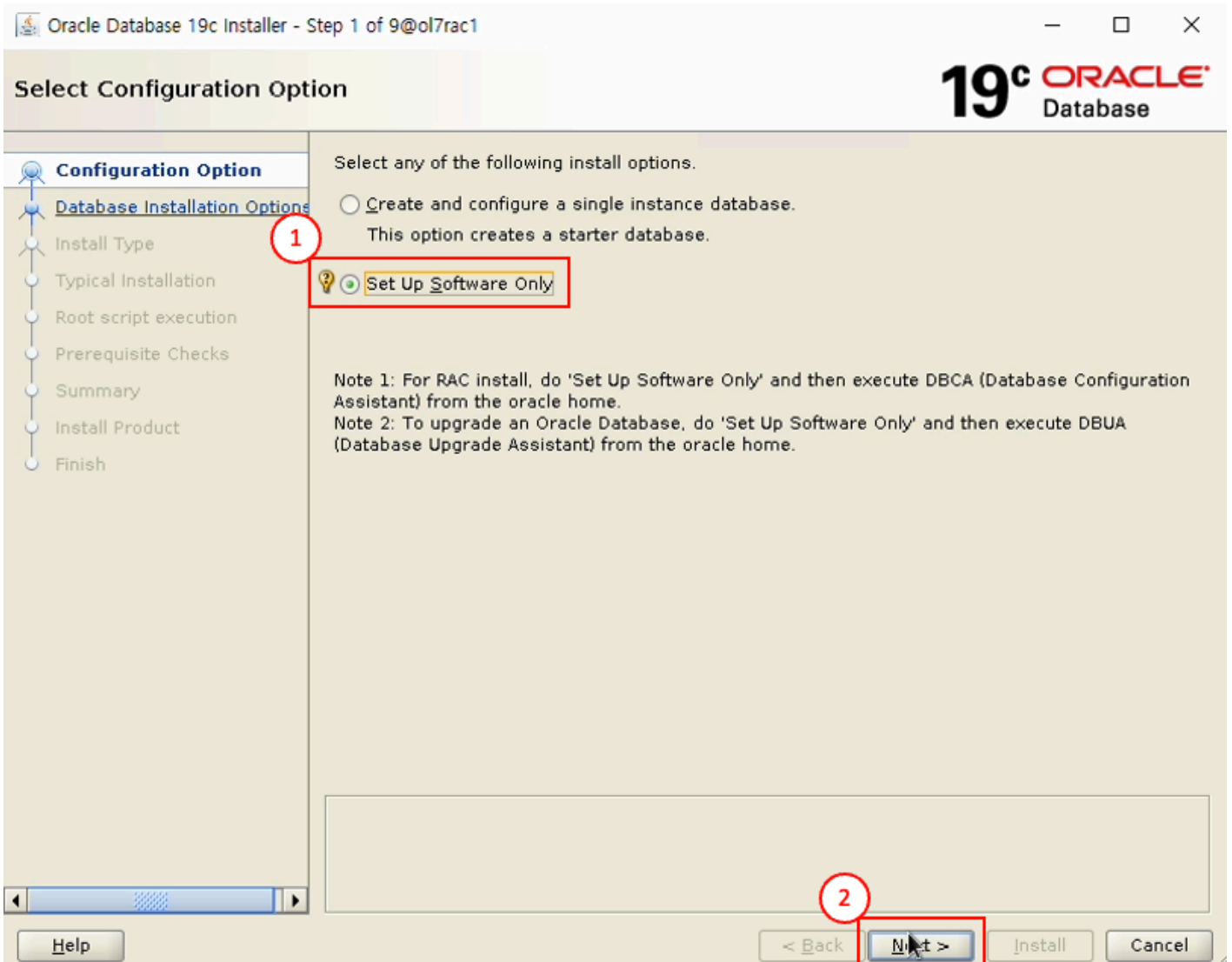
oracle 설치파일 압축 풀기 (노드 : node1 / 계정 : oracle)

```
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)
```

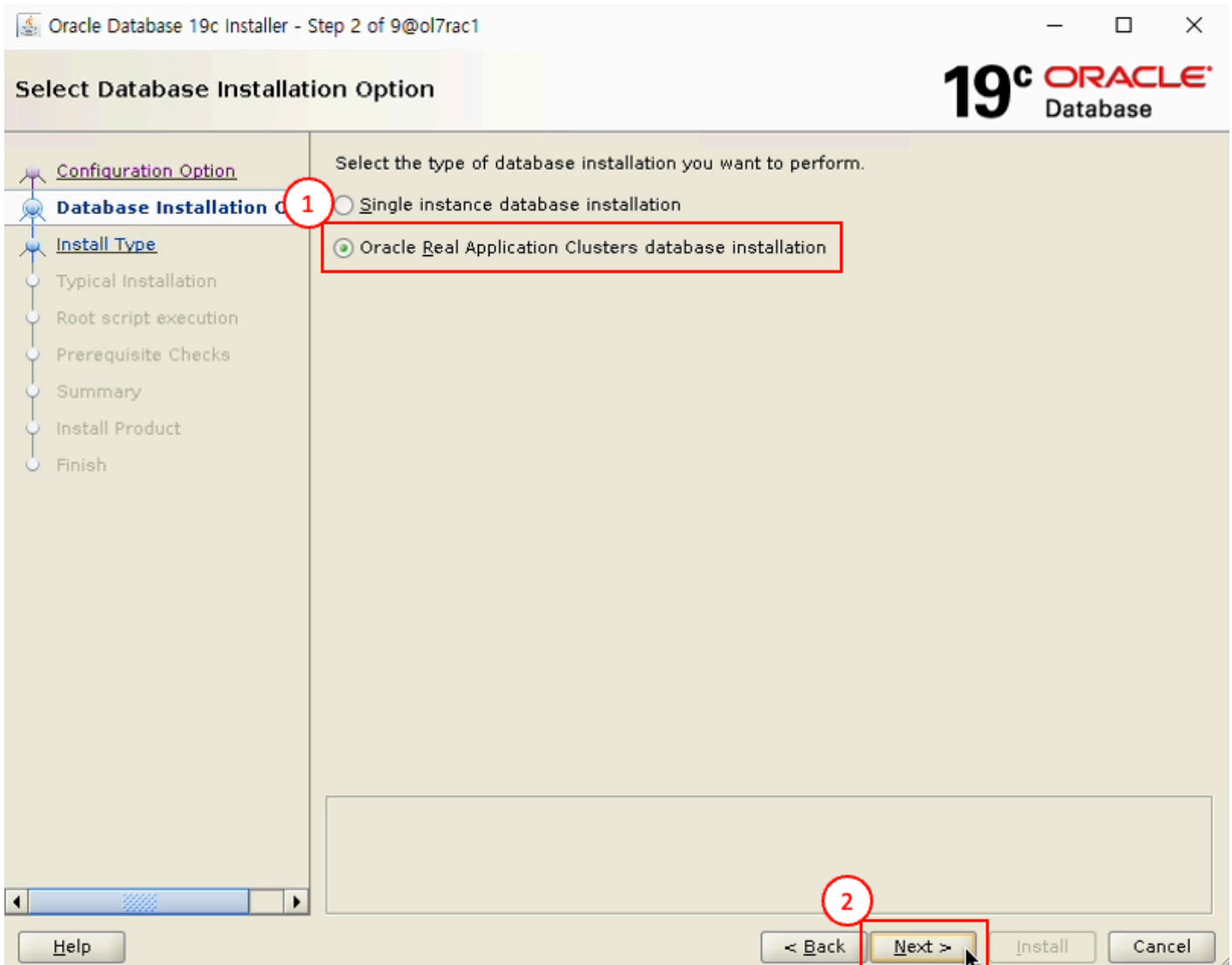
oracle 설치 ui 구동 (노드 : node1 / 계정 : oracle)

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

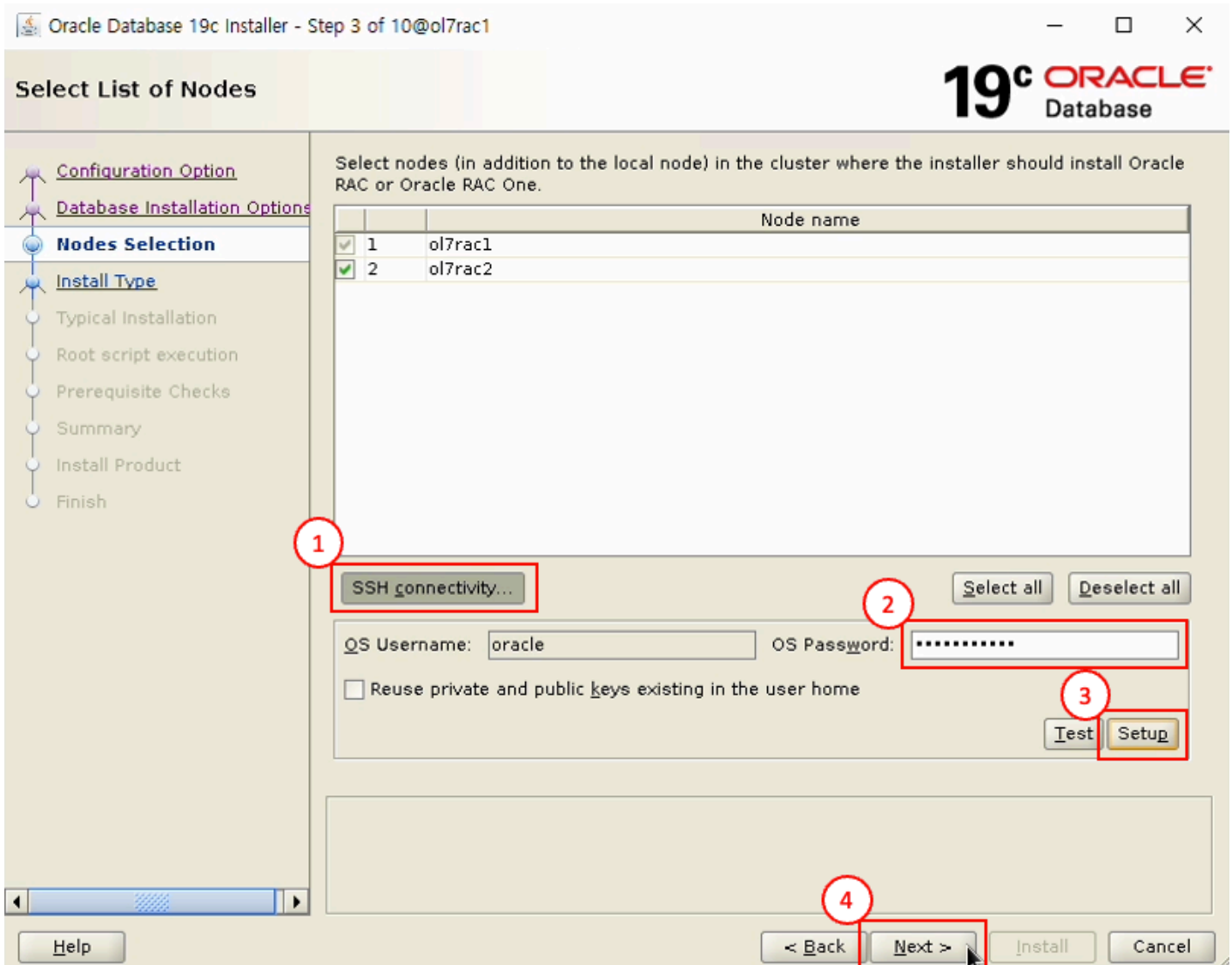
cd /u02/app/oracle/product/19.0.0/dbhome_1
./runInstaller
```



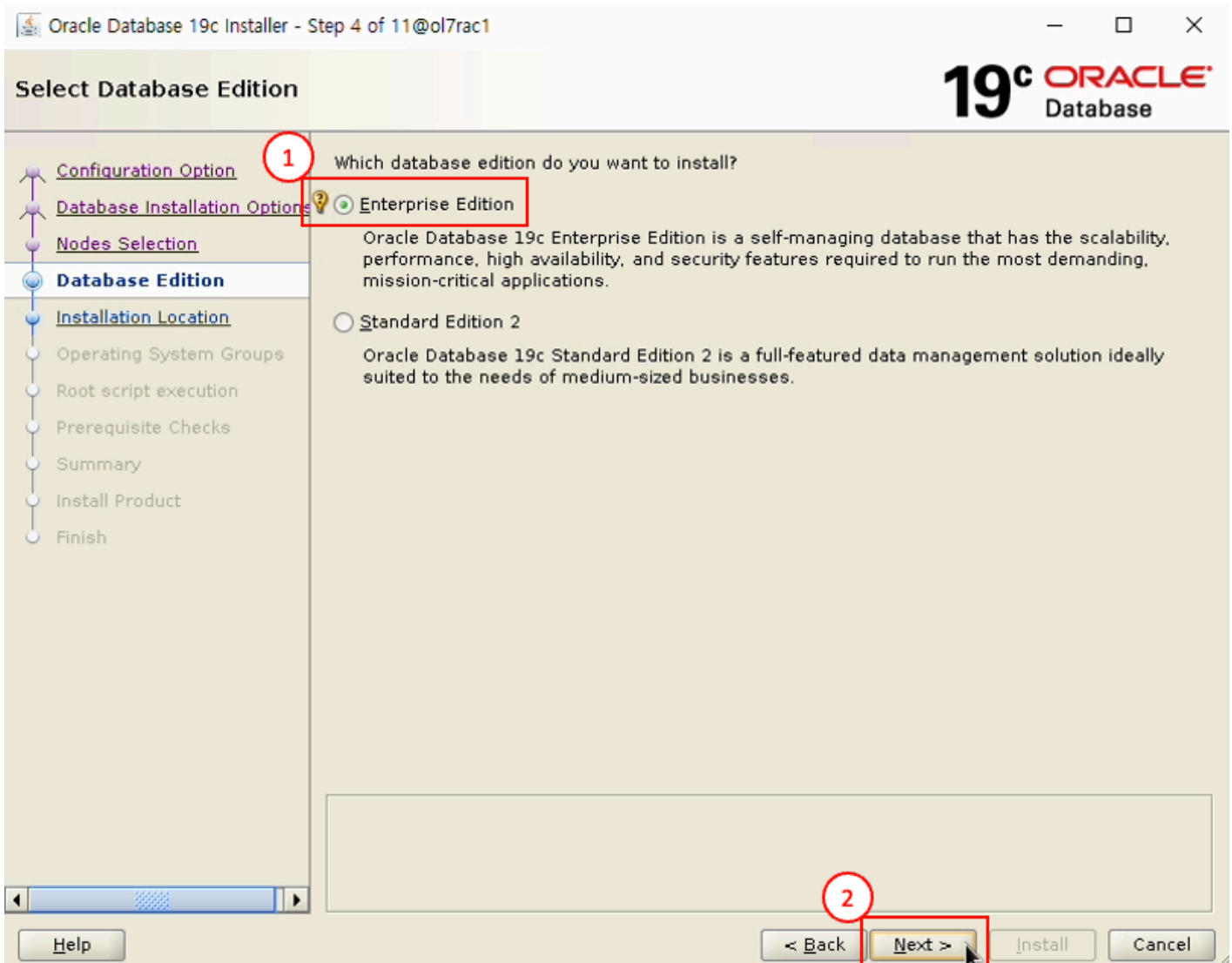
- Set Up Software Only 선택
- Next 버튼 클릭



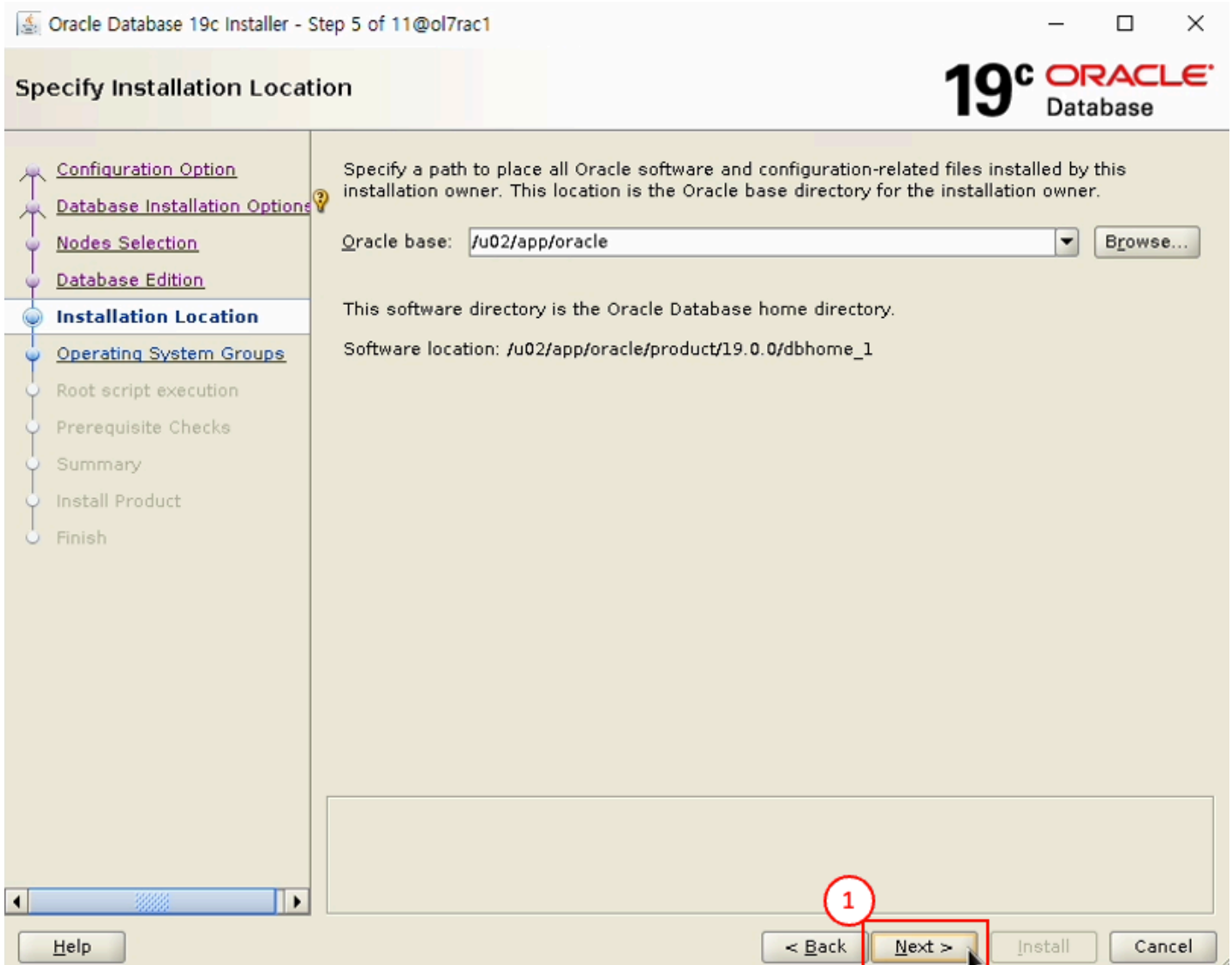
- Oracle Real Application Clusters database installation 선택
- Next 버튼 클릭



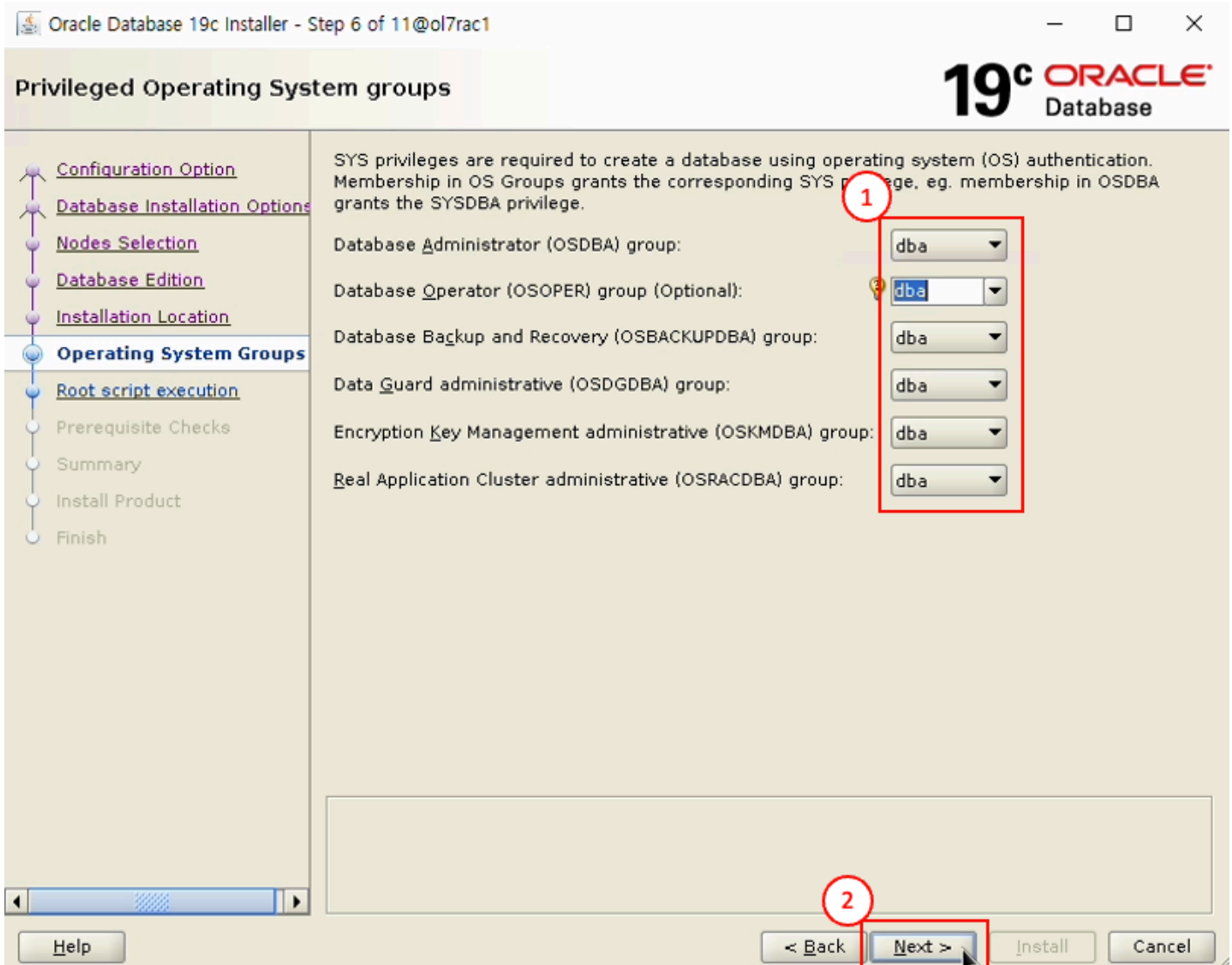
- SSH connectivity 버튼 클릭
- OS Password : oracle 계정 비밀번호 입력
- Setup 버튼 클릭
- Next 버튼 클릭



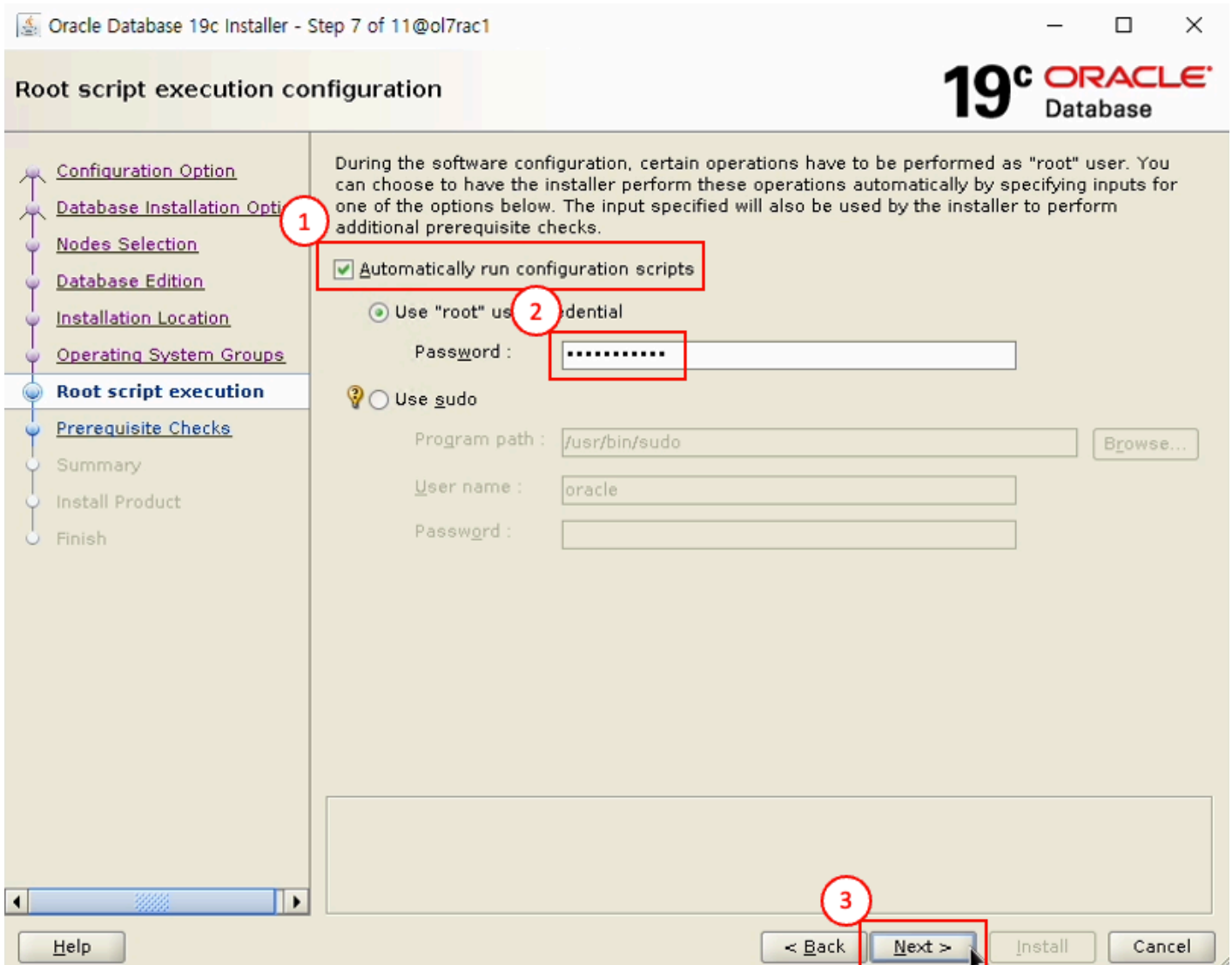
- Enterprise Edition 선택
- Next 버튼 클릭



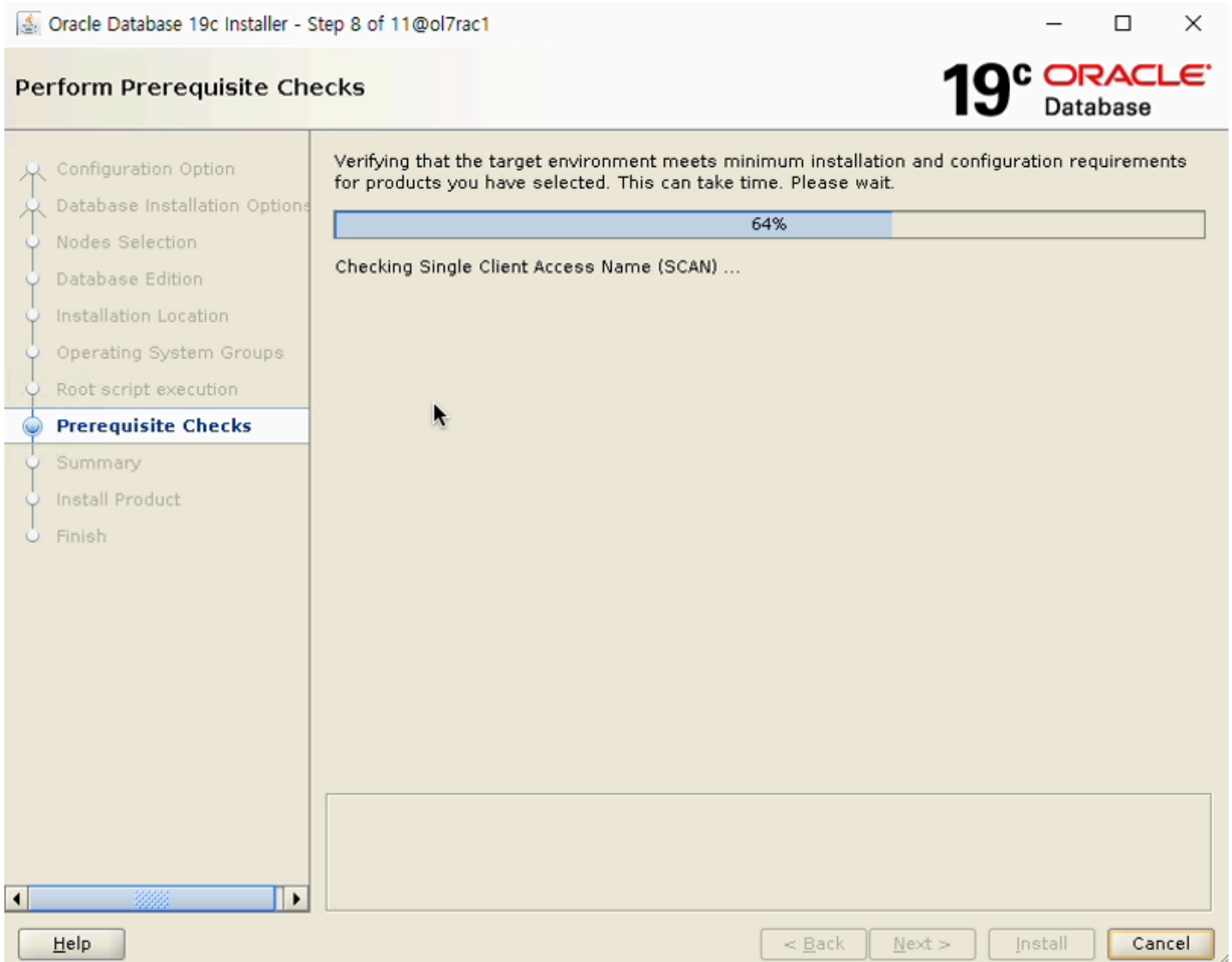
- Next 버튼 클릭



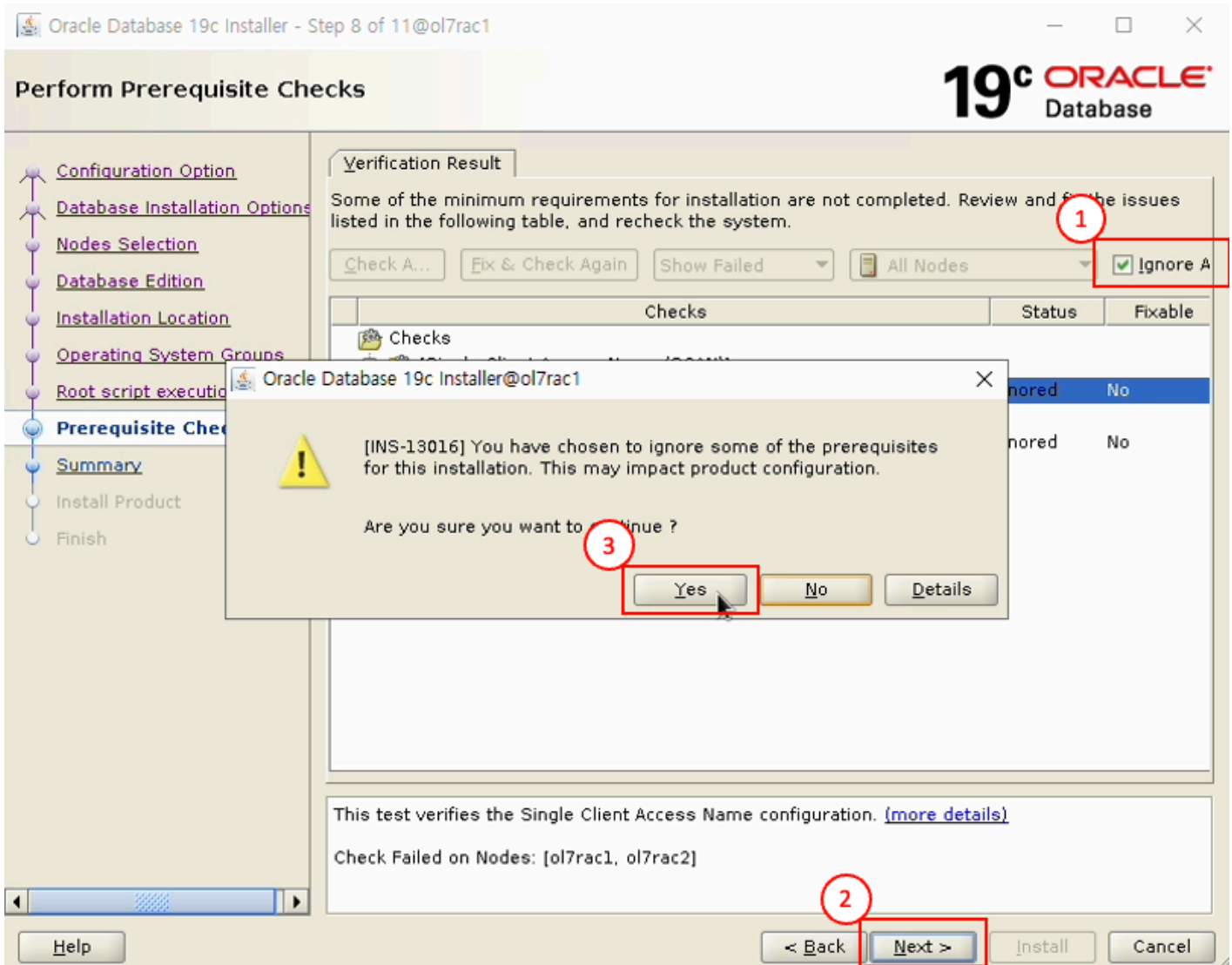
- group 을 dba로 선택
- Next 버튼 클릭



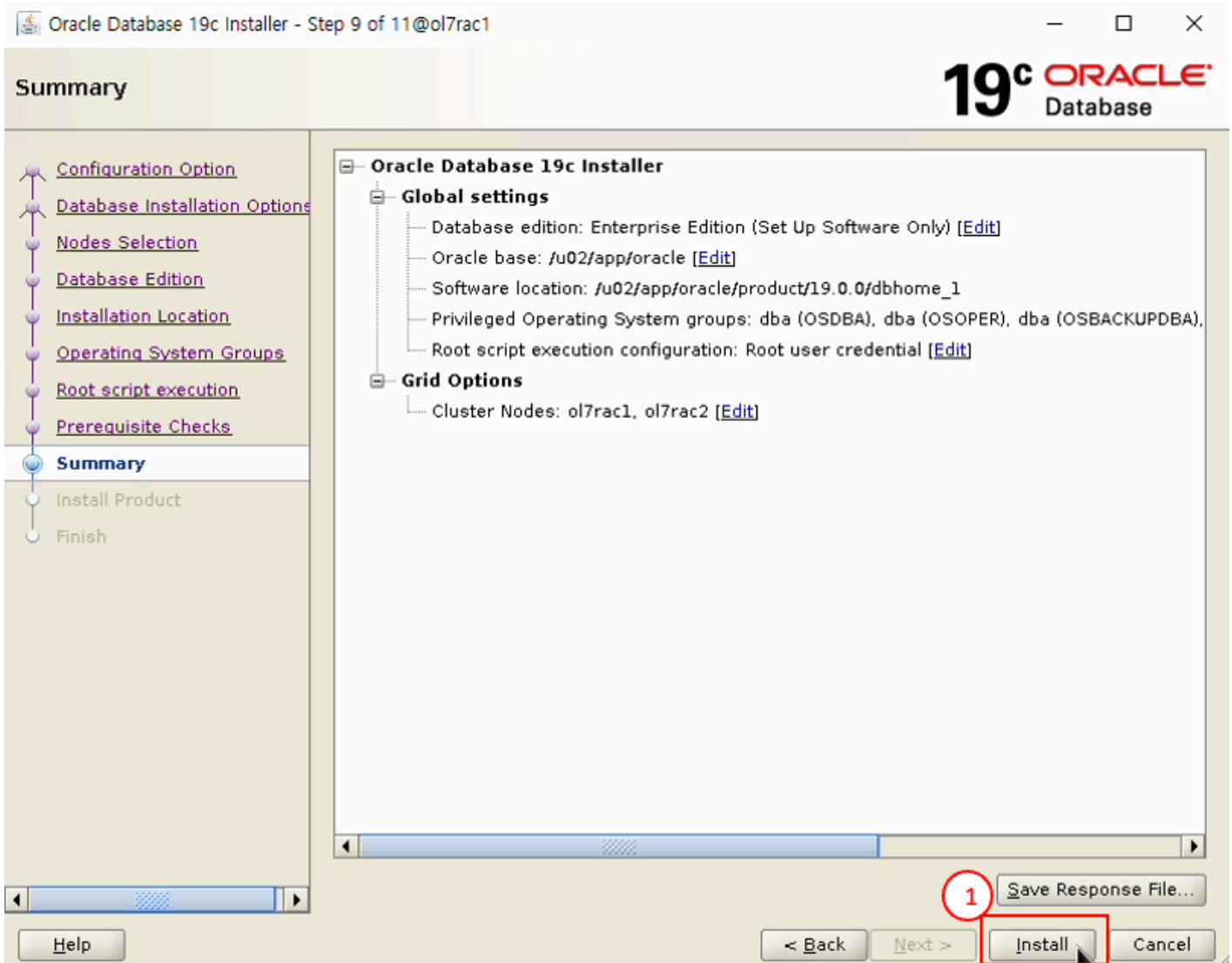
- Automatically run configuration scripts 선택
- Password 입력
- Next 버튼 클릭



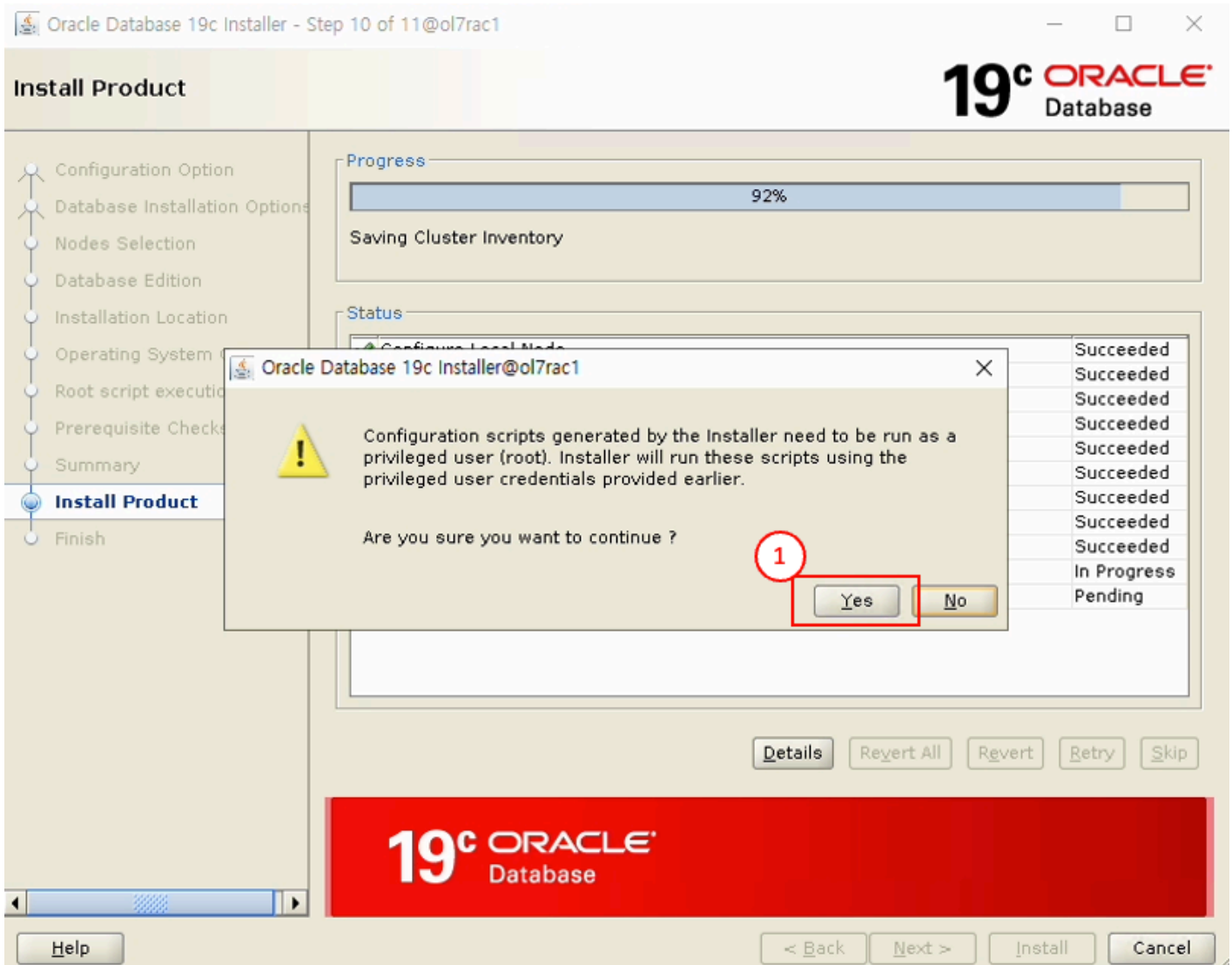
- 설치 전 체크 테스트 화면



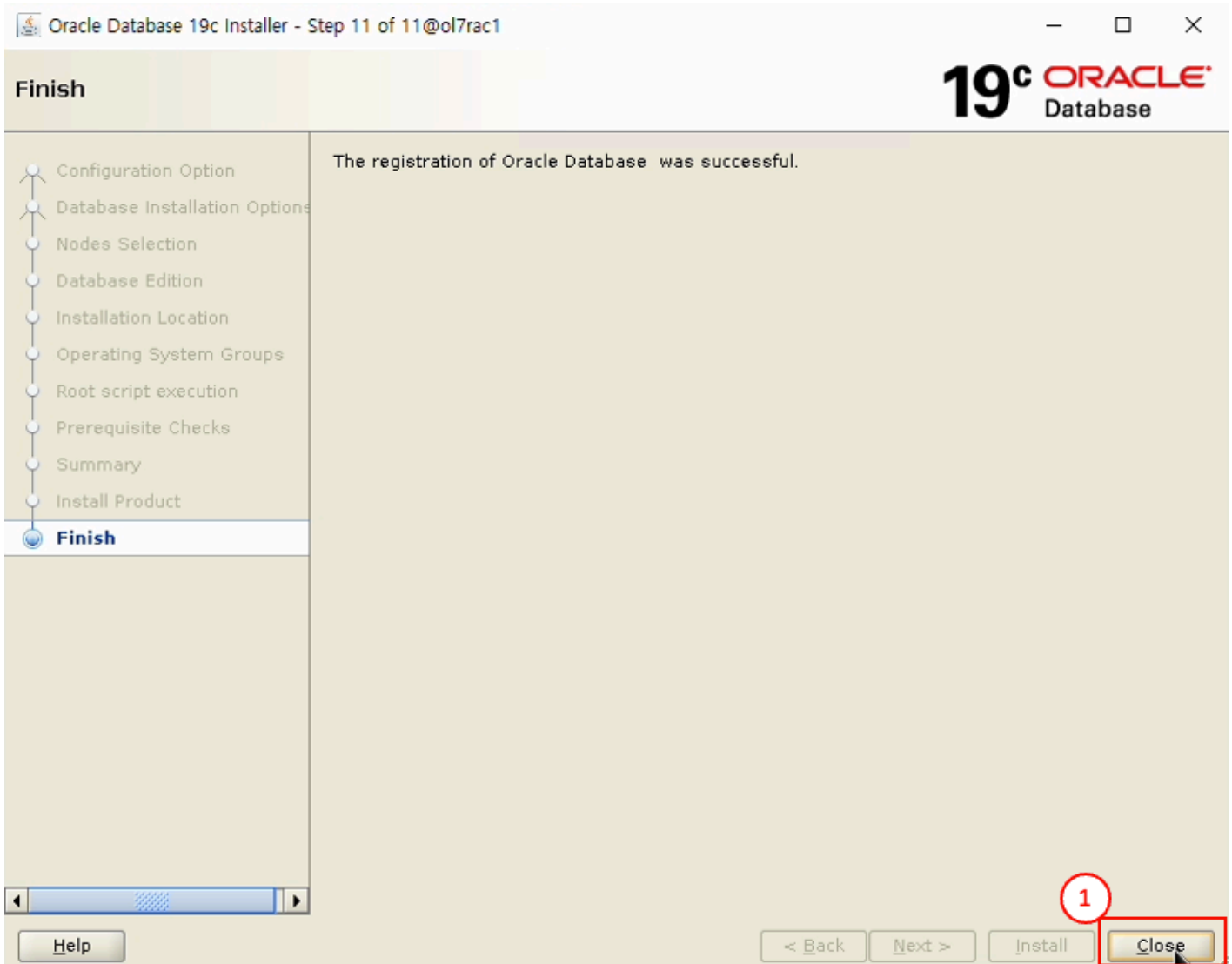
- Ignore 선택
- Next 버튼 클릭
- Yes 버튼 클릭



- Install 버튼 클릭



- Yes 버튼 클릭

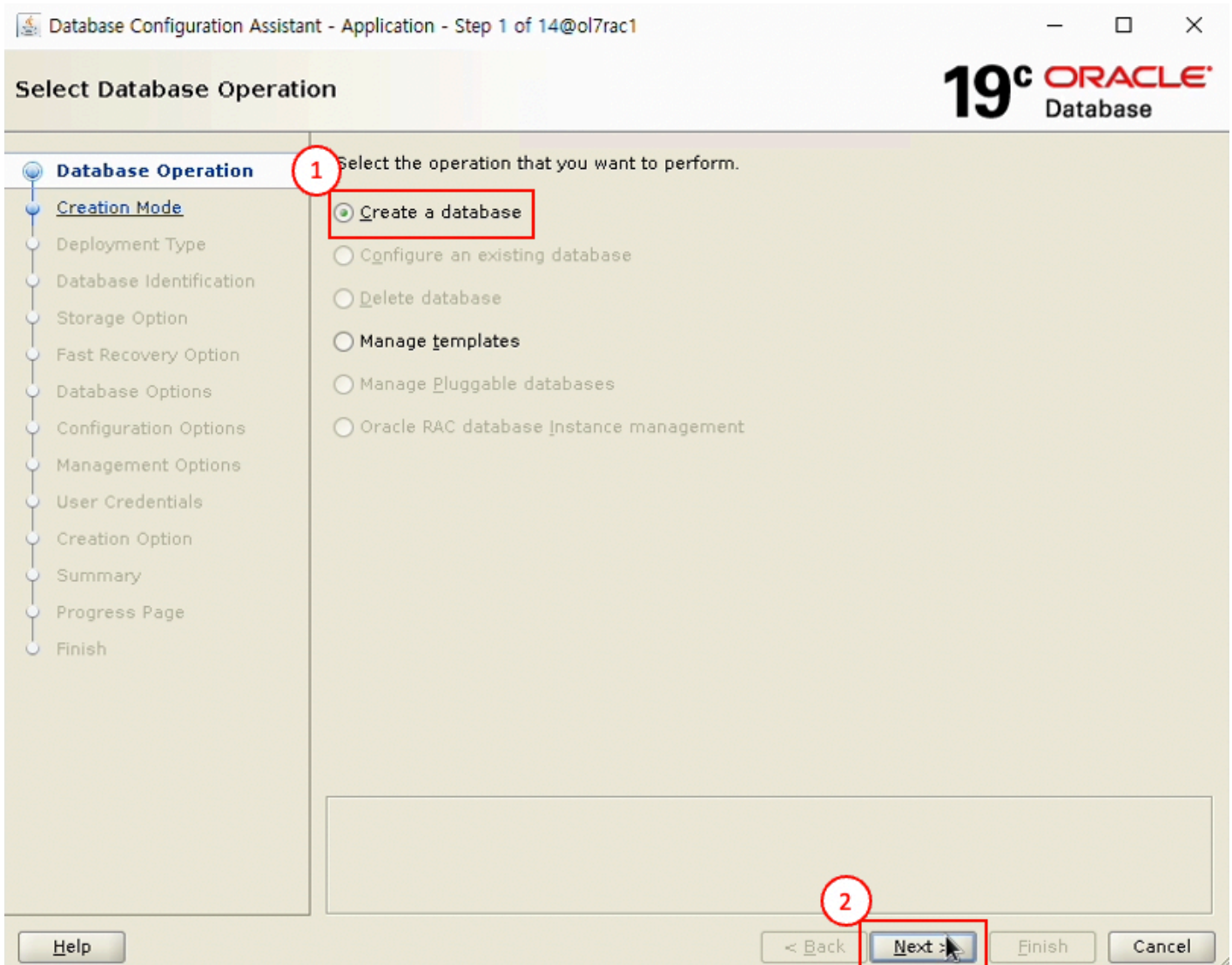


- Close 버튼 클릭

oracle 데이터베이스 구성 ui 구동 (노드 : 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

Database Configuration Assistant - Create a database - Step 2 of 14@ol7rac1

19c ORACLE Database

Select Database Creation Mode

Database Operation

Creation Mode

Deployment Type

Database Identification

Storage Option

Fast Recovery Option

Database Options

Configuration Options

Management Options

User Credentials

Creation Option

Summary

Progress Page

Finish

☐ Typical configuration

Global database name:

Storage type:

Database files location:

Fast Recovery Area (FRA):

Database character set:

Administrative password:

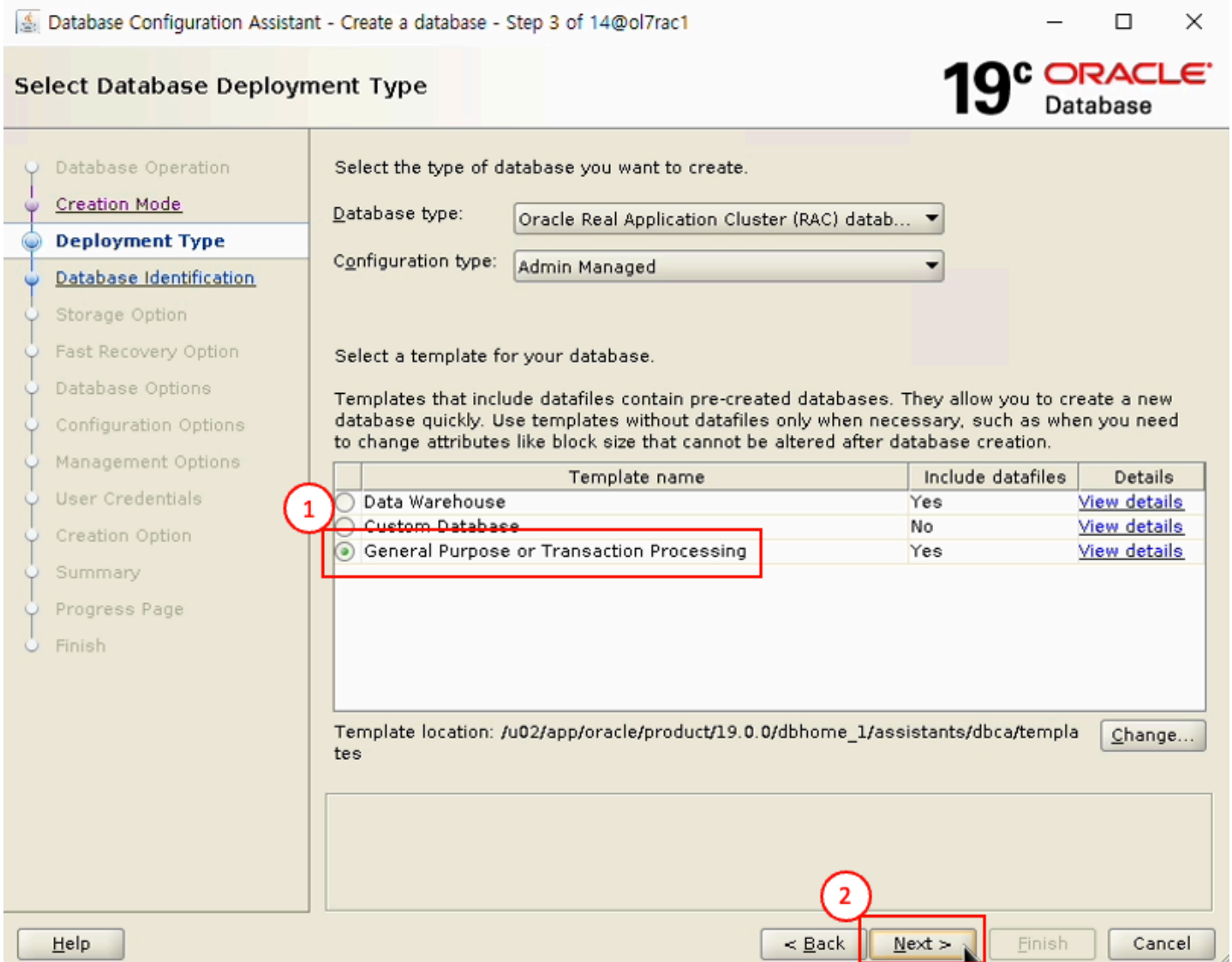
Confirm password:

☒ Create as Container database

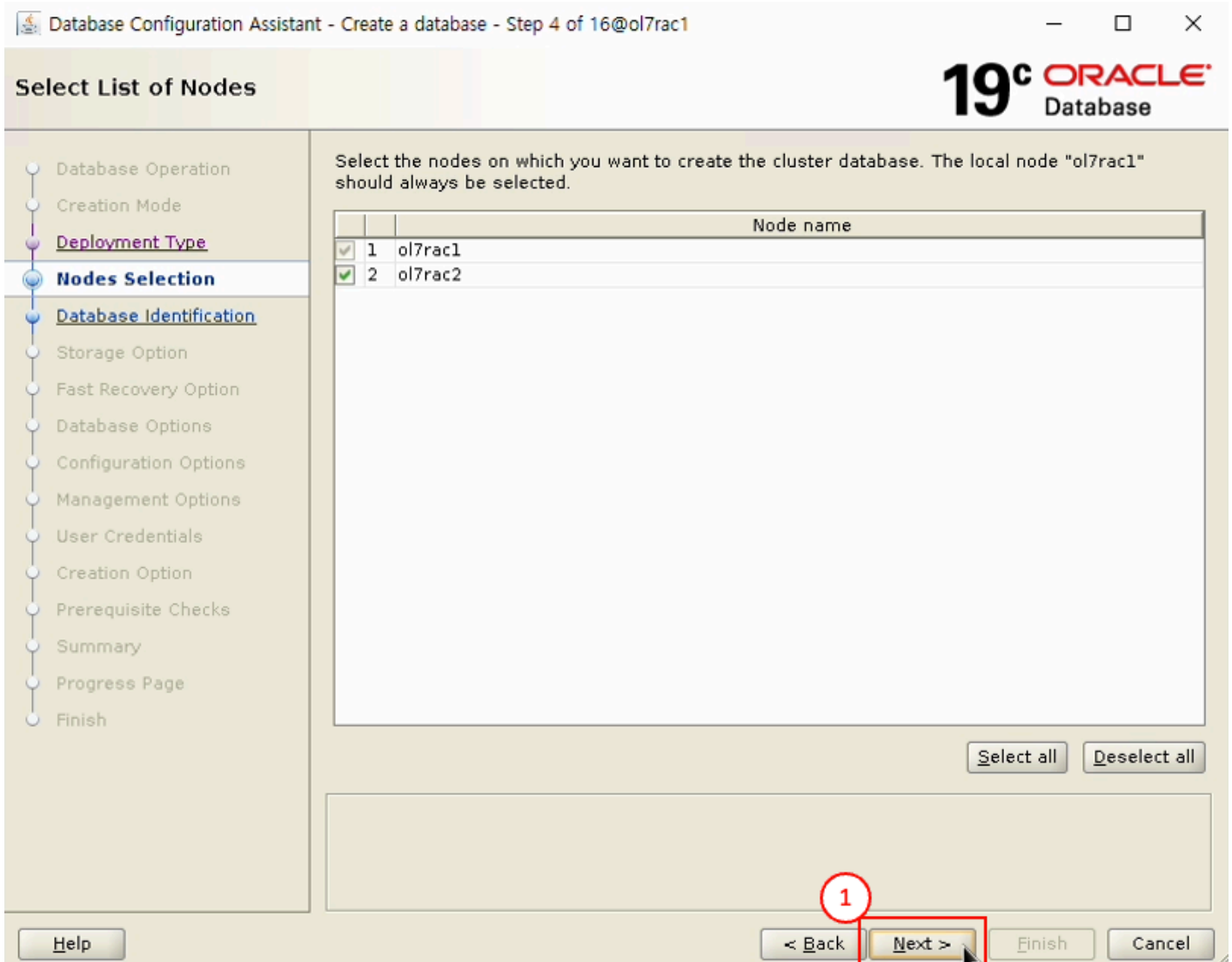
Pluggable database name:

☒ **Advanced configuration**

- Advanced configuration 선택
- Next 버튼 클릭



- General Purpose or Transaction Processing 선택
- Next 버튼 클릭



- Next 버튼 클릭

Database Configuration Assistant - Create a database - Step 5 of 16@ol7rac1

Specify Database Identification Details

19c ORACLE Database

Provide a unique database identifier information. An Oracle database is uniquely identified by a Global database name, typically of the form "name.domain".

Global database name:

SID Prefix:

Service name:

1 ☐ Create as Container database

A Container database can be used for consolidating multiple databases into a single database, and it enables database virtualization. A Container database (CDB) can have zero or more pluggable databases (PDB).

☒ Use Local Undo tablespace for PDBs

☐ Create an empty Container database

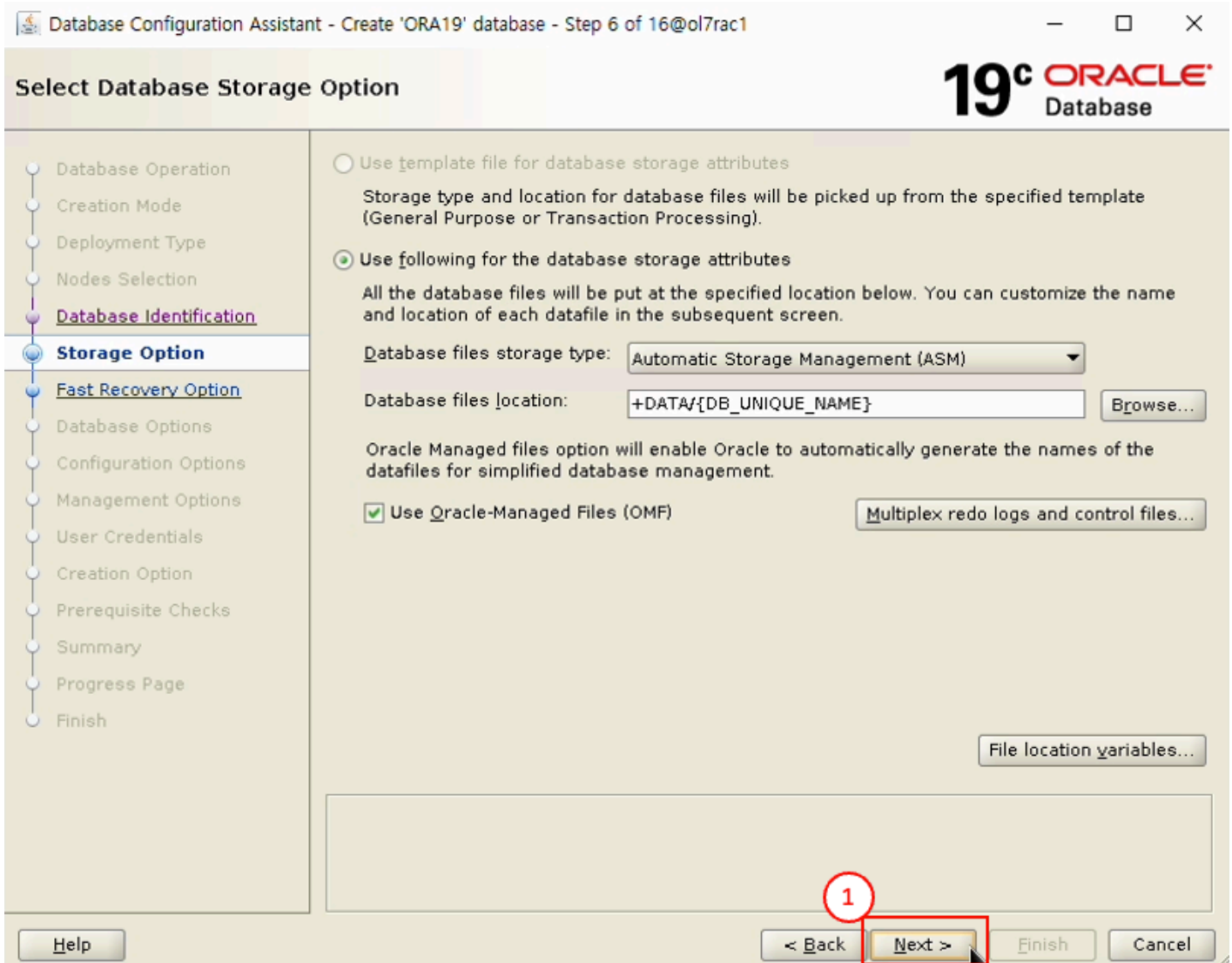
☒ Create a Container database with one or more PDBs

Number of PDBs:

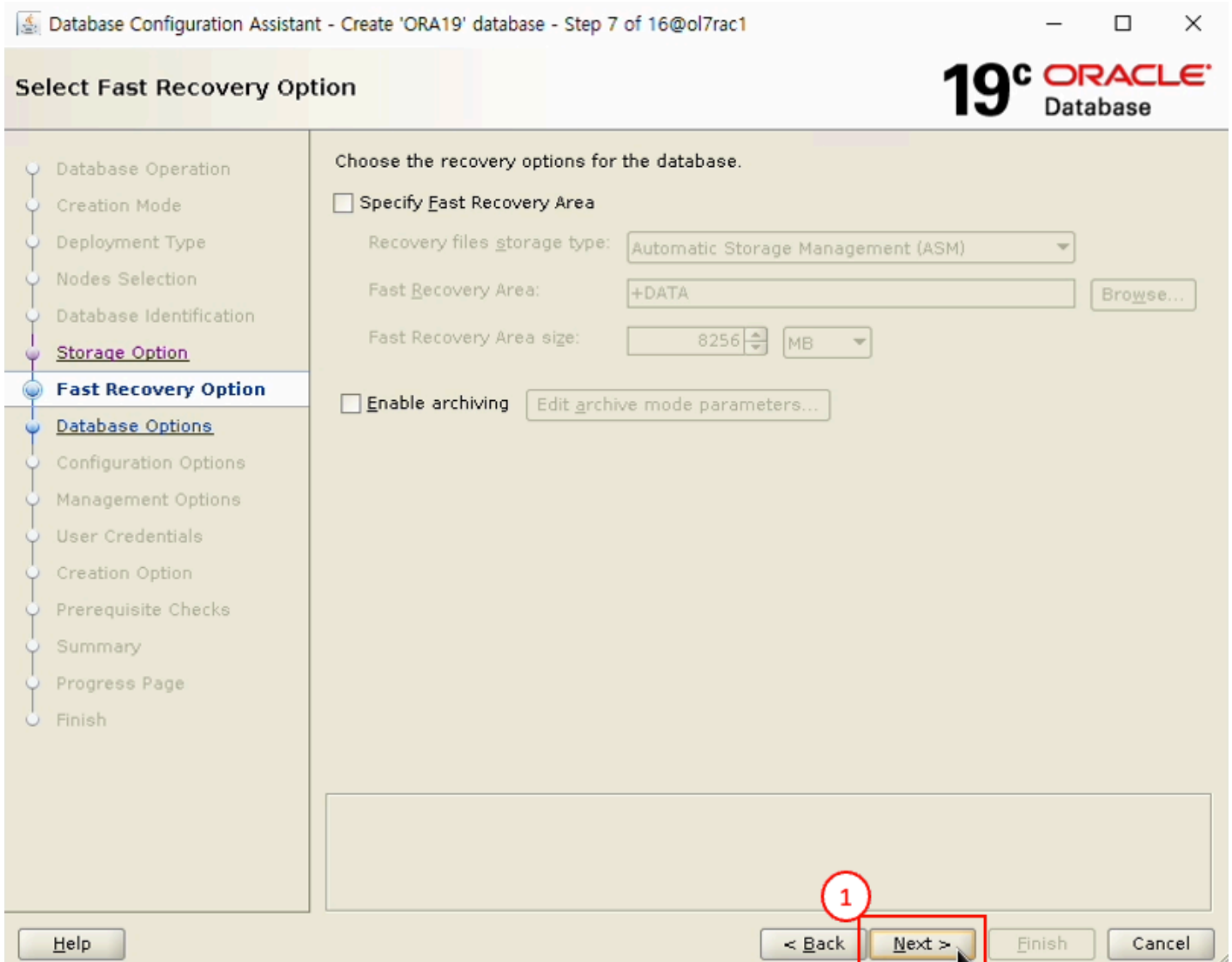
PDB name:

2

- Create as Container database 해제
- Next 버튼 클릭



- Next 버튼 클릭



- Next 버튼 클릭

Database Configuration Assistant - Create 'ORA19' database - Step 8 of 16@ol7rac1

19^c ORACLE[®] Database

Select Oracle Data Vault Config Option

- 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

☐ **Configure Oracle Database Vault**

Database Vault owner:

Password: Confirm password:

☐ **Create a separate account manager**

Account manager:

Password: Confirm password:

☐ **Configure Oracle Label Security**

☐ Configure Oracle Label Security with OJD

- Next 버튼 클릭



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

Database Configuration Assistant - Create 'ORA19' database - Step 10 of 16@ol7rac1

Specify Management Options

19^c ORACLE Database

1 Specify the management options for the database.

☐ Run Cluster Verification Utility (CVU) checks periodically

☒ Configure Enterprise Manager (EM) database express

EM database express port: 5500

☐ Register with Enterprise Manager (EM) cloud control

OMS host:

OMS port:

EM admin username:

EM admin password:

ASMSNMP user password:

Management Options

2

< Back Next > Finish Cancel

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

Database Configuration Assistant - Create 'ORA19' database - Step 11 of 16@ol7rac1

[제목 없음]

Specify Database User Credentials

19^c ORACLE Database

You must specify passwords for the following user accounts in the new database for security reasons.

☐ Use different administrative passwords

	Password	Confirm password
SYS		
SYSTEM		

☒ Use the same administrative password for all accounts

Password: Confirm password:

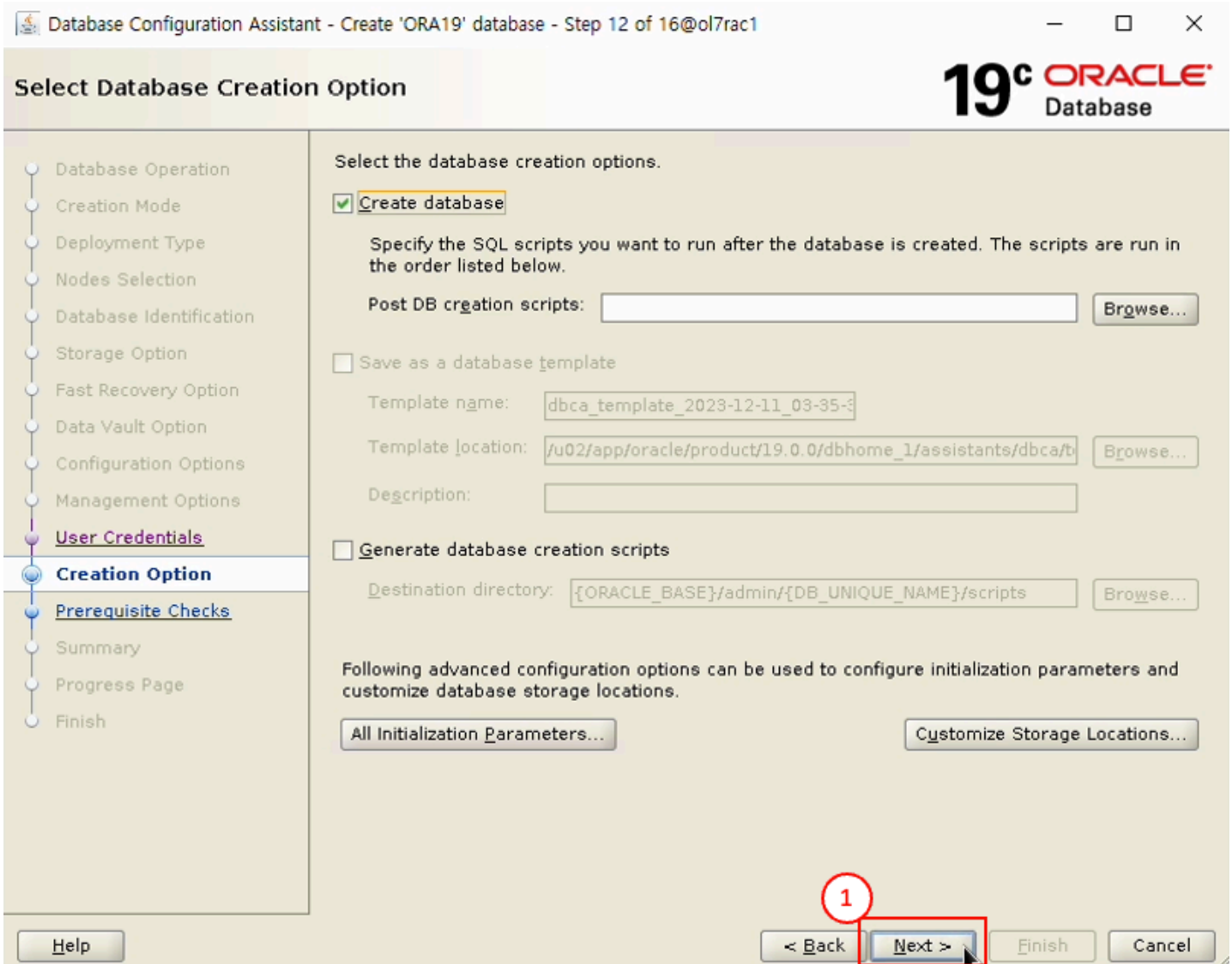
1

2

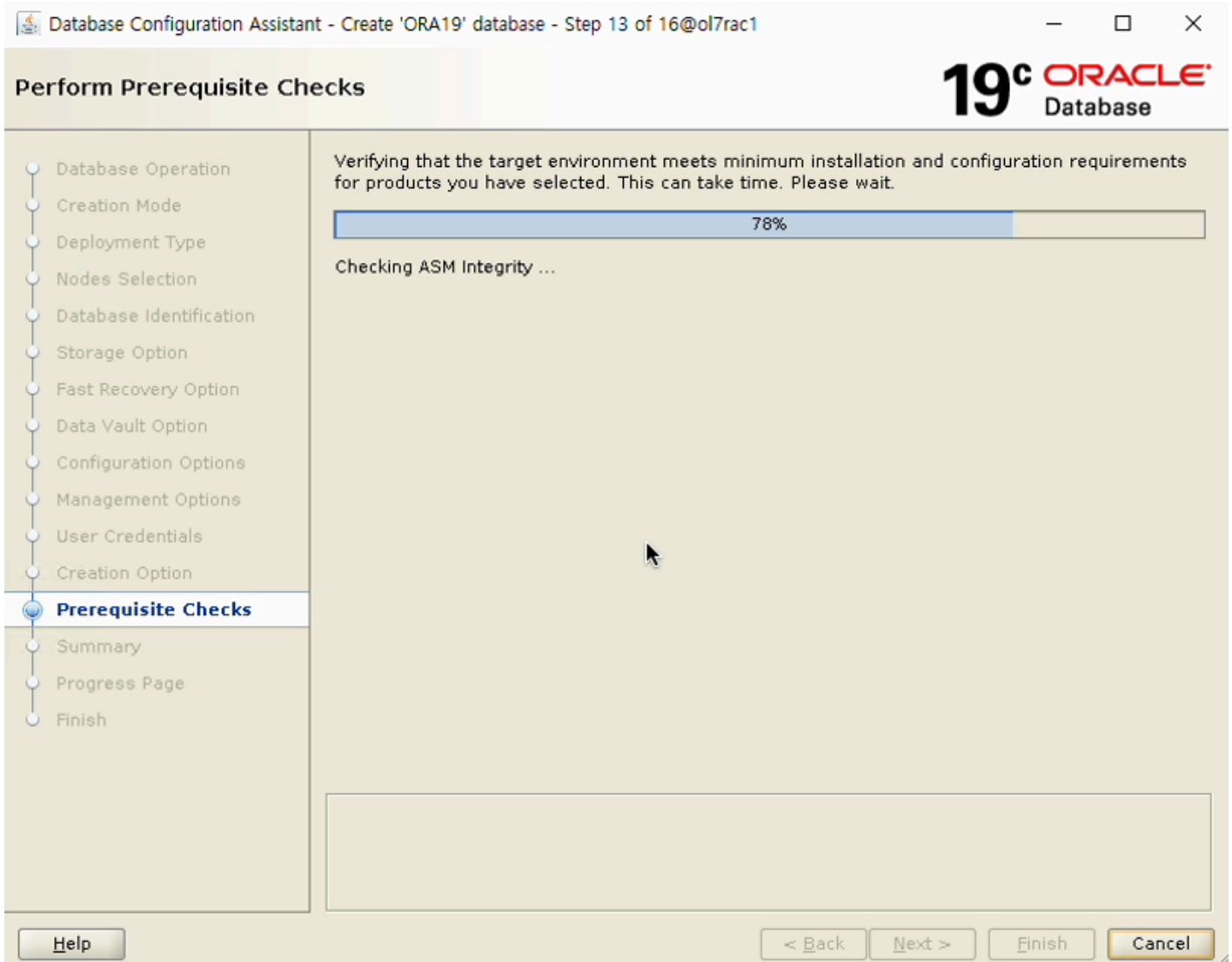
Help < Back Next > Finish Cancel

오라클 관리자 계정 비밀번호 입력

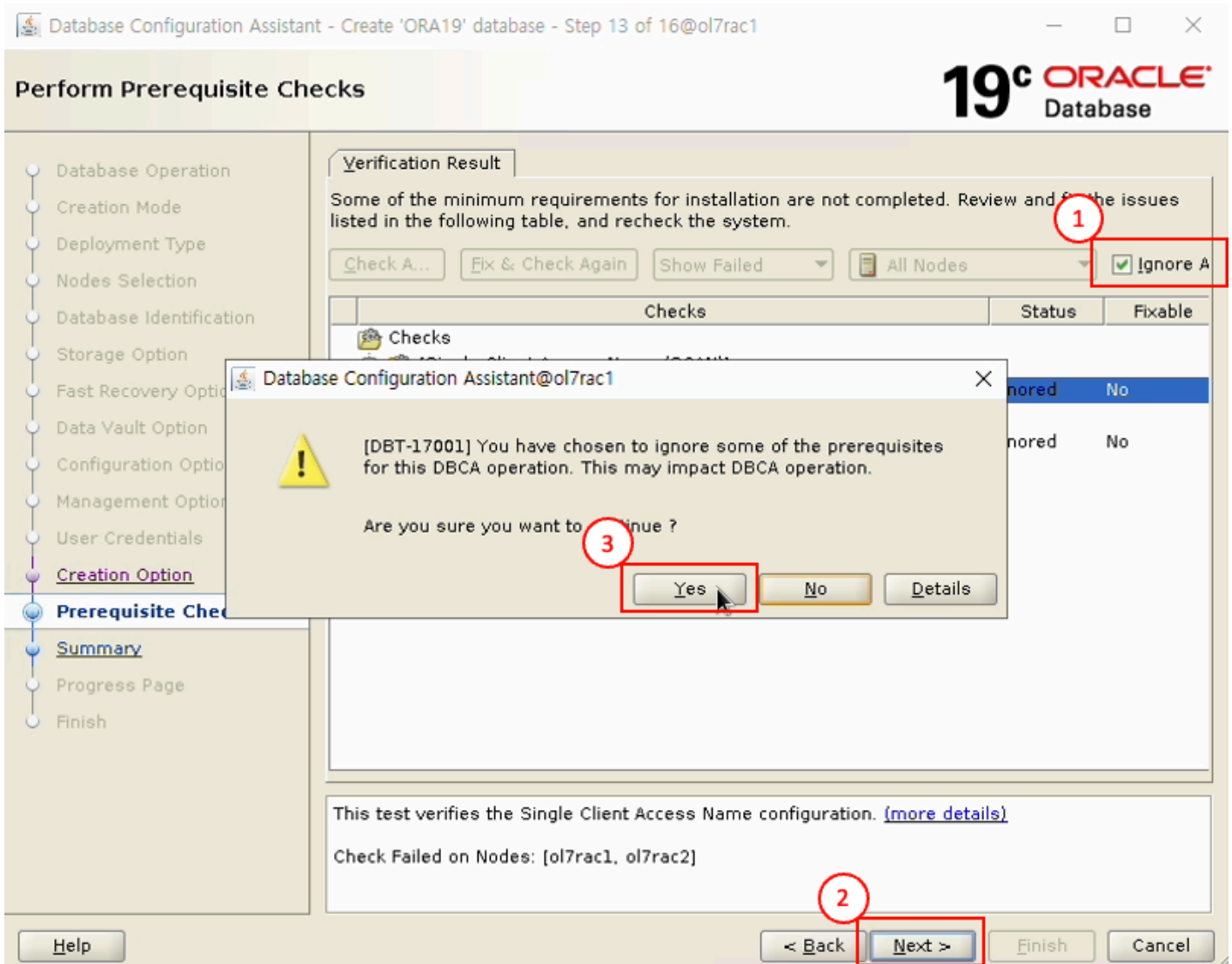
- Use the same administrative password for all accounts 선택
- 비밀번호 입력
- Next 버튼 클릭



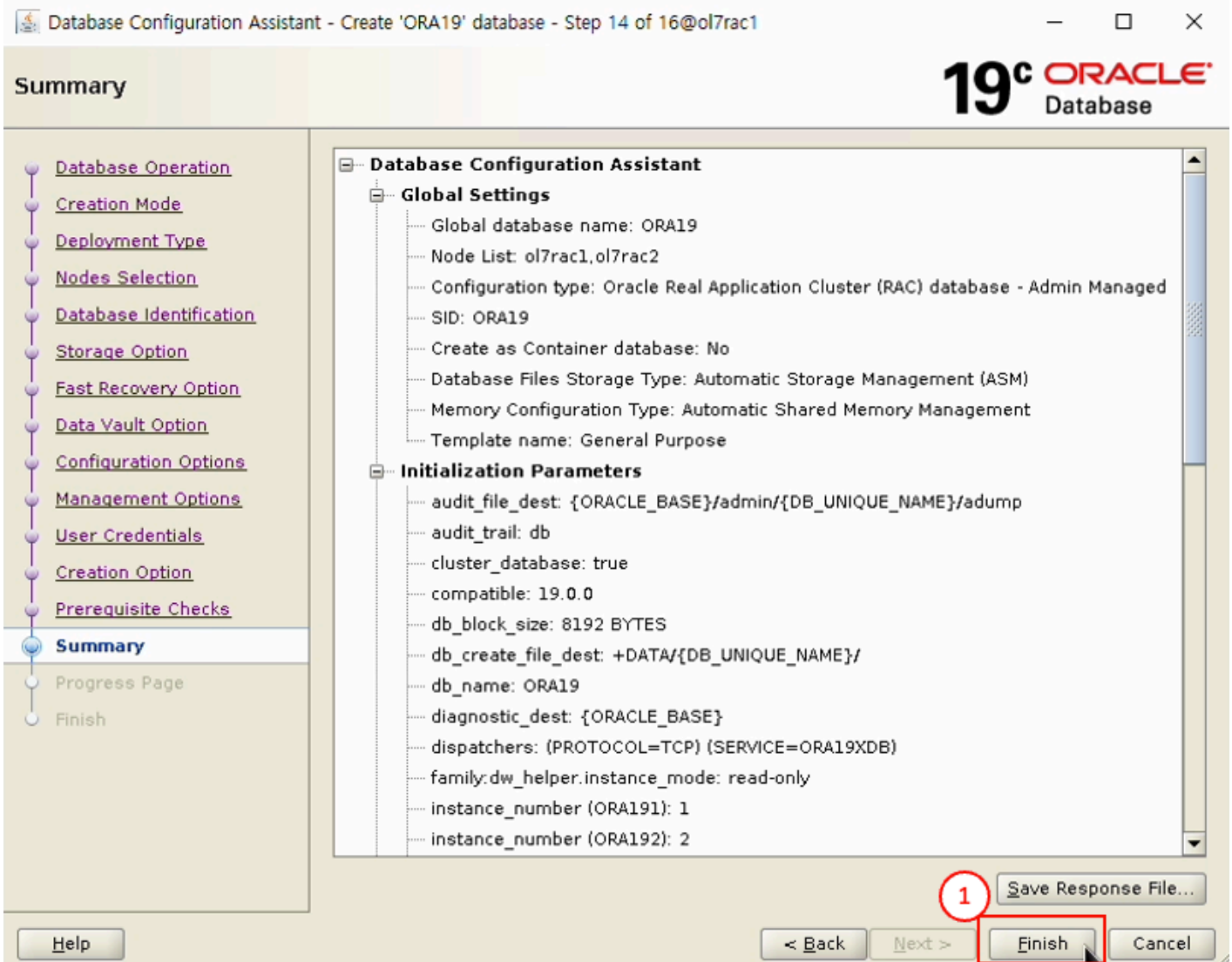
- Next 버튼 클릭



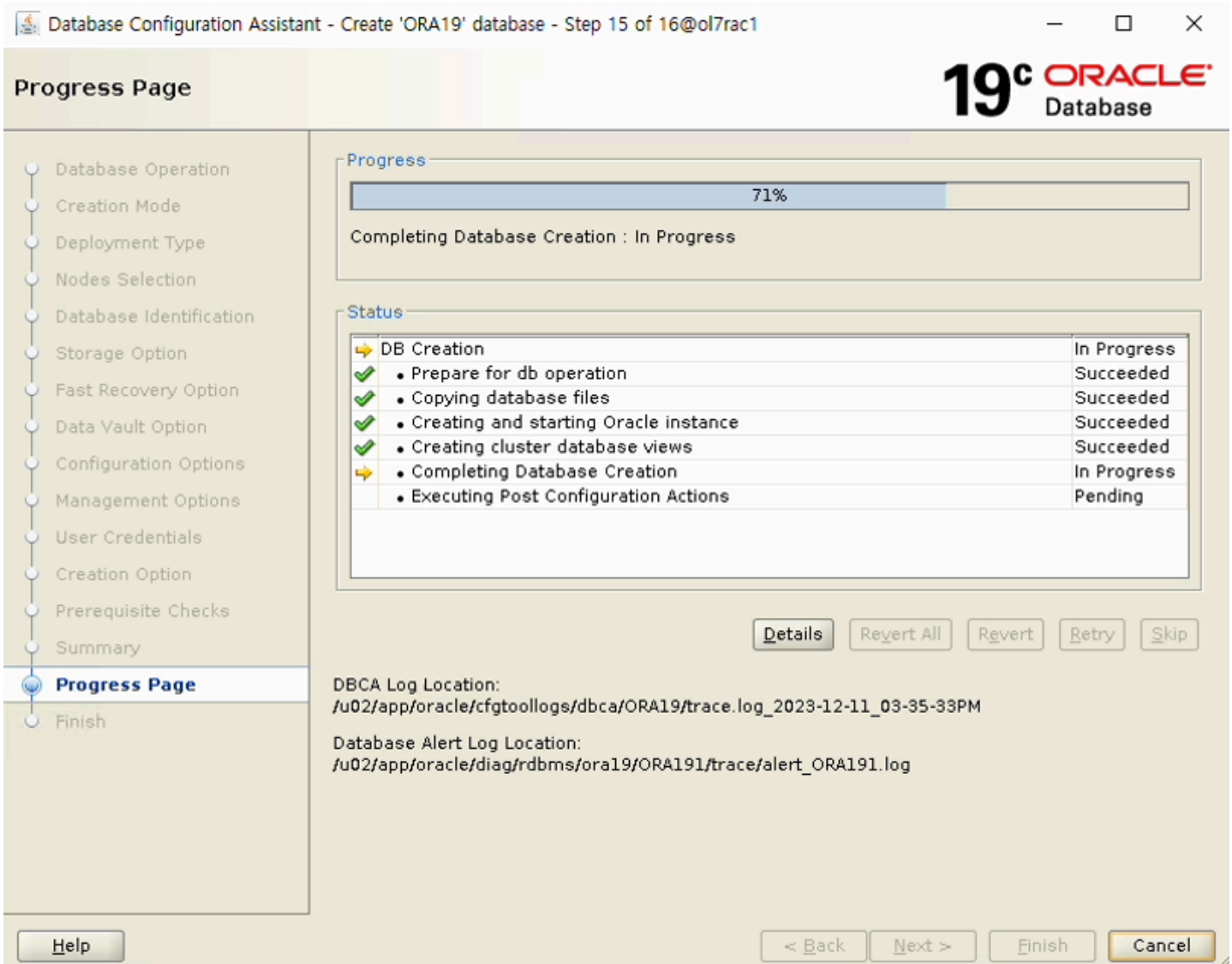
- 설치 전 체크 테스트 화면



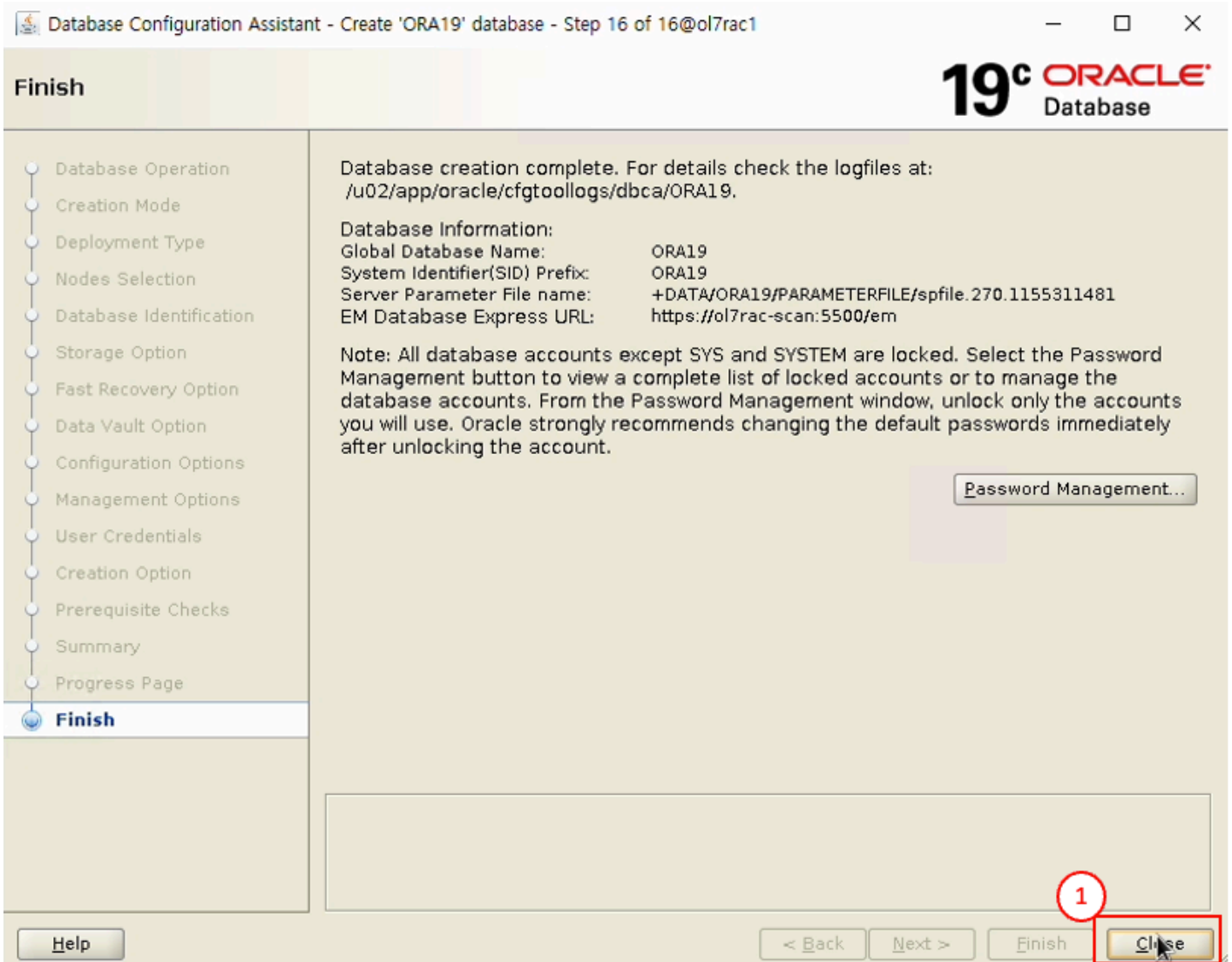
- Ignore 선택
- Next 버튼 클릭
- Yes 버튼 클릭



- Finish 선택



- 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

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> |
```

ol7rac1

```
[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.

SQL> COMMIT;
Commit complete.

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

SQL> |
```

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

ABLESTACK Online Docs