RIGA TECHNICAL UNIVERSITY
FACULTY OF COMPUTER SCIENCE AND INFORMATION TECHNOLOGY
INSTITUTE OF APPLIED COMPUTER SYSTEMS

Practical Assignment #1
“Database Management Systems”
Database Installation

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2022 / 2023 Study Year

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1 Task

1. Install database;
2. Access database using SQLPlus with SYS user credentials;
3. Create additional user, grant access, connect with newly created user;
4. Install chosen ER modelling tool.
5. Install sqlDeveloper, create connection, launch following commands:

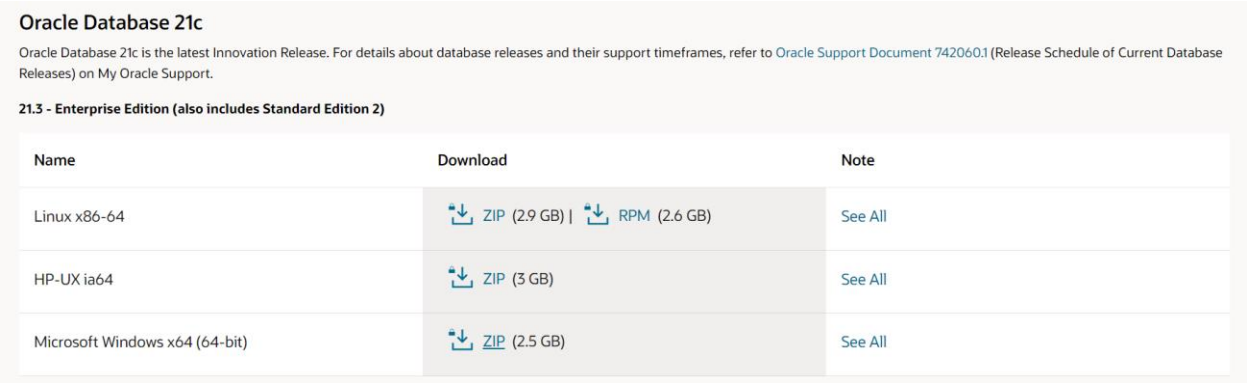
```
alter session set NLS_DATE_FORMAT='YYYY-MM-DD HH24:MI:SS';
select sysdate from dual;
```

6. Show results with screenshots. Upload 1 MS Word file named: DBMS_0_YourSurname.doc(x)

2 Main sections of practical work

Show completion of each task using screenshots. Put screenshots in this section.

a. Install database

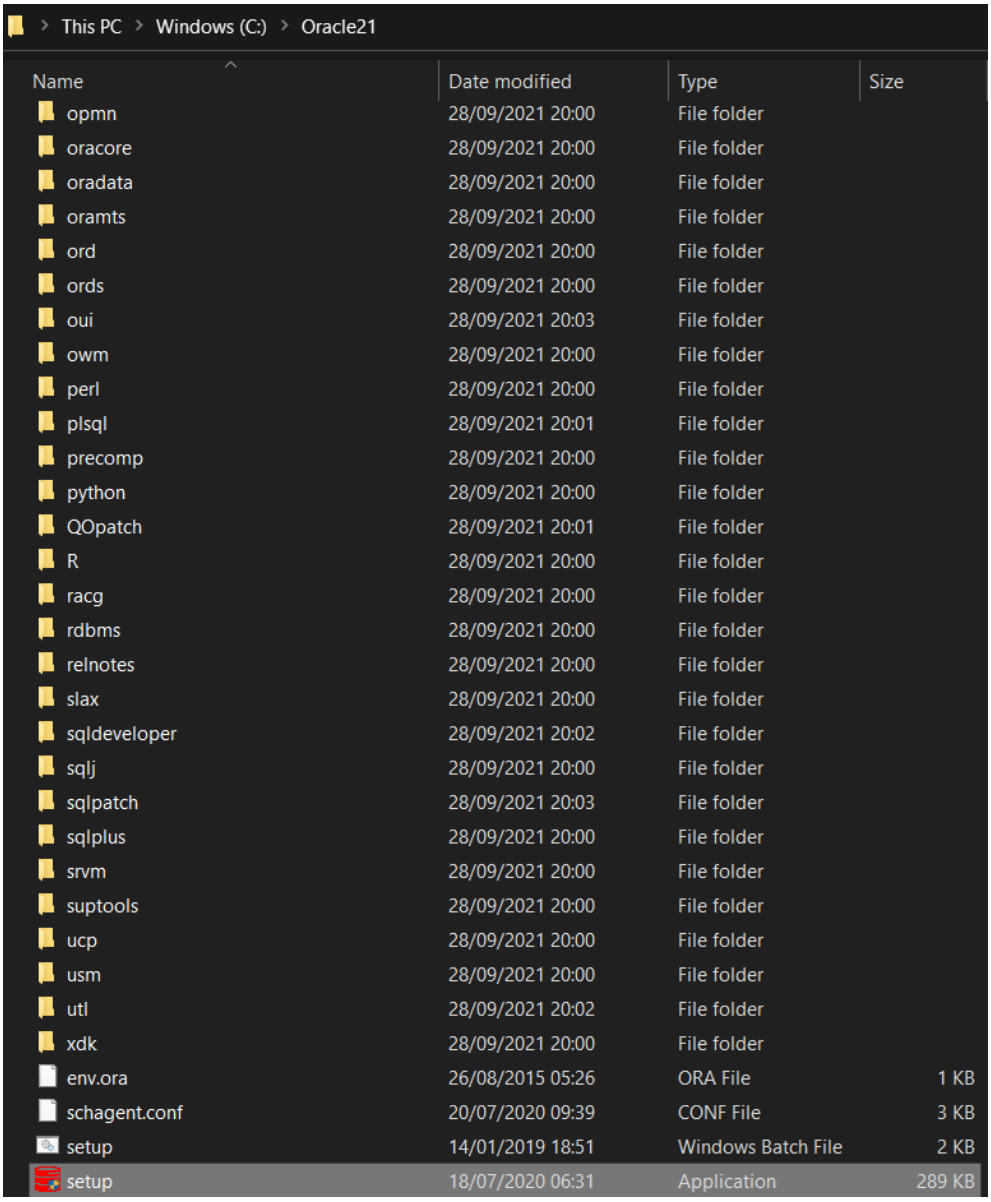


Oracle Database 21c

Oracle Database 21c is the latest Innovation Release. For details about database releases and their support timeframes, refer to Oracle Support Document 742060.1 (Release Schedule of Current Database Releases) on My Oracle Support.

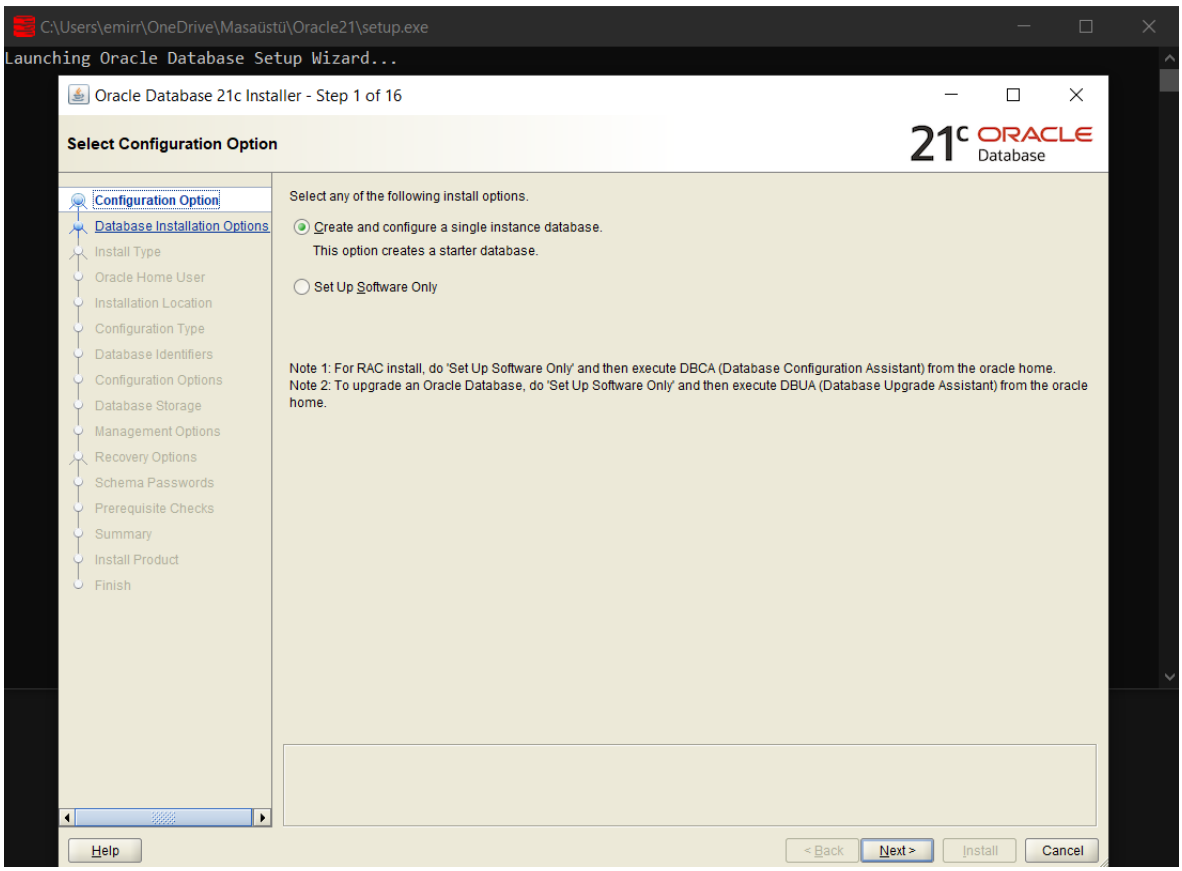
21.3 - Enterprise Edition (also includes Standard Edition 2)

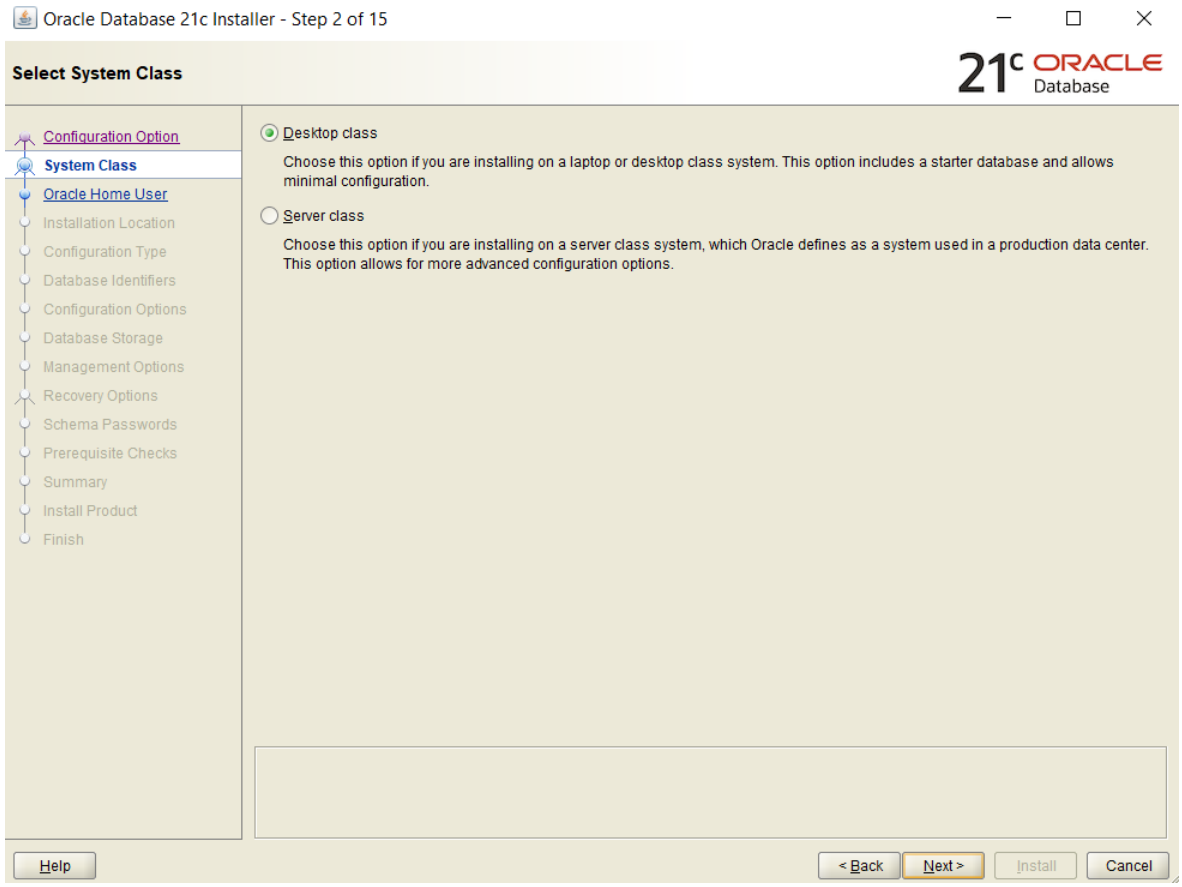
Name	Download	Note
Linux x86-64	ZIP (2.9 GB) | RPM (2.6 GB)	See All
HP-UX ia64	ZIP (3 GB)	See All
Microsoft Windows x64 (64-bit)	ZIP (2.5 GB)	See All

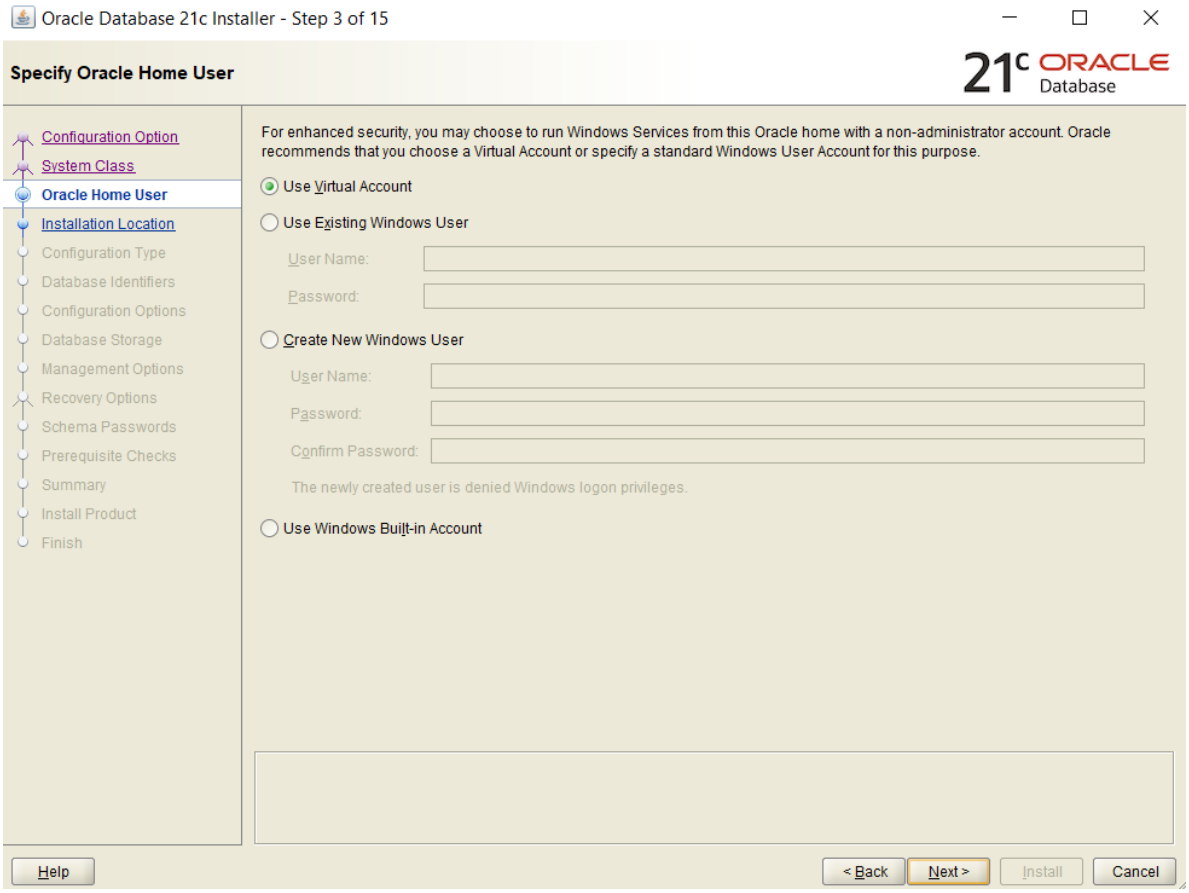


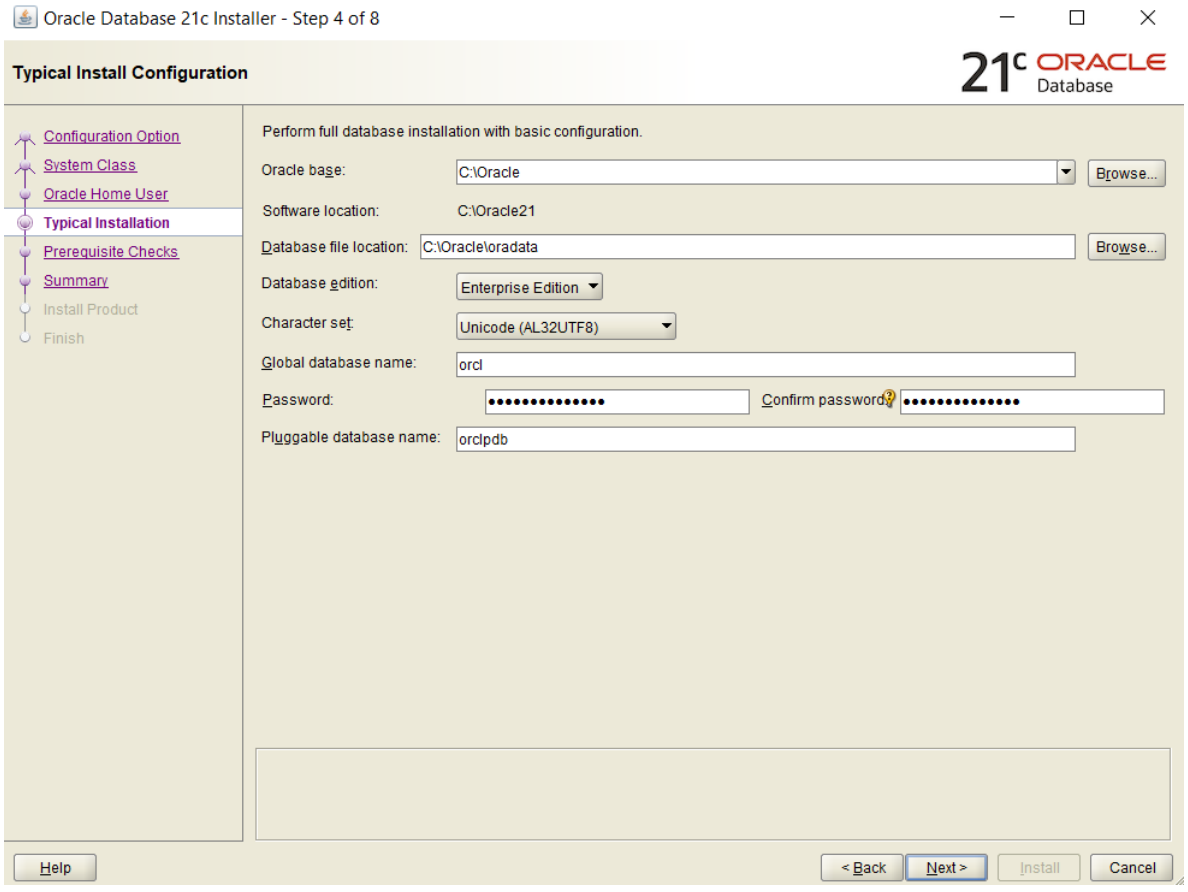
This PC › Windows (C:) › Oracle21

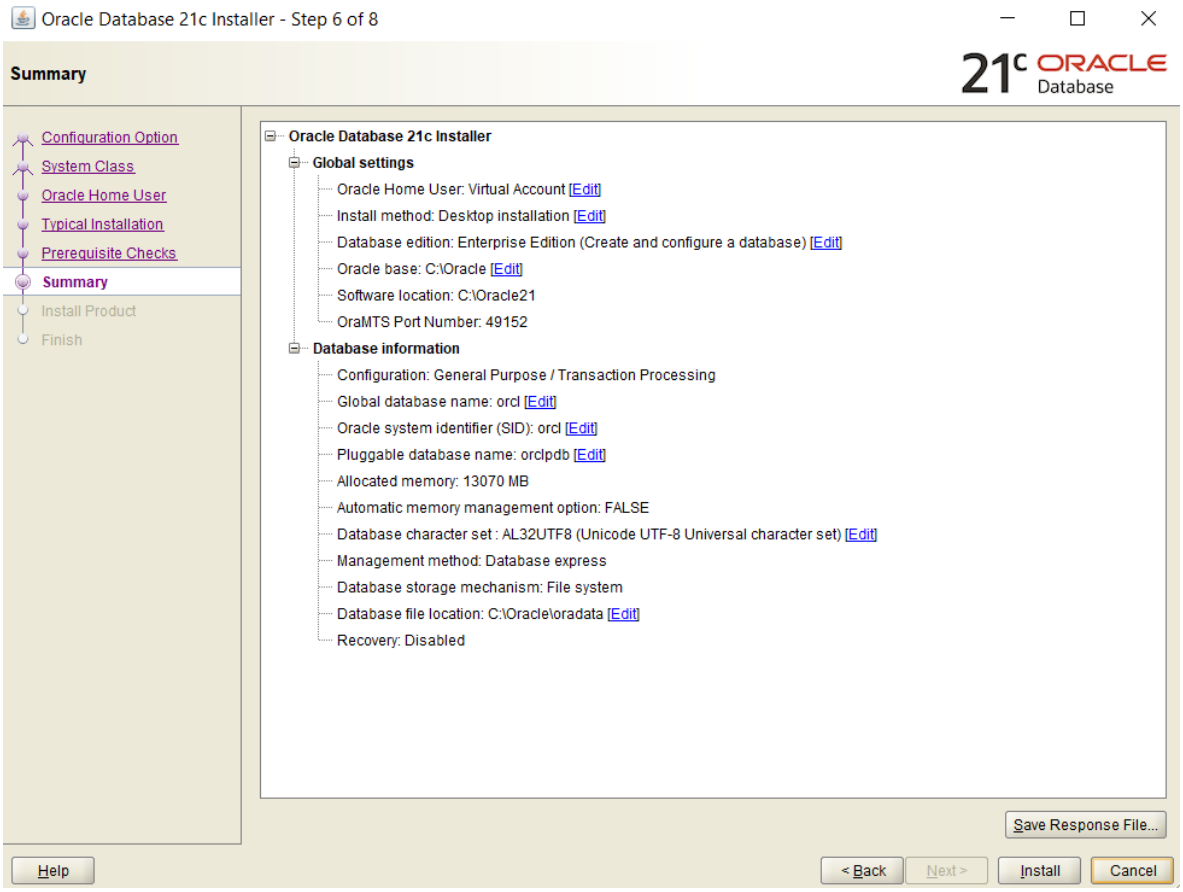
Name	Date modified	Type	Size
opmn	28/09/2021 20:00	File folder	
oracore	28/09/2021 20:00	File folder	
oradata	28/09/2021 20:00	File folder	
oramts	28/09/2021 20:00	File folder	
ord	28/09/2021 20:00	File folder	
ords	28/09/2021 20:00	File folder	
oui	28/09/2021 20:03	File folder	
owm	28/09/2021 20:00	File folder	
perl	28/09/2021 20:00	File folder	
plsql	28/09/2021 20:01	File folder	
precomp	28/09/2021 20:00	File folder	
python	28/09/2021 20:00	File folder	
QOpatch	28/09/2021 20:01	File folder	
R	28/09/2021 20:00	File folder	
racg	28/09/2021 20:00	File folder	
rdbms	28/09/2021 20:00	File folder	
relnotes	28/09/2021 20:00	File folder	
slax	28/09/2021 20:00	File folder	
sqldeveloper	28/09/2021 20:02	File folder	
sqlj	28/09/2021 20:00	File folder	
sqlpatch	28/09/2021 20:03	File folder	
sqlplus	28/09/2021 20:00	File folder	
srvm	28/09/2021 20:00	File folder	
suptools	28/09/2021 20:00	File folder	
ucp	28/09/2021 20:00	File folder	
usm	28/09/2021 20:00	File folder	
utl	28/09/2021 20:02	File folder	
xdk	28/09/2021 20:00	File folder	
env.ora	26/08/2015 05:26	ORA File	1 KB
schagent.conf	20/07/2020 09:39	CONF File	3 KB
setup	14/01/2019 18:51	Windows Batch File	2 KB
setup	18/07/2020 06:31	Application	289 KB

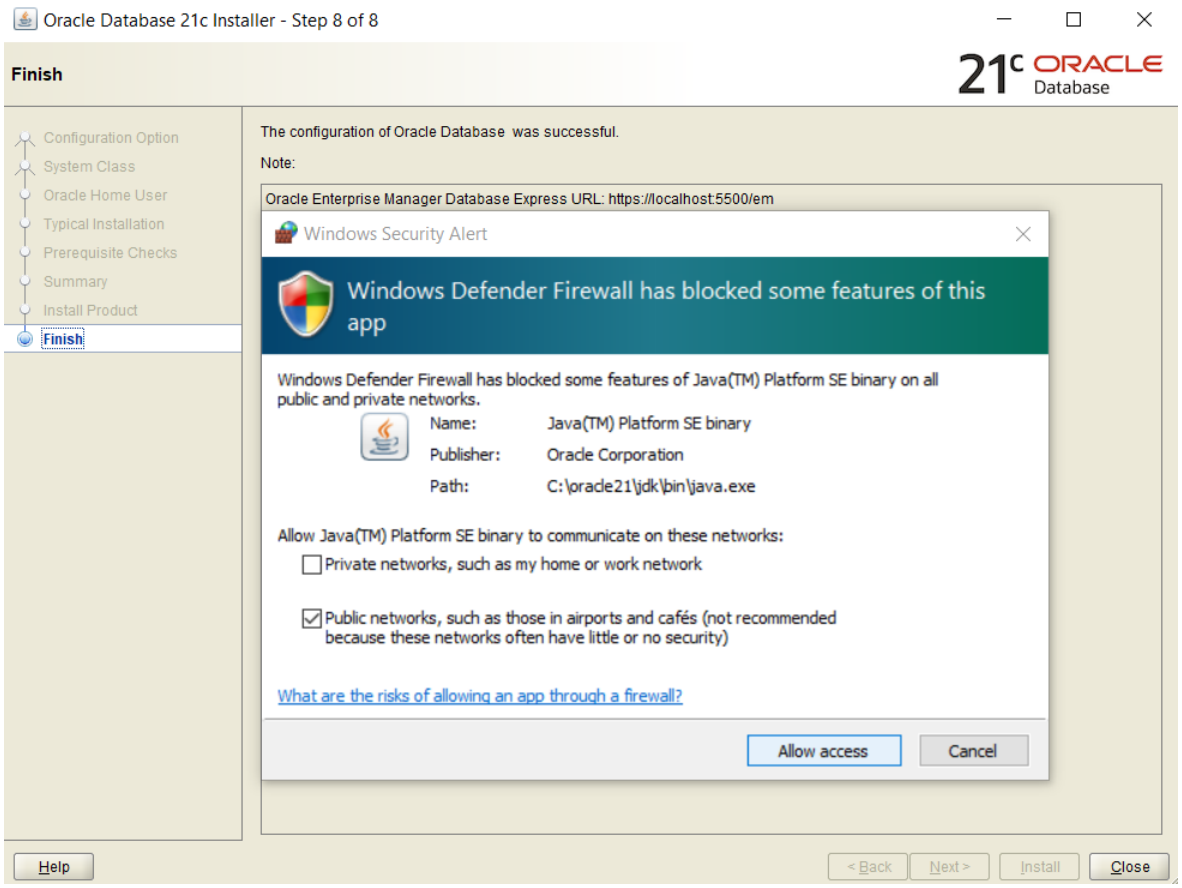

C:\Users\emirr\OneDrive\Masaüstü\Oracle21\setup.exe
Launching Oracle Database Setup Wizard...
Oracle Database 21c Installer - Step 1 of 16
Select Configuration Option
21c ORACLE Database
Configuration Option
Database Installation Options
Install Type
Oracle Home User
Installation Location
Configuration Type
Database Identifiers
Configuration Options
Database Storage
Management Options
Recovery Options
Schema Passwords
Prerequisite Checks
Summary
Install Product
Finish
Select any of the following install options.
Create and configure a single instance database.
This option creates a starter database.
Set Up Software Only
Note 1: For RAC install, do 'Set Up Software Only' and then execute DBCA (Database Configuration Assistant) from the oracle home.
Note 2: To upgrade an Oracle Database, do 'Set Up Software Only' and then execute DBUA (Database Upgrade Assistant) from the oracle home.
Help
< Back
Next >
Install
Cancel


Oracle Database 21c Installer - Step 2 of 15
Select System Class
21c ORACLE Database
Configuration Option
System Class
Oracle Home User
Installation Location
Configuration Type
Database Identifiers
Configuration Options
Database Storage
Management Options
Recovery Options
Schema Passwords
Prerequisite Checks
Summary
Install Product
Finish
Desktop class
Choose this option if you are installing on a laptop or desktop class system. This option includes a starter database and allows minimal configuration.
Server class
Choose this option if you are installing on a server class system, which Oracle defines as a system used in a production data center. This option allows for more advanced configuration options.
Help
< Back
Next >
Install
Cancel

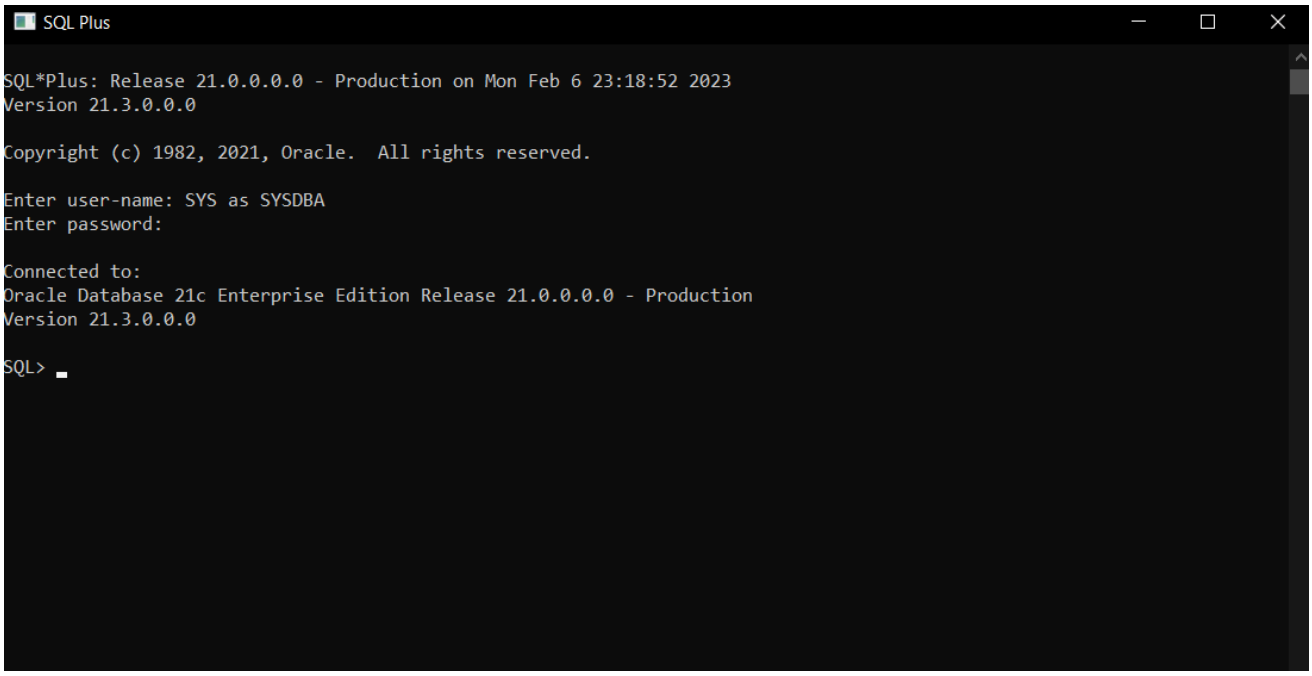

Oracle Database 21c Installer - Step 3 of 15
Specify Oracle Home User
21c ORACLE Database
Configuration Option
System Class
Oracle Home User
Installation Location
Configuration Type
Database Identifiers
Configuration Options
Database Storage
Management Options
Recovery Options
Schema Passwords
Prerequisite Checks
Summary
Install Product
Finish
For enhanced security, you may choose to run Windows Services from this Oracle home with a non-administrator account. Oracle recommends that you choose a Virtual Account or specify a standard Windows User Account for this purpose.
Use Virtual Account
Use Existing Windows User
User Name:
Password:
Create New Windows User
User Name:
Password:
Confirm Password:
The newly created user is denied Windows logon privileges.
Use Windows Built-in Account
Help
< Back
Next >
Install
Cancel


Oracle Database 21c Installer - Step 4 of 8
Typical Install Configuration
21c ORACLE Database
Configuration Option
System Class
Oracle Home User
Typical Installation
Prerequisite Checks
Summary
Install Product
Finish
Perform full database installation with basic configuration.
Oracle base: C:\Oracle
Browse...
Software location: C:\Oracle21
Database file location: C:\Oracle\oradata
Browse...
Database edition: Enterprise Edition
Character set: Unicode (AL32UTF8)
Global database name: orcl
Password:
Confirm password:
Pluggable database name: orclpdb
Help
< Back
Next >
Install
Cancel

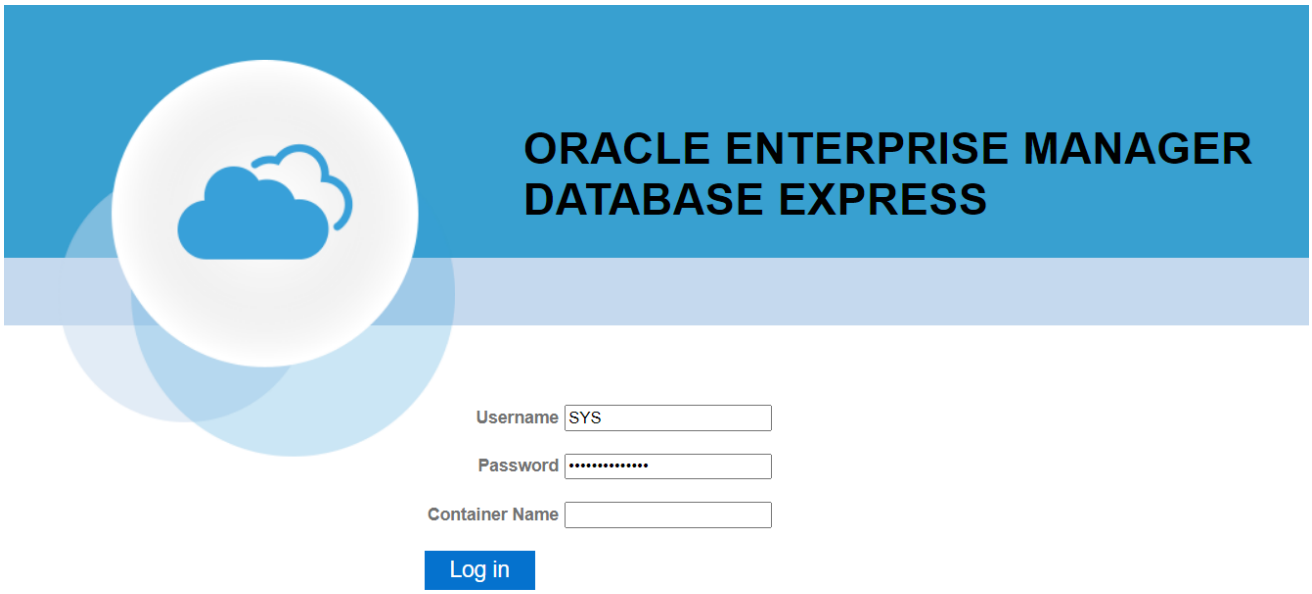

Oracle Database 21c Installer - Step 6 of 8
Summary
21c ORACLE Database
Configuration Option
System Class
Oracle Home User
Typical Installation
Prerequisite Checks
Summary
Install Product
Finish
Oracle Database 21c Installer
Global settings
Oracle Home User: Virtual Account [Edit]
Install method: Desktop installation [Edit]
Database edition: Enterprise Edition (Create and configure a database) [Edit]
Oracle base: C:\Oracle [Edit]
Software location: C:\Oracle21
OraMTS Port Number: 49152
Database information
Configuration: General Purpose / Transaction Processing
Global database name: orcl [Edit]
Oracle system identifier (SID): orcl [Edit]
Pluggable database name: orclpdb [Edit]
Allocated memory: 13070 MB
Automatic memory management option: FALSE
Database character set : AL32UTF8 (Unicode UTF-8 Universal character set) [Edit]
Management method: Database express
Database storage mechanism: File system
Database file location: C:\Oracle\oradata [Edit]
Recovery: Disabled
Save Response File...
Help
< Back
Next >
Install
Cancel

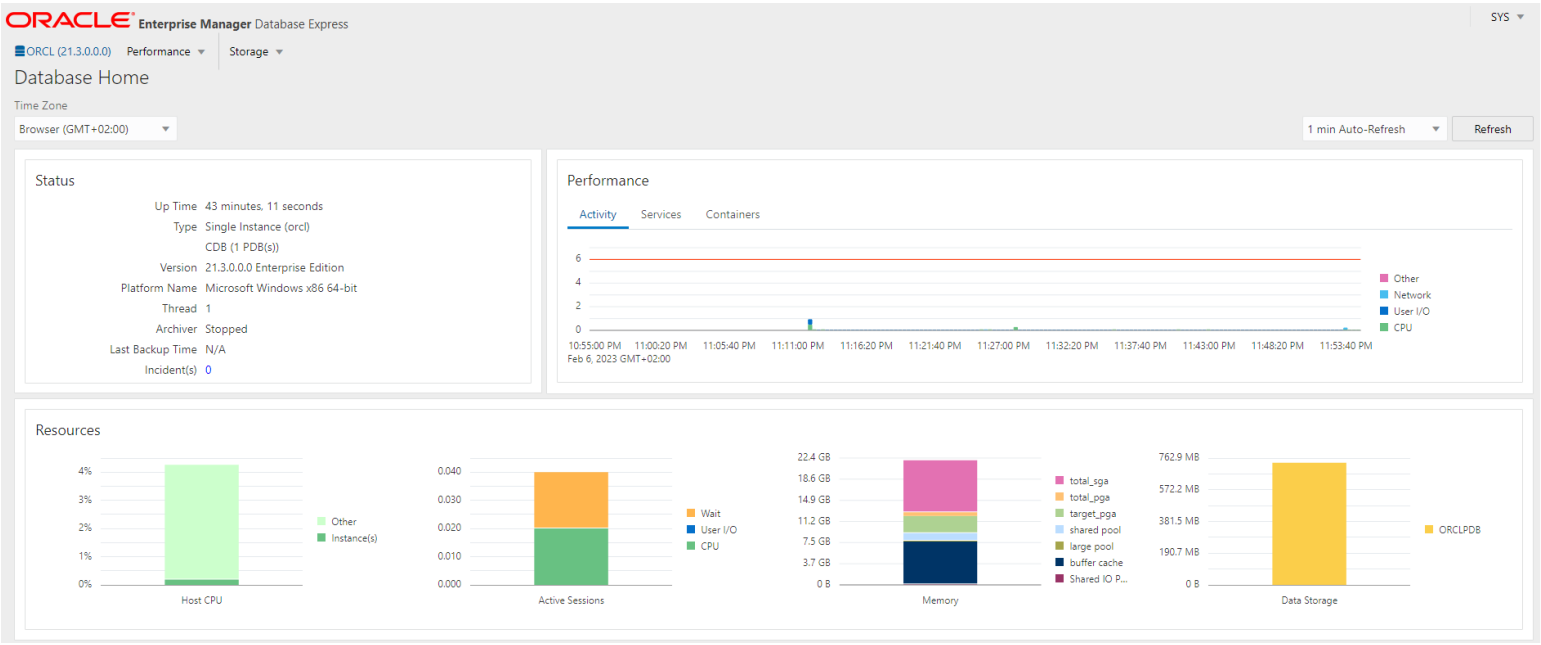

Oracle Database 21c Installer - Step 8 of 8
Finish
21c ORACLE Database
Configuration Option
System Class
Oracle Home User
Typical Installation
Prerequisite Checks
Summary
Install Product
Finish
The configuration of Oracle Database was successful.
Note:
Oracle Enterprise Manager Database Express URL: https://localhost:5500/em
Windows Security Alert
Windows Defender Firewall has blocked some features of this app
Windows Defender Firewall has blocked some features of Java(TM) Platform SE binary on all public and private networks.
Name: Java(TM) Platform SE binary
Publisher: Oracle Corporation
Path: C:\oracle21\jdk\bin\java.exe
Allow Java(TM) Platform SE binary to communicate on these networks:
Private networks, such as my home or work network
Public networks, such as those in airports and cafés (not recommended because these networks often have little or no security)
What are the risks of allowing an app through a firewall?
Allow access
Cancel
Help
< Back
Next >
Install
Close

b. Access database using SQLPlus with SYS user credentials

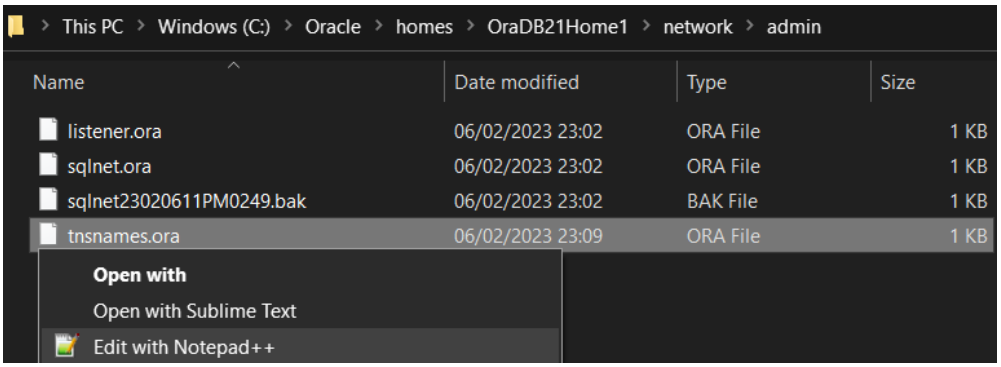


- **Oracle Enterprise Manager Database Express**



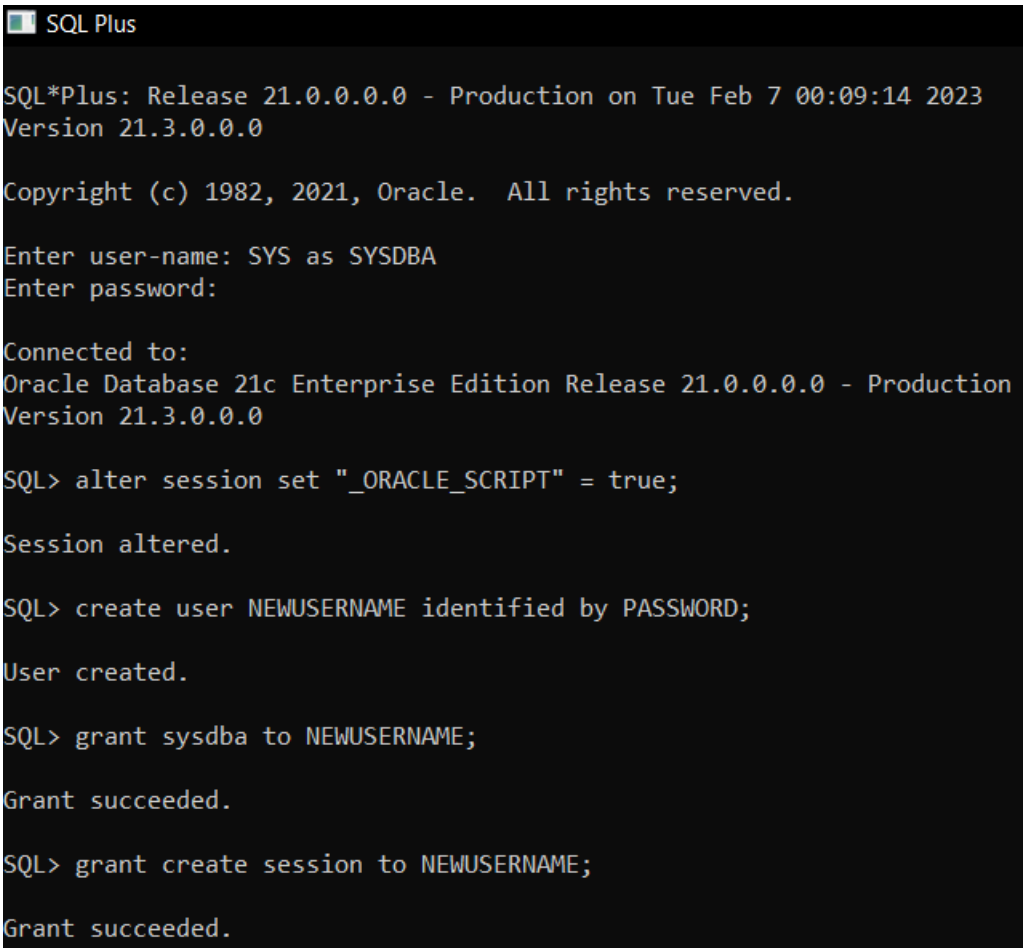


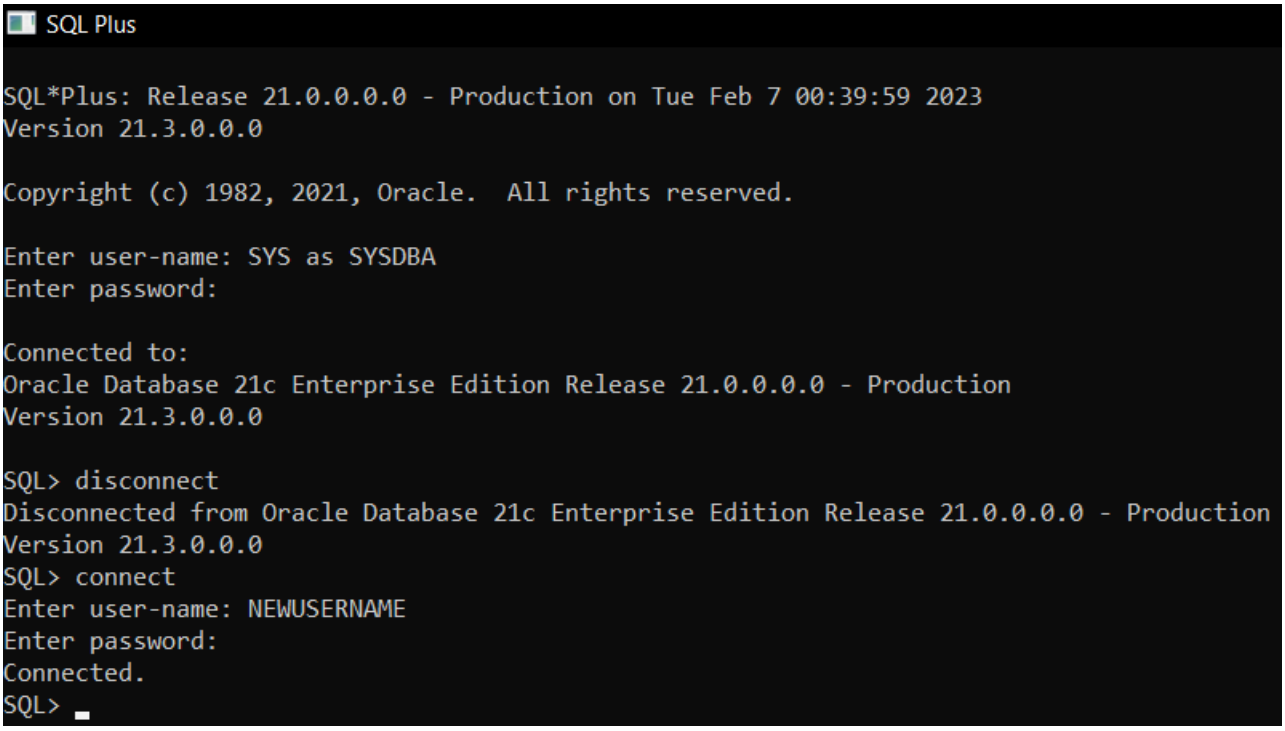
- **tnsname.ora**



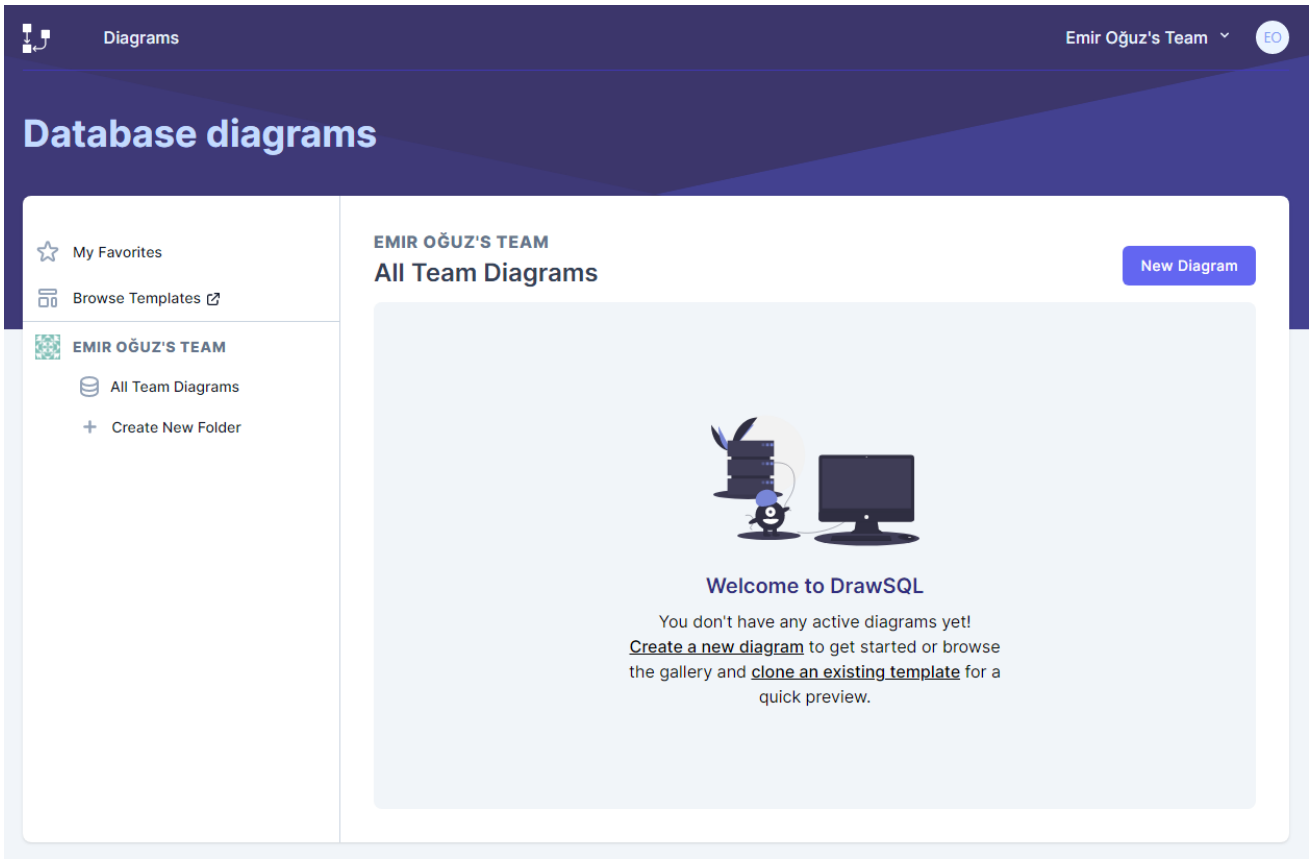

```
# tnsnames.ora Network Configuration File: C:\Oracle\homes\OraDB21Home1\NETWORK\ADMIN\tnsnames.ora
# Generated by Oracle configuration tools.

LISTENER_ORCL =
  (ADDRESS = (PROTOCOL = TCP)(HOST = heckoN)(PORT = 1521))

ORACLR_CONNECTION_DATA =
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS = (PROTOCOL = IPC)(KEY = EXTPROC1521))
    )
    (CONNECT_DATA =
      (SID = CLRExtProc)
      (PRESENTATION = RO)
    )
  )

ORCL =
  (DESCRIPTION =
    (ADDRESS = (PROTOCOL = TCP)(HOST = heckoN)(PORT = 1521))
    (CONNECT_DATA =
      (SERVER = DEDICATED)
      (SERVICE_NAME = orcl)
    )
  )

ORCLPDB =
    (DESCRIPTION =
        (ADDRESS = (PROTOCOL = TCP) (HOST = localhost) (PORT = 1521))
        (CONNECT_DATA =
            (SERVER = DEDICATED)
            (SERVICE_NAME = orclpdb)
        )
    )
```

c. Create additional user, grant access, connect with newly created user





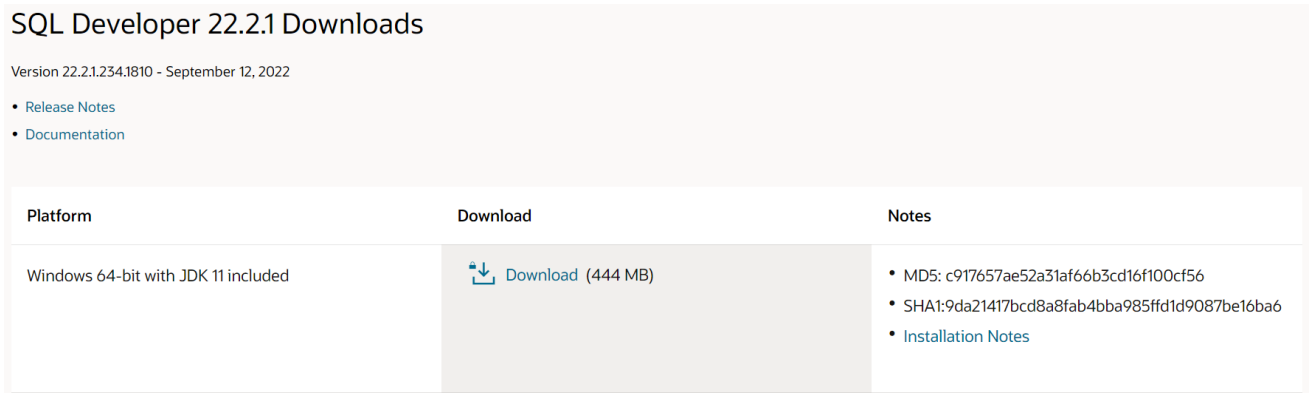
d. Install chosen ER modelling tool

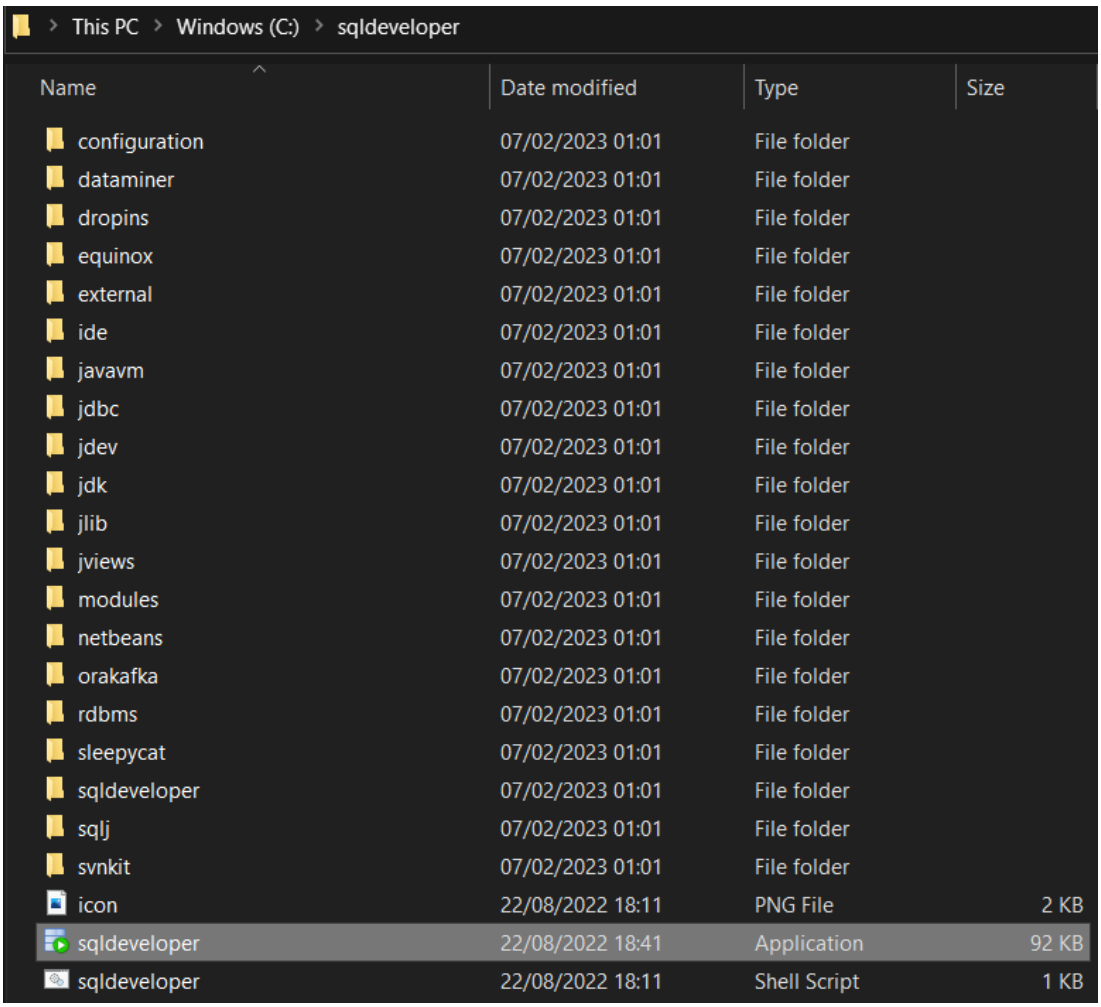


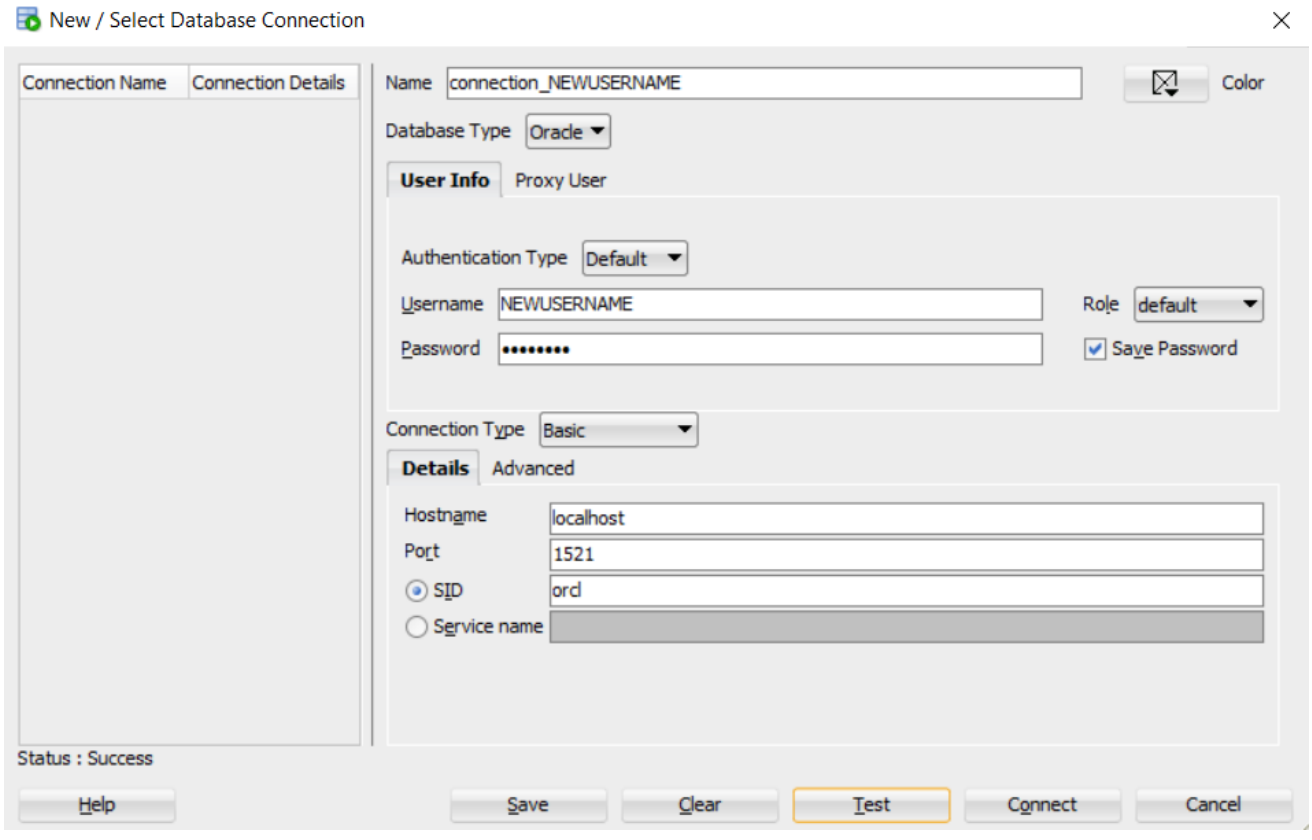
- I chose DrawSQL, which is one of the entity relationship diagram applications, and I created my account. I will use this app to create entity relationship diagrams.

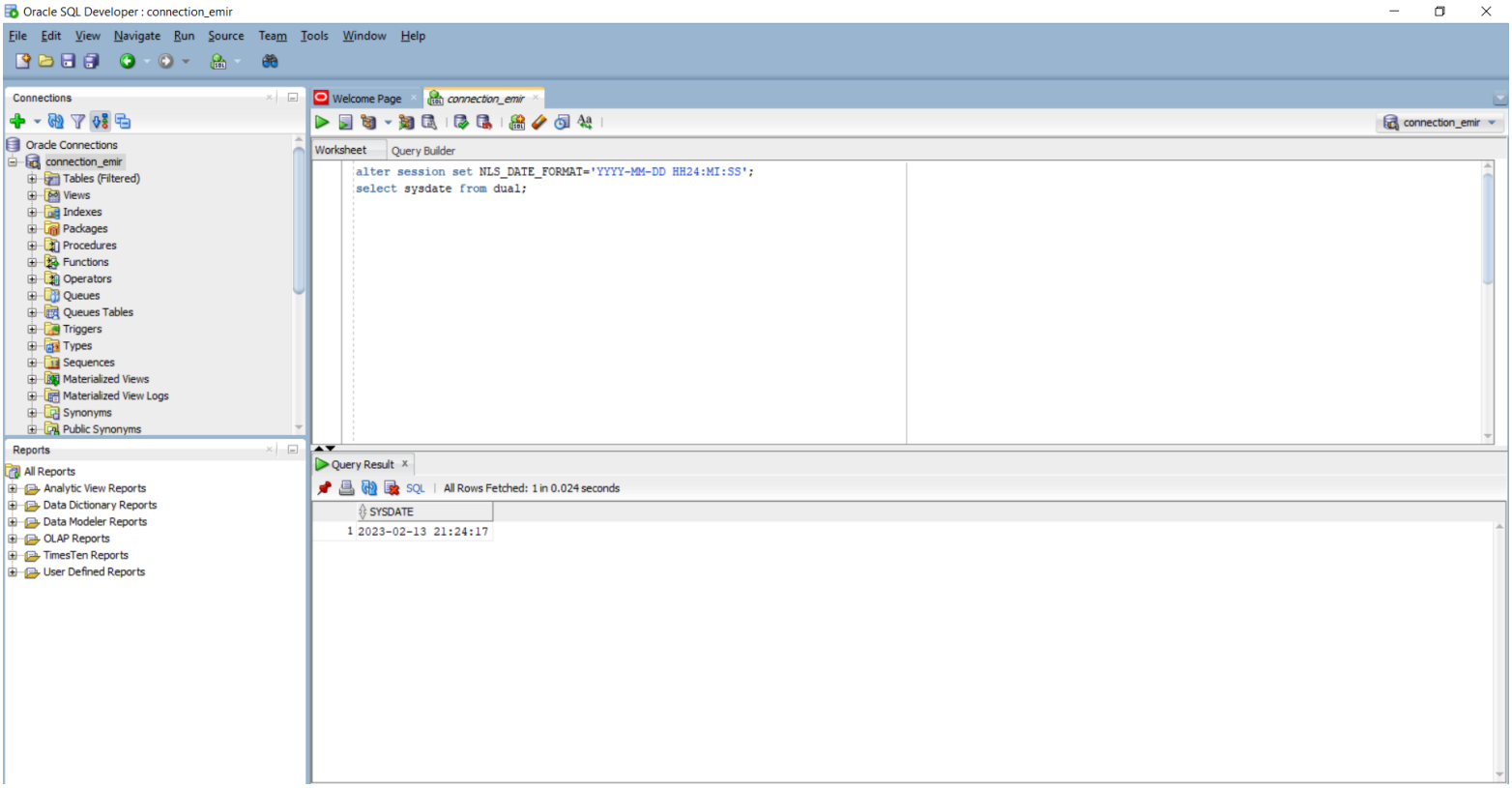
e. Install sqlDeveloper, create connection, launch following commands:

alter session set NLS_DATE_FORMAT='YYYY-MM-DD HH24:MI:SS';
select sysdate from dual;




This PC > Windows (C:) > sqldeveloper
Name
Date modified
Type
Size
configuration 07/02/2023 01:01 File folder
dataminer 07/02/2023 01:01 File folder
dropins 07/02/2023 01:01 File folder
equinox 07/02/2023 01:01 File folder
external 07/02/2023 01:01 File folder
ide 07/02/2023 01:01 File folder
javavm 07/02/2023 01:01 File folder
jdbc 07/02/2023 01:01 File folder
jdev 07/02/2023 01:01 File folder
jdk 07/02/2023 01:01 File folder
jlib 07/02/2023 01:01 File folder
jviews 07/02/2023 01:01 File folder
modules 07/02/2023 01:01 File folder
netbeans 07/02/2023 01:01 File folder
orakafka 07/02/2023 01:01 File folder
rdbms 07/02/2023 01:01 File folder
sleepycat 07/02/2023 01:01 File folder
sqldeveloper 07/02/2023 01:01 File folder
sqlj 07/02/2023 01:01 File folder
svnkit 07/02/2023 01:01 File folder
icon 22/08/2022 18:11 PNG File 2 KB
sqldeveloper 22/08/2022 18:41 Application 92 KB
sqldeveloper 22/08/2022 18:11 Shell Script 1 KB


New / Select Database Connection
Connection Name
Connection Details
Name
connection_NEWUSERNAME
Color
Database Type
Oracle
User Info
Proxy User
Authentication Type
Default
Username
NEWUSERNAME
Role
default
Password
Save Password
Connection Type
Basic
Details
Advanced
Hostname
localhost
Port
1521
SID
ord
Service name
Status : Success
Help
Save
Clear
Test
Connect
Cancel


Oracle SQL Developer : connection_emir
File Edit View Navigate Run Source Team Tools Window Help
Connections
Oracle Connections
connection_emir
Tables (Filtered)
Views
Indexes
Packages
Procedures
Functions
Operators
Queues
Queues Tables
Triggers
Types
Sequences
Materialized Views
Materialized View Logs
Synonyms
Public Synonyms
Reports
All Reports
Analytic View Reports
Data Dictionary Reports
Data Modeler Reports
OLAP Reports
TimesTen Reports
User Defined Reports
Welcome Page
connection_emir
Worksheet
Query Builder
alter session set NLS_DATE_FORMAT='YYYY-MM-DD HH24:MI:SS';
select sysdate from dual;
Query Result
SQL
All Rows Fetched: 1 in 0.024 seconds
SYSDATE
1 2023-02-13 21:24:17

3 Conclusion

In general, within the scope of this assignment, I downloaded Oracle Database, accessed the database with SYS user credential using SQLPlus, created an additional user and connected with the newly created user, opened an account in an entity relationship diagram application, installed SQL Developer and created a connection. As a result, I prepared for the Database Management Systems course with the installation steps we need to do in this assignment.

4 References

- Riga Technical University, Faculty of Computer Science and Information Technology, Institute of Applied Computer Systems, DSP201 – Database Management Systems, The Presentation of Lecture 1