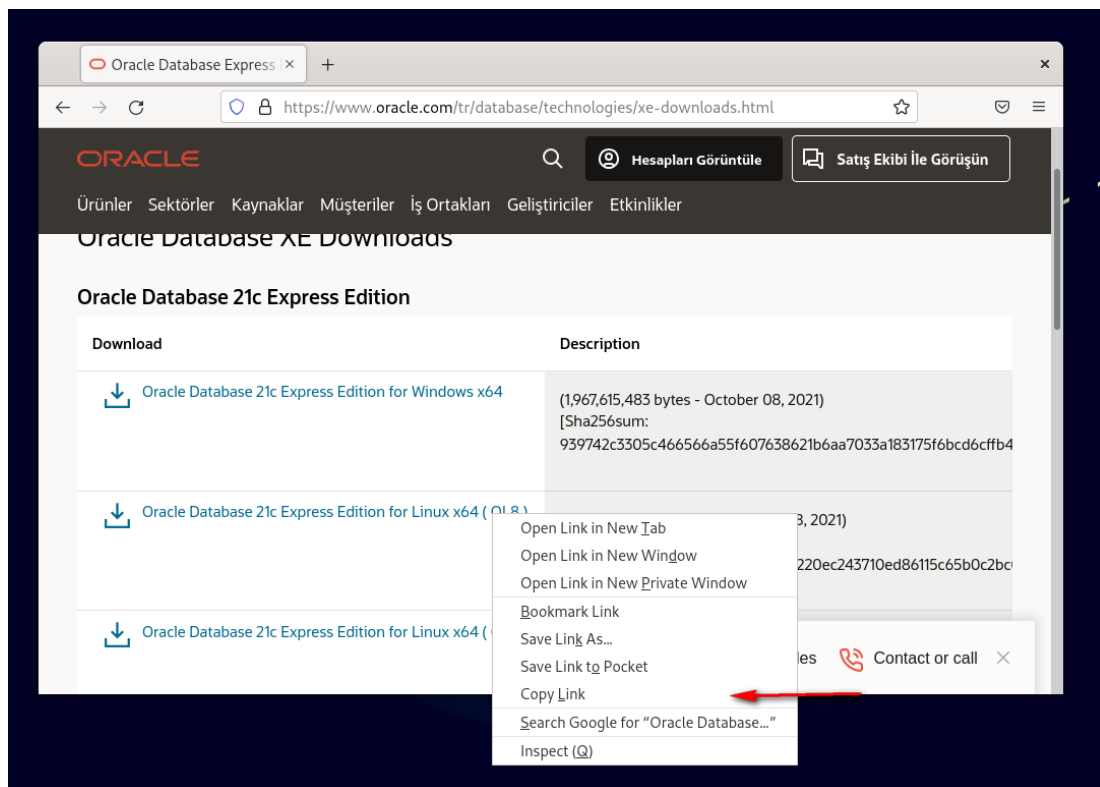
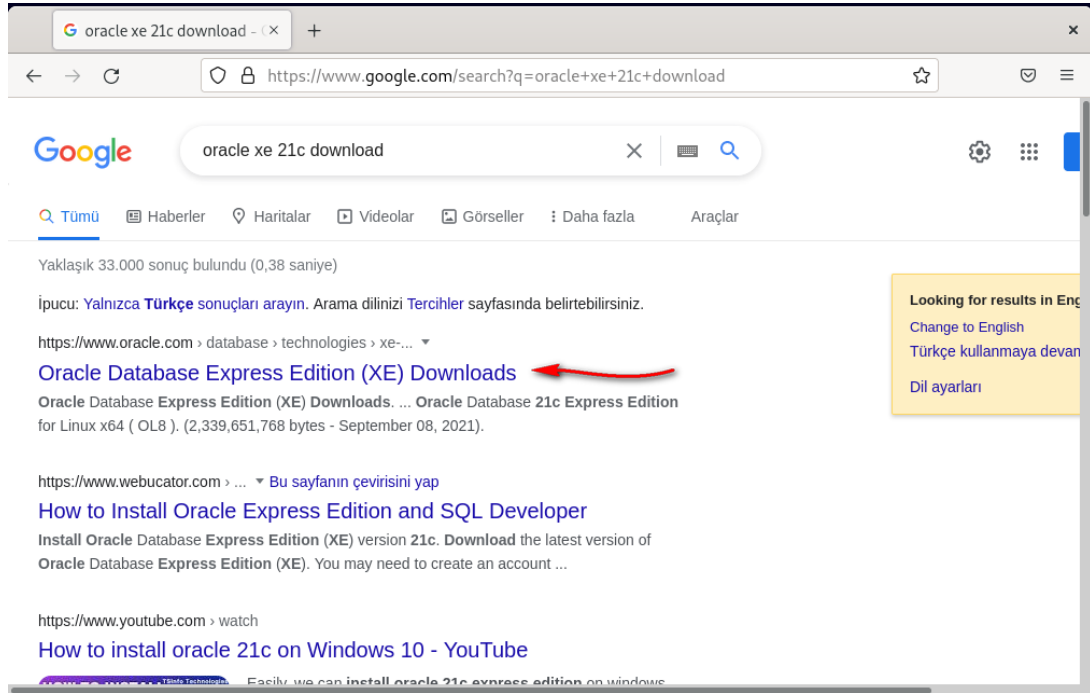


Debian 11 – Oracle Database XE 21c Kurulumu

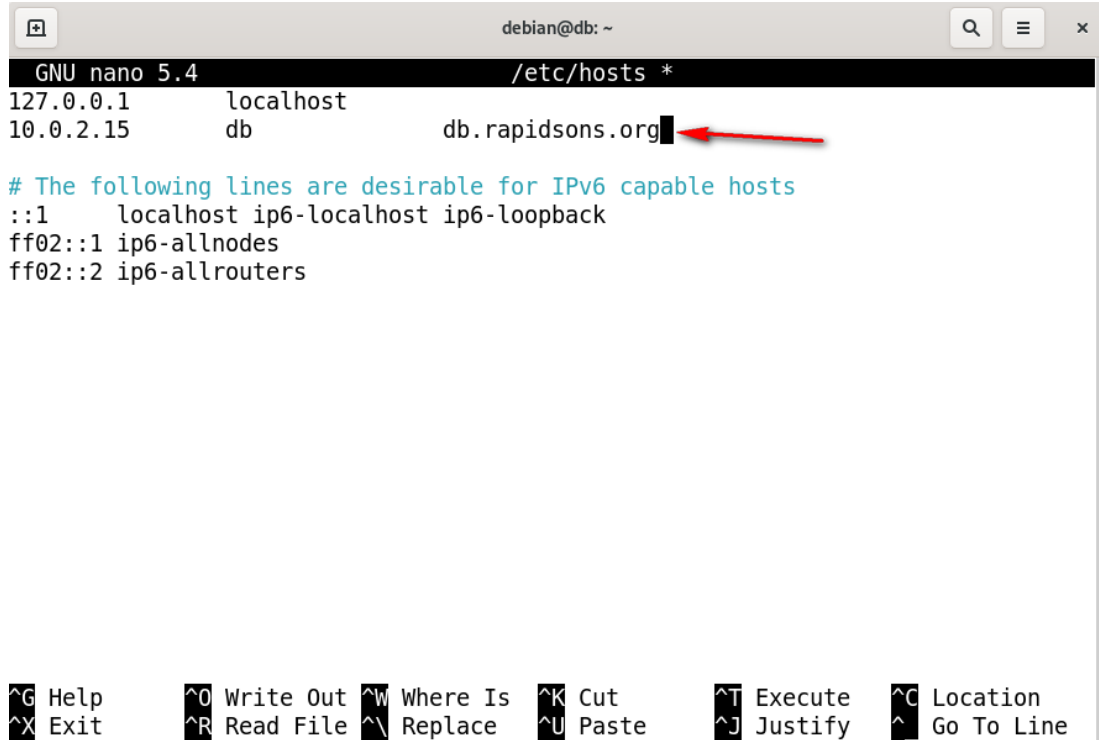
1-) Arama motoruna “Oracle Database XE 21c download” yazilir. Ekran görüntüsünü takip ederek URL’i kopyalayalım.



2-) Terminal Penceresi Acilir ve "sudo su" komutu ile root olunur.

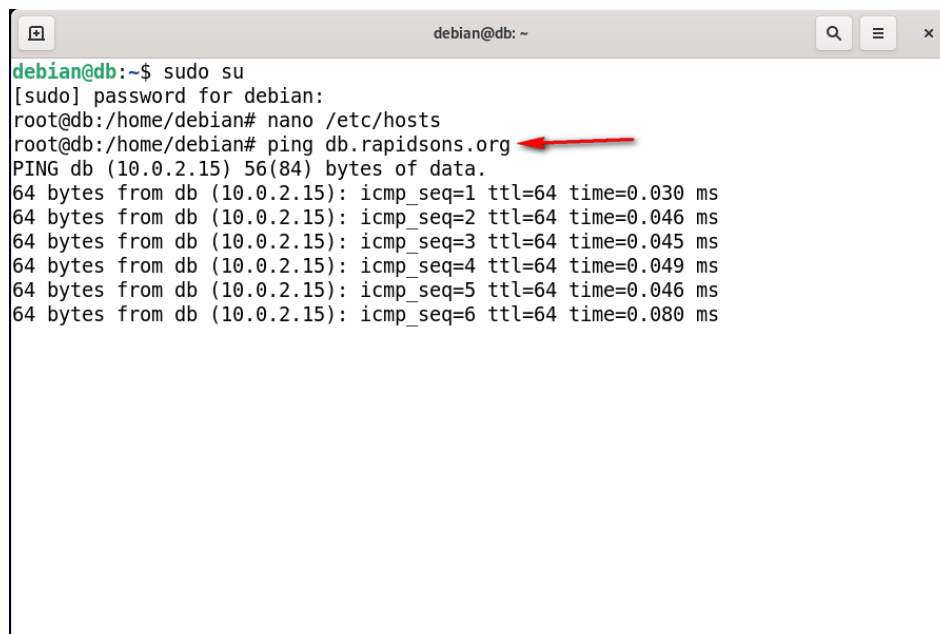
```
debian@db:~$ sudo su
[sudo] password for debian:
root@db:~#
```

3-) /etc/hosts dosyasina nano editoru yardimiyla ekran goruntusunda bulunan satir eklenir, CTRL+O ardindan CTRL+X kisayollari ile kayıt edilip kapatilir.



```
debian@db: ~
GNU nano 5.4 /etc/hosts *
127.0.0.1 localhost
10.0.2.15 db db.rapidsons.org
# The following lines are desirable for IPv6 capable hosts
::1 localhost ip6-localhost ip6-loopback
ff02::1 ip6-allnodes
ff02::2 ip6-allrouters
^G Help ^O Write Out ^W Where Is ^K Cut ^T Execute ^C Location
^X Exit ^R Read File ^\ Replace ^U Paste ^J Justify ^_ Go To Line
```

4-) "ping db.rapidsons.org" kodu terminale yazilir. Cikti ekran goruntusundeki ile ayni ise CTRL+C kisayolu ile durdurulur.



```
debian@db:~$ sudo su
[sudo] password for debian:
root@db:/home/debian# nano /etc/hosts
root@db:/home/debian# ping db.rapidsons.org
PING db (10.0.2.15) 56(84) bytes of data:
64 bytes from db (10.0.2.15): icmp_seq=1 ttl=64 time=0.030 ms
64 bytes from db (10.0.2.15): icmp_seq=2 ttl=64 time=0.046 ms
64 bytes from db (10.0.2.15): icmp_seq=3 ttl=64 time=0.045 ms
64 bytes from db (10.0.2.15): icmp_seq=4 ttl=64 time=0.049 ms
64 bytes from db (10.0.2.15): icmp_seq=5 ttl=64 time=0.046 ms
64 bytes from db (10.0.2.15): icmp_seq=6 ttl=64 time=0.080 ms
```

5-) En basta kopyaladigimiz linki wget komutu yardimiyla indiriyoruz.

```
root@db:~# wget https://download.oracle.com/otn-pub/otn_software/db-express/oracle-database-xe-21c-1.0-1.018.x86_64.rpm
```

6-) Indirdigimiz dosya .rpm uzantilidir, isletim sistemimiz debian oldugu icin .rpm to .deb yapmaliyiz. Bunun icin alien toolunu indirmeliyiz.

```
root@db:~# apt-get install alien libaiol unixodbc
```

7-) Asagidaki kod ile rpm to deb islemini gerceklestirelim.

```
root@db:~# alien --scripts -d oracle-database-xe-21c-1.0-1.018.x86_64.rpm
```

8-) chkconfig dosyasi uzerinde oynama yapmaliyiz.

```
root@db:~# pico /sbin/chkconfig
```

9-) chkconfig dosyasina bunlari yapistiriyoruz.

```
#!/bin/bash
# Oracle 21c XE installer chkconfig hack for Ubuntu
file=/etc/init.d/oracle-xe-21c
if [[ ! `tail -n1 $file | grep INIT` ]]; then
echo >> $file
echo '### BEGIN INIT INFO' >> $file
echo '# Provides: OracleXE' >> $file
echo '# Required-Start: $remote_fs $syslog' >> $file
echo '# Required-Stop: $remote_fs $syslog' >> $file
echo '# Default-Start: 2 3 4 5' >> $file
echo '# Default-Stop: 0 1 6' >> $file
echo '# Short-Description: Oracle 21c Express Edition' >> $file
echo '### END INIT INFO' >> $file
fi
update-rc.d oracle-xe-21c defaults 80 01
```

10-) Asagidaki komut ile chkconfig dosyasinin izinlerini ayarlayalim.

```
root@db:~# chmod 755 /sbin/chkconfig
```

11-) Oracle XE 21c, icin birkac ayar daha yapmaliyiz. Asagidaki komut ile cekirdek parametrelerini ayarlayalim. Acilan yere ikinci kisimdaki kodlari yapistiririm.

```
root@db:~# pico /etc/sysctl.d/60-oracle.conf
```

```
# Oracle 21c XE kernel parameters
fs.file-max=6815744
net.ipv4.ip_local_port_range=9000 65000
kernel.sem=250 32000 100 128
kernel.shmmax=4398046511104
```

12-) Cekirdek parametrelerini yukleyin.

```
root@db:~# service procps start
```

13-) Parametlerin yuklendigini dogrulayalim.

```
root@db:~# sysctl -q fs.file-max
fs.file-max = 9223372036854775807
```

14-) /dev/shm baglama noktasini ayarlayalim ve 2. Kisimdaki kodlari yapistiririm.

```
root@db:~# pico /etc/rc2.d/S01shm_load
```

```
#!/bin/sh
case "$1" in
start) mkdir /var/lock/subsys 2>/dev/null
        touch /var/lock/subsys/listener
        rm /dev/shm 2>/dev/null
        mkdir /dev/shm 2>/dev/null
        mount -t tmpfs shmfs -o size=2048m /dev/shm ;;
*) echo error
   exit 1 ;;
esac
```

15-) Dosyamizin izinlerini degistirelim.

```
root@db:~# chmod 755 /etc/rc2.d/S01shm_load
```

16-) Sirasiyla asagidaki kodlari girelim.

```
root@db:~# ln -s /usr/bin/awk /bin/awk
root@db:~# sudo mkdir /var/lock/subsys
root@db:~# sudo touch /var/lock/subsys/listener
```

17-) Sistemimizi yeniden baslatalim.

```
root@db:~# shutdown -r now
```

18-) Terminal penceresini acalim ve "sudo su" komutu ile root olalim.

19-) Donusturmesini yaptigimiz dosyayi kuralim.

```
root@db:~# dpkg --install oracle-database-xe-21c_1.0-2_amd64.deb
```

20-) Alandan kazanc elde etmek icin kurulumdan sonra .deb ve .rpm dosyalari silinir.

```
root@db:~# rm -rf oracle-database-xe-21c_1.0-2_amd64.deb
root@db:~# rm -rf oracle-database-xe-21c-1.0-1.o18.x86_64.rpm
```

21-) Kurulan veri tabanı asagidaki komutlarla yapilandirilir. Sifre verme kisiminda oneri olarak oracle girilmesi daha iyi olucaktir. Veri tabani kurulumu daha sonra tamamlanir.

```
root@db:~# /etc/init.d/oracle-xe-21c configure
.....
100% complete
Database creation complete. For details check the logfiles at:
/opt/oracle/cfgtoollogs/dbca/XE.
Database Information:
Global Database Name:XE
System Identifier(SID):XE
Look at the log file "/opt/oracle/cfgtoollogs/dbca/XE/XE.log" for further details.

Connect to Oracle Database using one of the connect strings:
  Pluggable database: db.rapidsons.org/XEPDB1
  Multitenant container database: db.rapidsons.org
Use https://localhost:5500/em to access Oracle Enterprise Manager for Oracle Database XE
root@db:~#
```

22-) Veri tabani sisteminin servisinin sistem acildiginda otomatik olarak acilmasi icin bir service dosyasi olusturmaliyiz.

```
root@db:~# cd /usr/lib/systemd/system
```

```
root@db:/usr/lib/systemd/system# nano oracle.service
```

23-) oracle.service dosyasina asagidaki kodlar yapistirilir.

```
[Unit]
Description=Oracle XE 21c Service
After=network.target

[Service]
Type=simple
RemainAfterExit=yes
User=oracle
Group=dba

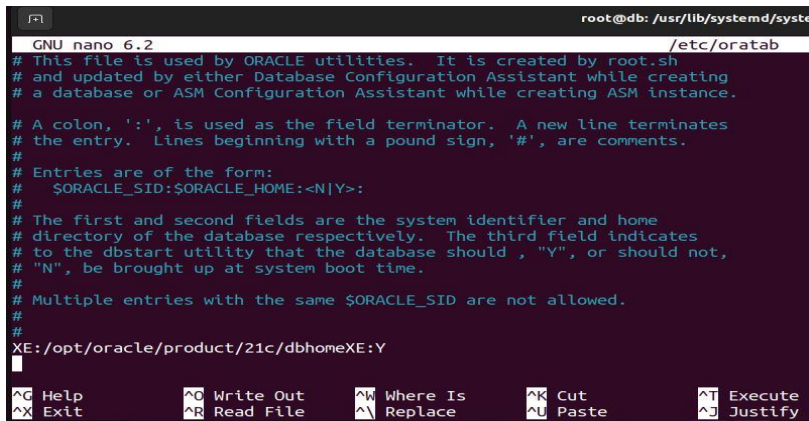
Environment="ORACLE_HOME=/opt/oracle/product/21c/dbhomeXE"
ExecStart=/opt/oracle/product/21c/dbhomeXE/bin/dbstart $ORACLE_HOME >> 2>&1 &
ExecStop=/opt/oracle/product/21c/dbhomeXE/bin/dbshut $ORACLE_HOME >> 2>&1 &

TimeoutSec=120

[Install]
WantedBy=multi-user.target
```

24-) /etc/oratab dosyasina giris yapalim. dbhomeXE:Y olarak ayarlayalim.

```
root@db:/usr/lib/systemd/system# nano /etc/oratab
```



```
GNU nano 6.2 /etc/oratab
# This file is used by ORACLE utilities.  It is created by root.sh
# and updated by either Database Configuration Assistant while creating
# a database or ASM Configuration Assistant while creating ASM instance.
#
# A colon, ':', is used as the field terminator.  A new line terminates
# the entry.  Lines beginning with a pound sign, '#', are comments.
#
# Entries are of the form:
# $ORACLE_SID:$ORACLE_HOME:<N|Y>:
#
# The first and second fields are the system identifier and home
# directory of the database respectively.  The third field indicates
# to the dbstart utility that the database should, "Y", or should not,
# "N", be brought up at system boot time.
#
# Multiple entries with the same $ORACLE_SID are not allowed.
#
#
XE:/opt/oracle/product/21c/dbhomeXE:Y
^C Help      ^O Write Out  ^W Where Is   ^K Cut        ^T Execute
^X Exit      ^R Read File  ^I Replace   ^U Paste      ^J Justify
```

25-) Sistem acildiginda otomatik bir sekilde acilmasi icin gerekli ek ayarlar yapilir.

```
root@db:/usr/lib/systemd/system# systemctl enable oracle.service
root@db:/usr/lib/systemd/system# systemctl daemon-reload
root@db:/usr/lib/systemd/system# systemctl start oracle.service
```

26-) root kullanicisindan exit komutu ile cikis yapilir.

27-) .bashrc dosyasina giris yapilir. Gerekli ortam degiskenleri girilir.

```
debian@db:~$ nano .bashrc
```

28-) Acilan dosyanin en altina inilir ve asagidaki degerler yapistirilir.

```
export ORACLE_BASE=/opt/oracle
export ORACLE_HOME=$ORACLE_BASE/product/21c/dbhomeXE
export ORACLE_SID=XE
export PATH=$ORACLE_HOME/bin:$PATH
```

29-) Sistem restart edilir.

```
debian@db:~$ shutdown -r now
```

30-) Sistem yeniden basladıktan sonra kurulumu test etmek icin veri tabanina baglanalim

```
debian@db:~$ sqlplus / as sysdba

SQL*Plus: Release 21.0.0.0.0 - Production on Sat Aug 20 11:10:57 2022
Version 21.3.0.0.0

Copyright (c) 1982, 2021, Oracle. All rights reserved.

Connected to:
Oracle Database 21c Express Edition Release 21.0.0.0.0 - Production
Version 21.3.0.0.0

SQL>
```

31-) SET WRAP OFF komutu ile sorgulamaların daha guzel gorunmesini saglarız. Enter'a basarak calıstıralım.

```
SQL> SET WRAP OFF
```

32-) SQLPlus ile ilk bağlanıldığında CDB (Container Database) ve PDB (Pluggable Database) aktif olarak hangisinin hangisinin kullanıldığı aşağıdaki komutla öğrenilebilir. Bu örnekte ise CDB\$ROOT container'ı içinde işlem yapıldığını göstermektedir.

```
SQL> show con_name
CDB$ROOT
```

33-)CDB ve PDB listesi ise aşağıdaki SQL komutu ile öğrenilebilir. Buna göre sistemde bir tane xepdb1 adında PDB veri tabanı vardır.

```
SQL> SELECT NAME, PDB FROM V$SERVICES ORDER BY PDB, NAME;
```

NAME	PDB
SYS\$BACKGROUND	CDB\$ROOT
SYS\$USERS	CDB\$ROOT
xe	CDB\$ROOT
xeXDB	CDB\$ROOT
xepdb1	XEPDB1

34-) exit komutu ile cikis yapilir.

1-)lsnrctl status ile veri tabanı dinleyicisinin aktif olup olmadığını anlayabilirsiniz. Bu komutla veri tabanına ait bir çok bilgiye de ulaşabilirsiniz.

```
debian@db:~$ lsnrctl status

LSNRCTL for Linux: Version 21.0.0.0.0 - Production on 18-AUG-2022 16:29:37

Copyright (c) 1991, 2021, Oracle. All rights reserved.
Connecting to (DESCRIPTION=(ADDRESS=(PROTOCOL=TCP) (HOST=db) (PORT=1521)))
STATUS of the LISTENER
-----
Alias                     LISTENER
Version                   TNSLSNR for Linux: Version 21.0.0.0.0 - Production
Start Date                18-AUG-2022 16:28:03
Uptime                    0 days 0 hr. 1 min. 33 sec
Trace Level               off
Security                  ON: Local OS Authentication
SNMP                      OFF
Default Service           XE
Listener Parameter File   /opt/oracle/homes/OraDBHome21cXE/network/admin/listener.ora
Listener Log File         /opt/oracle/diag/tnslsnr/db/listener/alert/log.xml
Listening Endpoints Summary...
  (DESCRIPTION=(ADDRESS=(PROTOCOL=tcp) (HOST=db) (PORT=1521)))
  (DESCRIPTION=(ADDRESS=(PROTOCOL=ipc) (KEY=EXTPROC1521)))
  (DESCRIPTION=(ADDRESS=(PROTOCOL=tcps) (HOST=127.0.0.1) (PORT=5500)) (Security=(my_wallet_directory=/opt/oracle/homes/OraDBHome21cXE/admin/XE/xdw_wallet)) (Presentation=HTTP) (Session=RAW))
Services Summary...
Service "XE" has 1 instance(s).
  Instance "XE", status READY, has 1 handler(s) for this service...
Service "XEXDB" has 1 instance(s).
  Instance "XE", status READY, has 1 handler(s) for this service...
Service "e684dc542013146be0530f02000a6f79" has 1 instance(s).
  Instance "XE", status READY, has 1 handler(s) for this service...
Service "xepdb1" has 1 instance(s).
  Instance "XE", status READY, has 1 handler(s) for this service...
The command completed successfully
```


2-) Listener çalıştığına göre oracle veri tabanına bağlantıda kullanılan tnsnames.ora dosyasının aşağıdaki dizinde oluşması gerekir. Oracle'da tnsnames.ora dosyasında bağlantıda kullanılan bir string vardır. Bu string ilerleyen aşamada kullanılacaktır.

```
oracle@db:~$ nano /opt/oracle/homes/OraDBHome21cXE/network/admin/tnsnames.ora
```

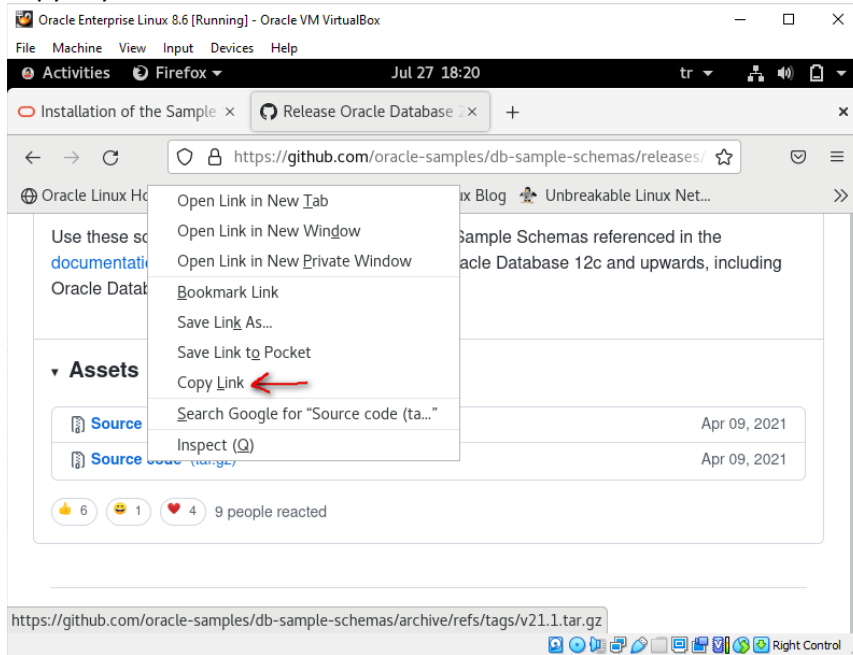
```
/opt/oracle/homes/OraDBHome21cXE/network/admin/tnsnames.ora
tnsnames.ora Network Configuration File: /opt/oracle/homes/OraDBHome21cXE/network/a$
# Generated by Oracle configuration tools.

XE =
  (DESCRIPTION =
    (ADDRESS = (PROTOCOL = TCP)(HOST = db)(PORT = 1521))
    (CONNECT_DATA =
      (SERVER = DEDICATED)
      (SERVICE_NAME = XE)
    )
  )

LISTENER_XE =
  (ADDRESS = (PROTOCOL = TCP)(HOST = db)(PORT = 1521))
```

Ornek Veri Tabani Semalarinin Yuklenmesi

1-) Şema veri tabanındaki tablo, view, stored prosedür nesnelere guruplamaya yarar. İlgili nesnelere şemadı.nesne adı şeklinde erişerek sorgulama yapılır. Örneğin HR şeması altındaki DEPARTMENTS tablosuna HR.DEPARTMENTS şeklinde erişilir. Oracle eğitimlerinde kullanılan örnek veri tabanı şemalarını yükleyebilmek için <https://github.com/oracle-samples/db-sample-schemas/releases/tag/v21.1> adresine gidiniz ve Source code (tar.gz) dosyasına sağ tıklayıp linki kopyalayınız.



2-) Kopyalanan linki Terminal üzerinden wget ile indiriniz.

```
debian@db:~$ cd ~
debian@db:~$ wget https://github.com/oracle-samples/db-sample-
schemas/archive/refs/tags/v21.1.1.tar.gz
```

3-) İndirilen tar.gz uzantılı arşiv dosyasını tar komutu ile açınız ve açılan klasöre geçiniz. Daha sonra perl programlama diliyle aşağıdaki komutu çalıştırınız. Alt klasörlerle birlikte oluşan .bak uzantılı dosyaları bulup siliniz.

```
oracle@db:~$ tar -xvf v21.1.1.tar.gz
oracle@db:~/db-sample-schemas-21.1.1$
oracle@db:~/db-sample-schemas-21.1.1$ ls
bus_intelligence  human_resources  mkplug.sql      order_entry      sales_history
CONTRIBUTING.md  info_exchange    mksample.sql    product_media    shipping
customer_orders  LICENSE.md       mkunplug.sql    README.md
drop_sch.sql     mk_dir.sql       mkverify.sql    README.txt
oracle@db:~/db-sample-schemas-21.1.1$ perl -p -i.bak -e 's#_SUB_CWD_#'$(pwd) '#g' *.sql
*/*.sql */*.dat
oracle@db:~/db-sample-schemas-21.1.1$ find . -name "*.bak" -delete
```

4-) Örnek şemaların kurulumu sırasında SQL Plus içinde oluşan logları tutabileceğiniz klasörleri aşağıdaki komutlarla oluşturunuz.

```
debian@db:~/db-sample-schemas-21.1.1$ mkdir -p $ORACLE_HOME/demo/HR/log
debian@db:~/db-sample-schemas-21.1.1$ mkdir -p $ORACLE_HOME/demo/CO/log
debian@db:~/db-sample-schemas-21.1.1$ mkdir -p $ORACLE_HOME/demo/SH/log
debian@db:~/db-sample-schemas-21.1.1$ mkdir -p $ORACLE_HOME/demo/OE/log
```

HR Şemasının Olusturulması

1-) HR şemasını yükleyebilmek için **human_resources** klasörüne geçilir. Bu klasöre geçtikten sonra sqlplus'a sysdba olarak girilir. Bu noktada human_resources altında yer alan herhangi bir sql scripti doğrudan çalıştırılabilir. Burada aktif veritabanı CDB\$ROOT'dur. Bunun değiştirilerek PDB yapılması daha sağlıklı olacaktır.

```
oracle@db:~$ cd ~
oracle@db:~$ cd db-sample-schemas-21.1/
oracle@db:~/db-sample-schemas-21.1$ cd human_resources/
oracle@db:~/db-sample-schemas-21.1/human_resources$ ls
hr_analz.sql  hr_comnt.sql  hr_dn_c.sql  hr_drop.sql  hr_main.sql
hr_code.sql   hr_cre.sql    hr_dn_d.sql  hr_idx.sql   hr_popul.sql
oracle@db:~/db-sample-schemas-21.1/human_resources$ sqlplus / as sysdba

SQL*Plus: Release 21.0.0.0.0 - Production on Sat Aug 20 14:47:17 2022
Version 21.3.0.0.0

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Connected to:
Oracle Database 21c Express Edition Release 21.0.0.0.0 - Production
Version 21.3.0.0.0

SQL> SHOW CON_NAME
CON_NAME
-----
CDB$ROOT
```

2-) SQL Sonuclarinin daha duzgun gorunmesi icin asagidaki komut girilir.

```
SQL> SET WRAP OFF
```

3-) Aktif veri tabanını XEPDB1 yapınız.

```
SQL> ALTER SESSION SET container=XEPDB1;
Session altered.

SQL> SHOW CON_NAME
CON_NAME
-----
XEPDB1
```

4-) sqlplus içinde iken HR şemasını oluşturmak için bu klasörde bulunan hr_main.sql SQL komutlarını aşağıdaki gibi yükleyiniz. İlk olarak gelen soruda HR şemasının bağlı olduğu kullanıcının şifresi sorulmaktadır. Buraya kolaylık olması açısından hr giriniz.

```
SQL> @hr_main.sql

specify password for HR as parameter 1:
Enter value for 1:hr
```

```
specify default tablespespace for HR as parameter 2:
Enter value for 2: users
```

```
specify temporary tablespace for HR as parameter 3:  
Enter value for 3: temp
```

```
specify password for SYS as parameter 4:  
Enter value for 4: oracle
```

```
specify log path as parameter 5:  
Enter value for 5: $ORACLE_HOME/demo/HR/log
```

```
specify connect string as parameter 6:  
Enter value for 6: localhost:1521/XEPDB1
```

5-) HR kullanicisi olarak sisteme gecis yapabilmek icin asagidaki komutlari giriniz.

```
SQL> CONNECT HR/hr@localhost:1521/XEPDB1  
Connected.  
SQL> SELECT sys_context('USERENV', 'CURRENT_USER') FROM dual;  
  
SYS_CONTEXT('USERENV','CURRENT_USER')  
-----  
-----  
HR  
  
1 row selected.  
SQL>
```

6-) HR kullanıcı altında oluşan tablo listesine ise şema adı yazmadan aşağıdaki SQL sorgusuyla yapabilirsiniz.

```
SQL> SELECT * FROM TAB;  
TNAME  
-----  
COUNTRIES  
DEPARTMENTS  
EMPLOYEES  
EMP_DETAILS_VIEW  
JOBS  
JOB_HISTORY  
LOCATIONS  
REGIONS  
  
8 rows selected.  
SQL>
```

7-)Örneğin HR şeması altındaki REGIONS tablosundaki kayıtları SQL komutlarıyla (şema adını da yazmak gerekir) aşağıdaki gibi sorgulayabilirsiniz.

```
SQL> SELECT * FROM HR.REGIONS;

  REGION_ID REGION_NAME
-----
         1 Europe
         2 Americas
         3 Asia
         4 Middle East and Africa

4 rows selected.
SQL>
```

8-) exit komutu ile cikis yapilir.

CO Semasinin Olusturulmasi

1-)CO şemasını yükleyebilmek için **customer_orders** klasörüne geçilir. Bu klasöre geçtikten sonra sqlplus'a sysdba olarak girilir. Bu noktada customer_orders altında yer alan herhangi bir sql scripti doğrudan çalıştırılabilir. Burada aktif veritabanı CDB\$ROOT'dur. Bunun değiştirilerek PDB yapılması daha sağlıklı olacaktır.

```
debian@db:~/db-sample-schemas-21.1/human_resources$ cd ~
debian@db:~$ cd db-sample-schemas-21.1/
debian@db:~/db-sample-schemas-21.1$ cd customer_orders/
debian@db:~/db-sample-schemas-21.1/customer_orders$ ls
co_comments.sql          co_main.sql              inventory.sql
sample_queries.sql
co_constraints.sql      co_set_identity_starts.sql  order_items.sql  shipments.sql
co_ddl.sql              co_tables.sql            orders.sql        stores.sql
co_dml.sql              co_user.sql              products.sql
co_drop_objects.sql    co_views.sql             README.md
co_drop_user.sql       customers.sql             README.txt
debian@db:~/db-sample-schemas-21.1/customer_orders$ sqlplus / as sysdba

SQL*Plus: Release 21.0.0.0.0 - Production on Sat Aug 20 14:55:44 2022
Version 21.3.0.0.0

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Connected to:
Oracle Database 21c Express Edition Release 21.0.0.0.0 - Production
Version 21.3.0.0.0

SQL> SHOW CON_NAME

CON_NAME
-----
CDB$ROOT
SQL>
```


7-)CO şeması altındaki PRODUCTS tablosunun alanlarını ve her bir alanın veri tipini aşağıdaki komutla görüntüleyebilirsiniz.

```
SQL> DESCRIBE CO.PRODUCTS;
Name                                                    Null?   Type
-----
PRODUCT_ID                                             NOT NULL NUMBER(38)
PRODUCT_NAME                                           NOT NULL VARCHAR2(255 CHAR)
UNIT_PRICE                                             NUMBER(10,2)
PRODUCT_DETAILS                                        BLOB
PRODUCT_IMAGE                                          BLOB
IMAGE_MIME_TYPE                                        VARCHAR2(512 CHAR)
IMAGE_FILENAME                                         VARCHAR2(512 CHAR)
IMAGE_CHARSET                                          VARCHAR2(512 CHAR)
IMAGE_LAST_UPDATED                                     DATE
```

8-) exit komutu ile cikis yapilir.

SH Semasinin Olusturulmasi

1-) CO şemasını yükleyebilmek için **sales_history** klasörüne geçilir. Bu klasöre geçtikten sonra sqlplus'a sysdba olarak girilir. Bu noktada sales_history altında yer alan herhangi bir sql scripti doğrudan çalıştırılabilir. Burada aktif veritabanı CDB\$ROOT'dur. Bunun değiştirilerek PDB yapılması daha sağlıklı olacaktır.

```
oracle@db:~/db-sample-schemas-21.1/customer_orders$ cd ~
oracle@db:~$ cd db-sample-schemas-21.1/
oracle@db:~/db-sample-schemas-21.1$ cd sales_history/
oracle@db:~/db-sample-schemas-21.1/sales_history$ ls *main.sql
sh_main.sql
oracle@db:~/db-sample-schemas-21.1/sales_history$ sqlplus / as sysdba

SQL*Plus: Release 21.0.0.0.0 - Production on Sat Aug 20 15:04:55 2022
Version 21.3.0.0.0

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Connected to:
Oracle Database 21c Express Edition Release 21.0.0.0.0 - Production
Version 21.3.0.0.0

SQL> SHOW CON_NAME

CON_NAME
-----
CDB$ROOT
SQL>
```

2-) SQL Sonuclarinin daha duzgun gorunmesi icin asagidaki komutu giriniz.

```
SQL> SET WRAP OFF
```

3-) Aktif veri tabanini XEPDB1 yapiniz.

```
SQL> ALTER SESSION SET container=XEPDB1;
Session altered.

SQL> SHOW CON_NAME
CON_NAME
-----
XEPDB1
```

4-) sqlplus içinde iken SH şemasını oluşturmak için bu klasörde bulunan sh_main.sql SQL komutlarını aşağıdaki gibi yükleyiniz. Burada sh şema kullanıcısının şifresini, users table space'i, temp temporary tablespace'i, oracle system kullanıcısının şifresini, /home/oracle/db-sample-schemas-21.1/sales_history/ satırlara ait klasörü, \$ORACLE_HOME/demo/SH/log kurulum log klasörünü, v3 version numarasını (bunu değiştirmeyiniz) ve localhost:1521/XEPDB1 connection string'i, göstermektedir.

```
SQL> @sh_main.sql

specify password for SH as parameter 1:
Enter value for 1: sh

specify default tablespace for SH as parameter 2:
Enter value for 2: users

specify temporary tablespace for SH as parameter 3:
Enter value for 3: temp

specify password for SYS as parameter 4:
Enter value for 4: oracle

specify directory path for the data files as parameter 5:
Enter value for 5: /home/oracle/db-sample-schemas-21.1/sales_history/

writeable directory path for the log files as parameter 6:
Enter value for 6: $ORACLE_HOME/demo/SH/log

specify version as parameter 7:
Enter value for 7: v3

specify connect string as parameter 8:
Enter value for 8: localhost:1521/XEPDB1
```

5-) SH Kullanicisi olarak sisteme gecis yapalim.

```
SQL> CONNECT SH/sh@localhost:1521/XEPDB1
Connected.
SQL>
```


6-) SH kullanicisi altinda olusan tablo ve view listesine ise sema adi yazmadan asagidaki SQL sorgusuyla yapabiliriz.

```
SQL> SELECT * FROM TAB;

TNAME
-----
CAL_MONTH_SALES_MV
CHANNELS
COSTS
COUNTRIES
CUSTOMERS
DR$SUP_TEXT_IDX$B
DR$SUP_TEXT_IDX$C
DR$SUP_TEXT_IDX$I
DR$SUP_TEXT_IDX$K
DR$SUP_TEXT_IDX$N
DR$SUP_TEXT_IDX$Q

TNAME
-----
DR$SUP_TEXT_IDX$U
FWEEK_PSCAT_SALES_MV
PRODUCTS
PROFITS
PROMOTIONS
SALES
SALES_TRANSACTIONS_EXT
SUPPLEMENTARY_DEMOGRAPHICS
TIMES

20 rows selected.
SQL>
```

7-) SH semasi altındaki COUNTRIES tablosundaki kayitlari asagidaki komutla goruntuluyebilirsiniz.

```
SQL> SELECT * FROM SH.COUNTRIES;

COUNTRY_ID CO COUNTRY_NAME                COUNTRY_SUBREGION
-----
52790 US United States of America         Northern America
52776 DE Germany                          Western Europe
52789 GB United Kingdom                   Western Europe
52784 NL The Netherlands                  Western Europe
52780 IE Ireland                          Western Europe
52777 DK Denmark                          Western Europe
52779 FR France                            Western Europe
52778 ES Spain                             Western Europe
52788 TR Turkey                            Western Europe
52786 PL Poland                            Eastern Europe
52775 BR Brazil                            Southern America
```

```

COUNTRY_ID CO COUNTRY_NAME                COUNTRY_SUBREGION
-----
52773 AR Argentina                        Southern America
52783 MY Malaysia                         Asia
52782 JP Japan                            Asia
52781 IN India                            Asia
52774 AU Australia                       Australia
52785 NZ New Zealand                     Australia
52791 ZA South Africa                    Africa
52787 SA Saudi Arabia                    Middle East
52772 CA Canada                          Northern America
52771 CN China                            Asia
52769 SG Singapore                       Asia

```

```

COUNTRY_ID CO COUNTRY_NAME                COUNTRY_SUBREGION
-----
52770 IT Italy                             Western Europe

```

```

23 rows selected.
SQL>

```

8-) exit komutu ile cikis yapilir.

OE Semasinin Olusturulmasi

1-) OE şemasını yükleyebilmek için **order_entry** klasörüne geçilir. Bu klasöre geçtikten sonra sqlplus'a sysdba olarak girilir. Bu noktada order_entry altında yer alan herhangi bir sql scripti doğrudan çalıştırılabilir. Burada aktif veritabanı CDB\$ROOT'dur. Bunun değiştirilerek PDB yapılması daha sağlıklı olacaktır.

```

oracle@db:~/db-sample-schemas-21.1/sales_history$ cd ~
oracle@db:~$ cd db-sample-schemas-21.1/
oracle@db:~/db-sample-schemas-21.1$ cd order_entry/
oracle@db:~/db-sample-schemas-21.1/order_entry$ ls *main.sql
oc_main.sql  oe_main.sql
oracle@db:~/db-sample-schemas-21.1/order_entry$ sqlplus / as sysdba

SQL*Plus: Release 21.0.0.0.0 - Production on Sat Aug 20 15:18:31 2022
Version 21.3.0.0.0

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Connected to:
Oracle Database 21c Express Edition Release 21.0.0.0.0 - Production
Version 21.3.0.0.0

SQL> SHOW CON_NAME

CON_NAME
-----
CDB$ROOT
SQL>

```

2-) SQL Sonuclarinin daha duzgun gozukmesi icin asagidaki komutu yaziniz.

```
SQL> SET WRAP OFF
```

3-) Aktif veri tabanini XEPDB1 yapiniz.

```
SQL> ALTER SESSION SET container=XEPDB1;  
Session altered.
```

```
SQL> SHOW CON_NAME  
CON_NAME  
-----  
XEPDB1
```

4-) sqlplus içinde iken OE şemasını oluşturmak için bu klasörde bulunan oe_main.sql SQL komutlarını aşağıdaki gibi yükleyiniz. Burada oe şema kullanıcısının şifresini, users table space'i, temp temporary tablespace'i, hr HR kullanıcısının şifresini, oracle system kullanıcısının şifresini, /home/oracle/db-sample-schemas-21.1/order_entry/ şu an çalışılan klasörü, \$ORACLE_HOME/demo/OE/log kurulum log klasörünü, v3 version numarasını (bunu değiştirmeyiniz) ve localhost:1521/XEPDB1 connection string'i, göstermektedir.

```
SQL> @oe_main.sql  
  
specify password for OE as parameter 1:  
Enter value for 1: oe  
  
specify default tablespace for OE as parameter 2:  
Enter value for 2: users  
  
specify temporary tablespace for OE as parameter 3:  
Enter value for 3: temp  
  
specify password for HR as parameter 4:  
Enter value for 4: hr  
  
specify password for SYS as parameter 5:  
Enter value for 5: oracle  
  
specify directory path for the data files as parameter 6:  
Enter value for 6: /home/oracle/db-sample-schemas-21.1/order_entry/  
  
writeable directory path for the log files as parameter 7:  
Enter value for 7: $ORACLE_HOME/demo/OE/log  
  
specify version as parameter 8:  
Enter value for 8: v3  
  
specify connect string as parameter 9:  
Enter value for 9: localhost:1521/XEPDB1
```

5-) OE Kullanicisi olarak sisteme gecis yapilir.

```
SQL> CONNECT OE/oe@localhost:1521/XEPDB1
Connected.
SQL> SELECT sys_context('USERENV',
'CURRENT_USER') FROM dual;

SYS_CONTEXT('USERENV','CURRENT_USER')
-----
OE
1 row selected.
SQL>
```

6-) OE Kullanicisi altında oluşan tablo ve view listesine ise sema adi yazmadan asagidaki SQL sorgusuyla yapabilirsiniz.

```
SQL> SELECT * FROM TAB;
TNAME
-----
ACCOUNT_MANAGERS
ACTION_TABLE
BOMBAY_INVENTORY
CATEGORIES_TAB
COUNTRIES
CUSTOMERS
CUSTOMERS_VIEW
DEPARTMENTS
EMPLOYEES
INVENTORIES
JOBS

TNAME
-----
JOB_HISTORY
LINEITEM_TABLE
LOCATIONS
OC_CORPORATE_CUSTOMERS
OC_CUSTOMERS
OC_INVENTORIES
OC_ORDERS
OC_PRODUCT_INFORMATION
ORDERS
ORDERS_VIEW
ORDER_ITEMS
PRODUCTS
PRODUCT_DESCRIPTIONS
PRODUCT_INFORMATION
PRODUCT_PRICES
PRODUCT_REF_LIST_NESTEDTAB
PROMOTIONS
PURCHASEORDER
SUBCATEGORY_REF_LIST_NESTEDTAB
SYDNEY_INVENTORY
TORONTO_INVENTORY
WAREHOUSES

33 rows selected.
SQL>
```

7-) OE semasi altındaki JOBS tablosundaki kayıtları aşağıdaki komutla görüntüleyebilirsiniz.

```
SQL> SELECT * FROM OE.JOBS;
```

JOB_ID	JOB_TITLE	MIN_SALARY	MAX_SALARY
AD_PRES	President	20080	40000
AD_VP	Administration Vice President	15000	30000
AD_ASST	Administration Assistant	3000	6000
FI_MGR	Finance Manager	8200	16000
FI_ACCOUNT	Accountant	4200	9000
AC_MGR	Accounting Manager	8200	16000
AC_ACCOUNT	Public Accountant	4200	9000
SA_MAN	Sales Manager	10000	20080
SA_REP	Sales Representative	6000	12008
PU_MAN	Purchasing Manager	8000	15000
PU_CLERK	Purchasing Clerk	2500	5500

JOB_ID	JOB_TITLE	MIN_SALARY	MAX_SALARY
ST_MAN	Stock Manager	5500	8500
ST_CLERK	Stock Clerk	2008	5000
SH_CLERK	Shipping Clerk	2500	5500
IT_PROG	Programmer	4000	10000
MK_MAN	Marketing Manager	9000	15000
MK_REP	Marketing Representative	4000	9000
HR_REP	Human Resources Representative	4000	9000
PR_REP	Public Relations Representative	4500	10500

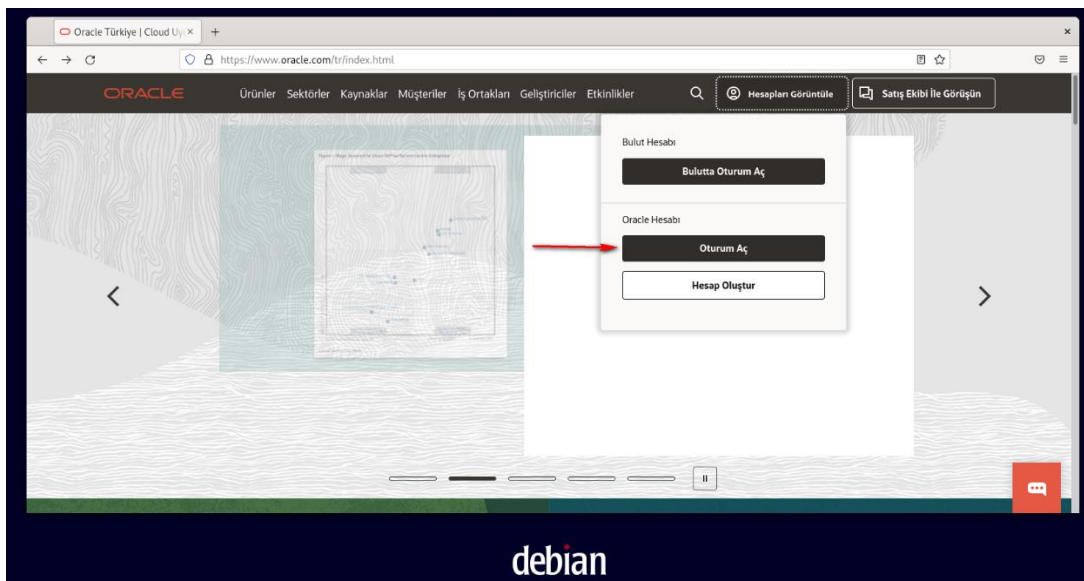
19 rows selected.

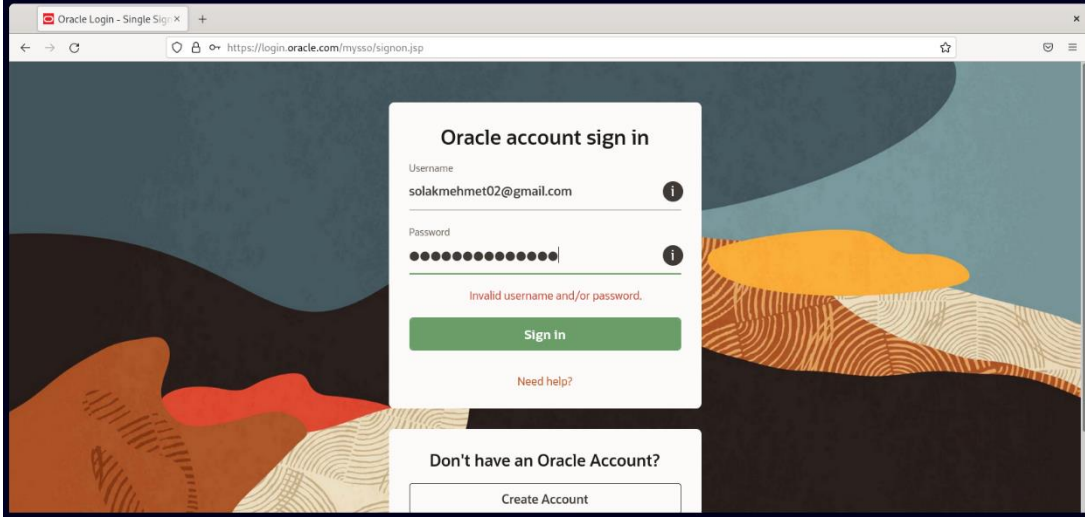
```
SQL>
```

8-) exit komutu ile çıkış yapılır.

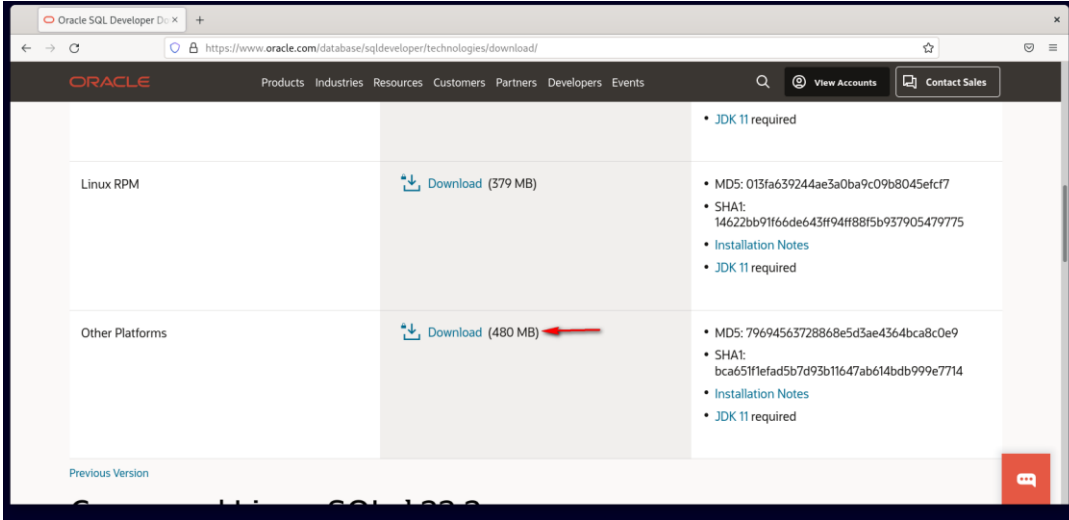
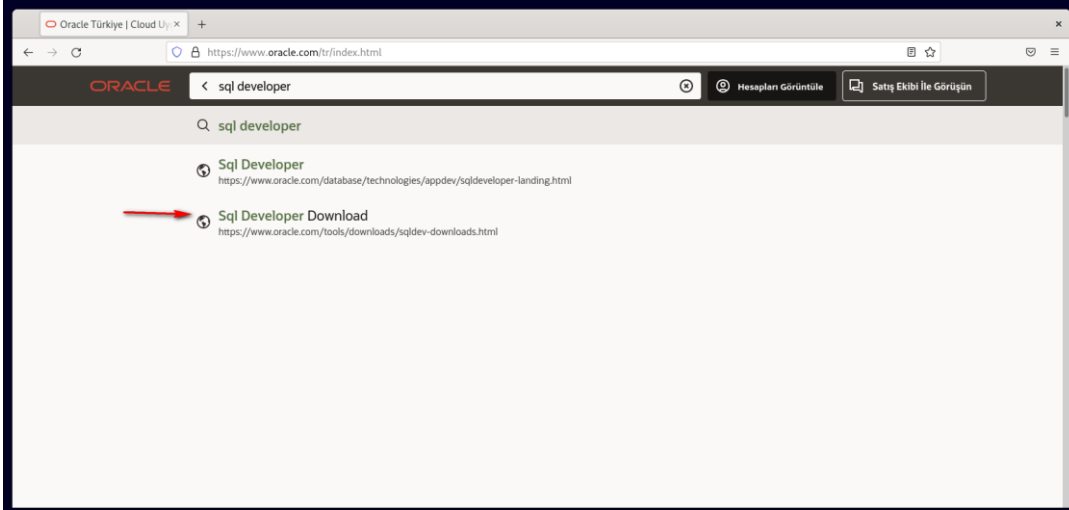
Oracle SQL Developer Kurulumu

1-) www.oracle.com web sitesine gidilir ve giriş yapılır.





2-) Arama Kutucuguna SQL Developer yazilir. Isaretli linke basilir. Adimlar uygulanir.



3-) Terminal acilir ve asagidaki kodlar girilir.

```
debian@db:~$ cd Downloads/  
debian@db:~/Downloads$ ls  
sqldeveloper-22.2.0.173.2018-no-jre.zip  
debian@db:~/Downloads$ unzip sqldeveloper-22.2.0.173.2018-no-jre.zip
```

4-) sqldeveloper dosyasi /opt yoluna tasindir.

```
debian@db:~/Downloads$ sudo mv sqldeveloper /opt  
debian@db:~/Downloads$ cd /opt/sqldeveloper/
```

5-) sqldeveloper.sh dosyasi nano editoru yardimiyla duzenlenir.

```
debian@db:/opt/sqldeveloper$ nano sqldeveloper.sh
```

```
GNU nano 6.2 sqldeveloper.sh *  
#!/bin/bash  
#cd "$(dirname $0)"/sqldeveloper/bin && bash sqldeveloper $*  
unset -v GNOME_DESKTOP_SESSION_ID  
  
cd /opt/sqldeveloper/sqldeveloper/bin && bash sqldeveloper $*
```

6-) sqldeveloper.sh dosyasinin izinleri degistirilir.

```
debian@db:/opt/sqldeveloper$ sudo chmod +x /opt/sqldeveloper/sqldeveloper.sh
```

```
debian@db:/opt/sqldeveloper$ sudo ln -s /opt/sqldeveloper/sqldeveloper.sh /usr/local/bin/sqldeveloper
```

7-) /use/share/applications yoluna gidilir.

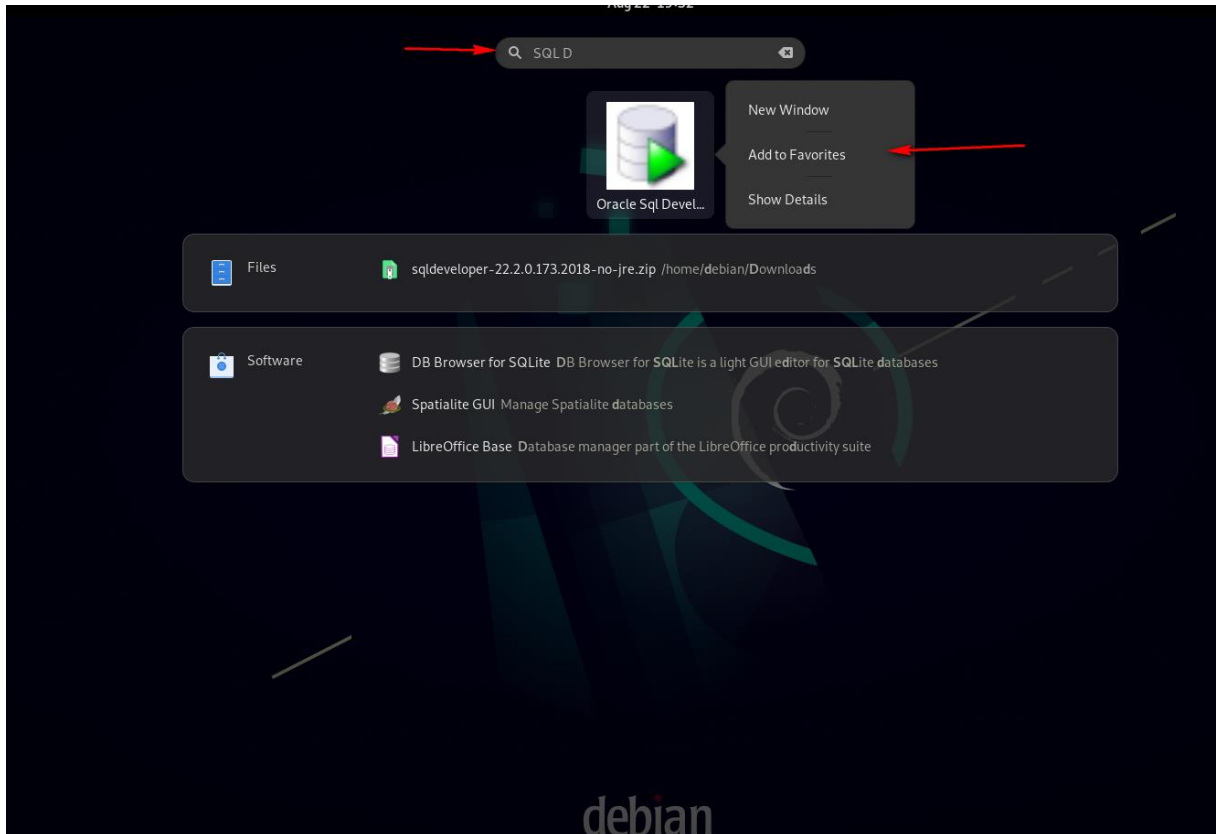
```
debian@db:/opt/sqldeveloper$ cd /usr/share/applications
```

8-) Adimlar teker teker uygulanir.

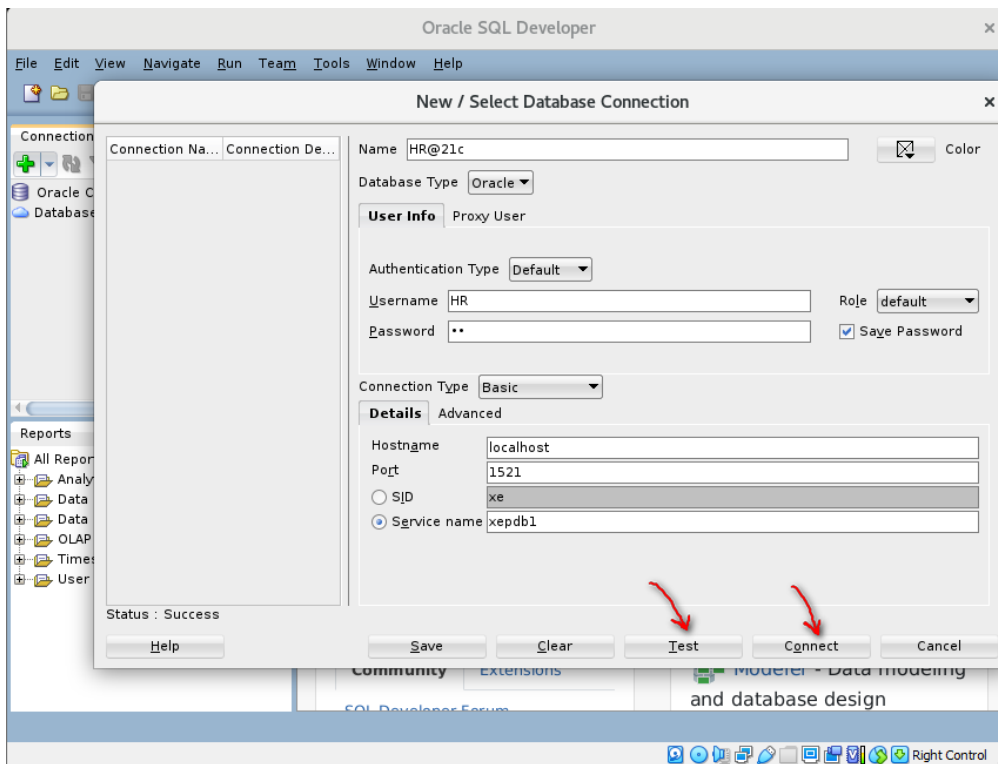
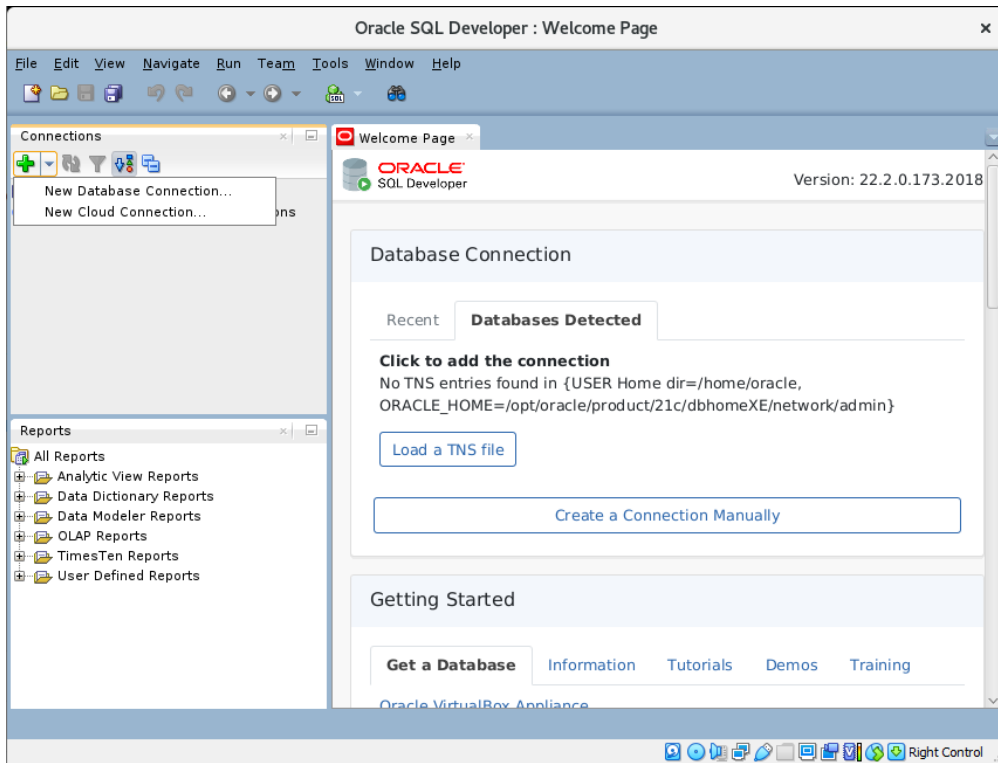
```
oracle@db:/usr/share/applications$ sudo nano sqldeveloper.desktop
```

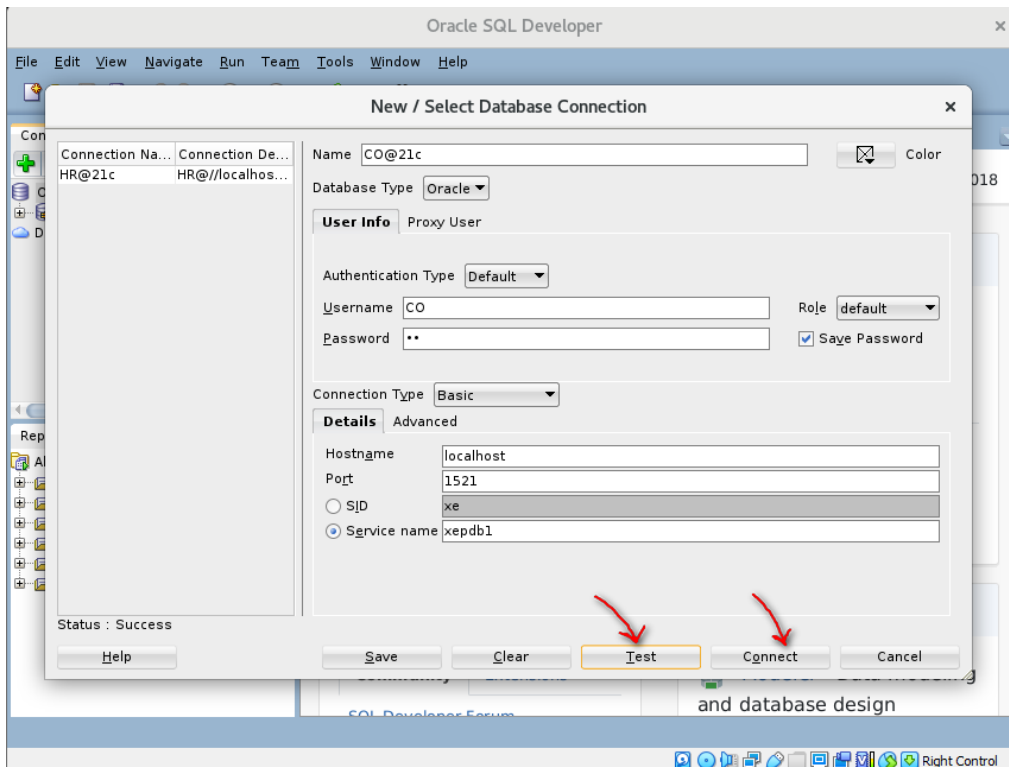
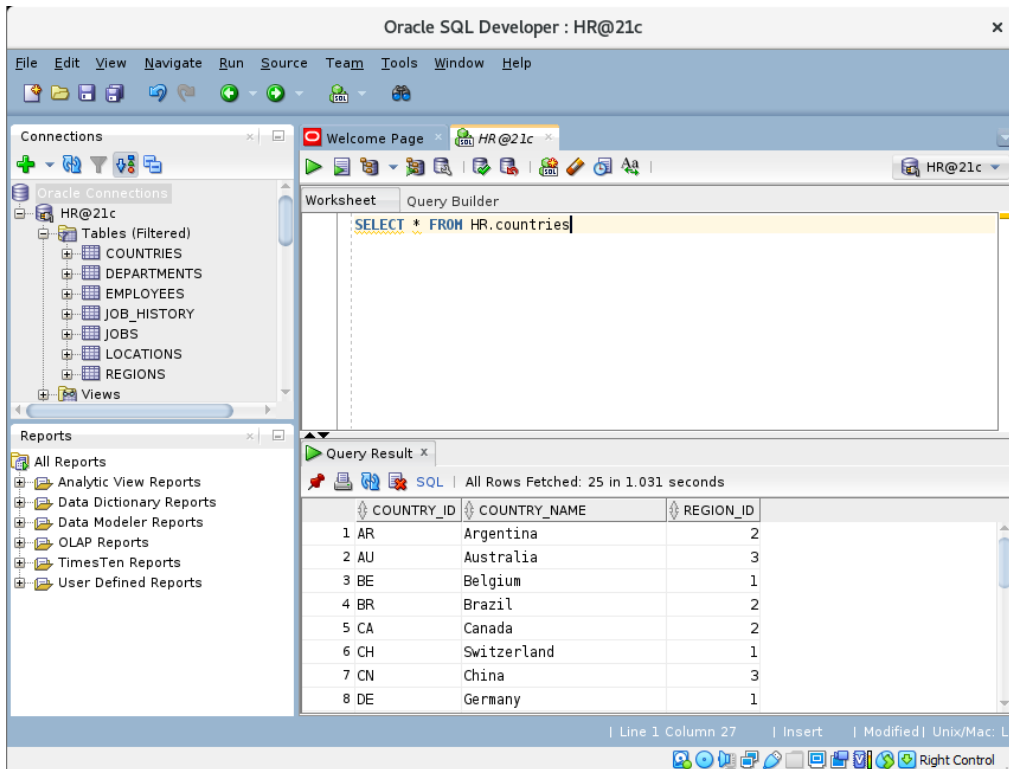
```
GNU nano 6.2 sqldeveloper.desktop *
[Desktop Entry]
Exec=sqldeveloper
Terminal=false
StartupNotify=true
Categories=GNOME;Oracle;
Type=Application
Icon=/opt/sqldeveloper/icon.png
Name=Oracle Sql Developer
^G Help      ^O Write Out  ^W Where Is   ^K Cut        ^T Execute   ^G Location  ^M-U Undo     ^M-A Set Mark
^X Exit      ^R Read File  ^A Replace    ^U Paste      ^J Justify   ^G Go To Line ^M-E Redo    ^M-C Copy
```

9-) Activities'e tiklanir ve SQL Developer arama cubuguna yazilir. Sag tiklanir ve favorilere eklenir.



10-) Asagidaki adimlar teker teker uygulanir.





Oracle SQL Developer : CO@21c

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Connections

- Oracle Connections
 - CO@21c
 - Tables (Filtered)
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 - STORES
 - Views

Reports

- All Reports
 - Analytic View Reports
 - Data Dictionary Reports
 - Data Modeler Reports
 - OLAP Reports
 - TimesTen Reports
 - User Defined Reports

Welcome Page

Worksheet Query Builder

```
SELECT * FROM CO.customers
```

Query Result

SQL | Fetched 50 rows in 0.14 seconds

CUSTOMER_ID	EMAIL_ADDRESS	FULL_NAME
1	146 rey.wada@internalmail	Rey Wada
2	147 jonell.pecatoste@internalmail	Jonell Pecatoste
3	148 kurtis.parham@internalmail	Kurtis Parham
4	149 quinn.yerdon@internalmail	Quinn Yerdon
5	150 meg.vetterkind@internalmail	Meg Vetterkind
6	151 alex.binette@internalmail	Alex Binette
7	152 ali.brengle@internalmail	Ali Brengle
8	153 jaimee.gammons@internalmail	Jaimee Gammons

Line 1 Column 27 | Insert | Modified | Unix/Mac: LF

Right Control

Oracle SQL Developer

File Edit View Navigate Run Team Tools Window Help

New / Select Database Connection

Connection Na... Connection De... Name SH@21c Color

CO@21c CO@//localhos...
HR@21c HR@//localhos...

Database Type Oracle

User Info Proxy User

Authentication Type Default

Username SH Role default

Password ** Save Password

Connection Type Basic

Details Advanced

Hostname localhost

Port 1521

SID xe

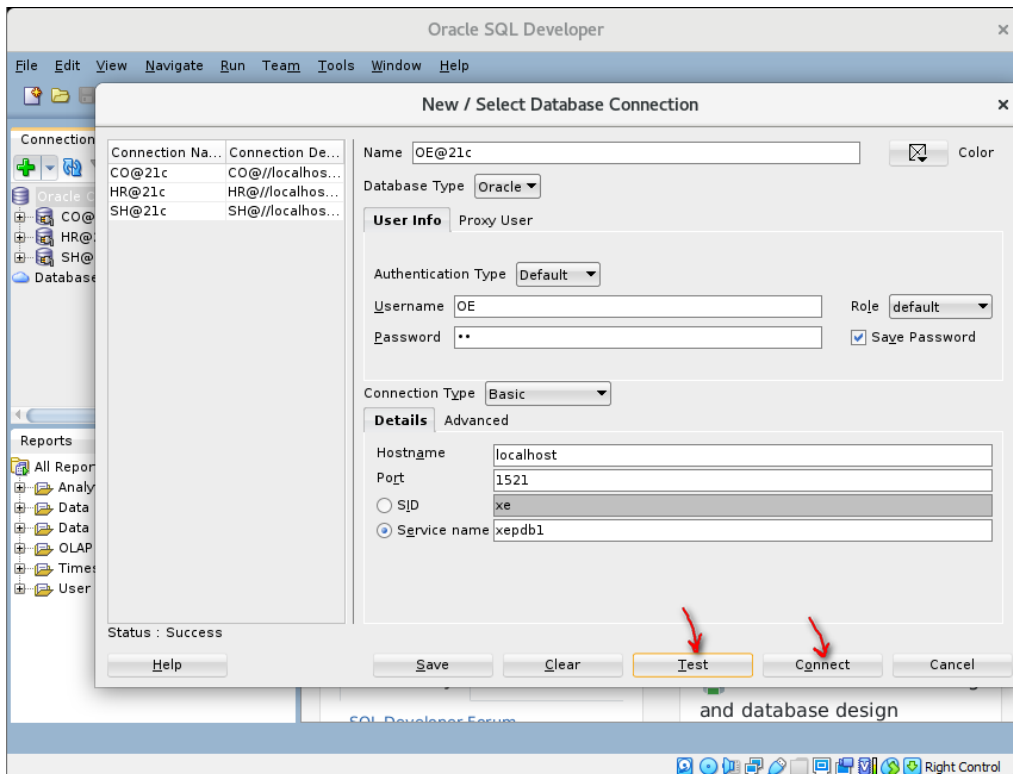
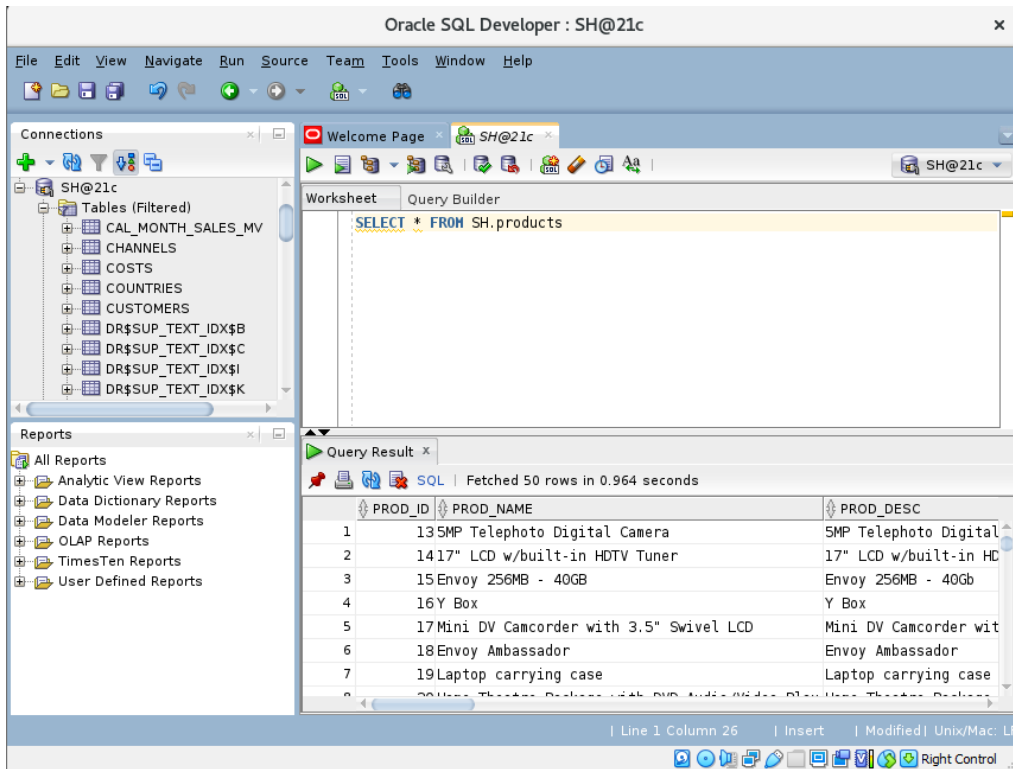
Service name xepdb1

Status: Success

Help Save Clear Test Connect Cancel

7 152 ali.brengle@internalmail Ali Brengle
8 153 jaimee.gammons@internalmail Jaimee Gammons

Right Control



Oracle SQL Developer : OE@21c

File Edit View Navigate Run Source Team Tools Window Help

Connections

- OE@21c
 - Tables (Filtered)
 - ACTION_TABLE
 - CATEGORIES_TAB
 - CUSTOMERS
 - INVENTORIES
 - LINEITEM_TABLE
 - ORDER_ITEMS
 - ORDERS
 - PRODUCT_DESCRIPTIONS
 - PRODUCT_INFORMATION

Reports

- All Reports
 - Analytic View Reports
 - Data Dictionary Reports
 - Data Modeler Reports
 - OLAP Reports
 - TimesTen Reports
 - User Defined Reports

Welcome Page OE@21c

Worksheet Query Builder

```
SELECT * FROM OE.product_descriptions
```

Query Result x

SQL | Fetched 50 rows in 0.079 seconds

PRODUCT_ID	LANGUAGE_ID	TRANSLATED_NAME	TRANSLATED_DESCRIPTION
1	3359 US	SDRAM - 16 MB	SDRAM memory upgrade modu
2	3088 US	SDRAM - 32 MB	SDRAM module with ECC - 3
3	2276 US	SDRAM - 48 MB	Memory SIMM: RAM - 48 MB.
4	3086 US	VRAM - 16 MB	Citrus Video RAM module -
5	3091 US	VRAM - 64 MB	Citrus Video RAM memory m
6	1787 US	CPU D300	Dual CPU @ 300Mhz. For li
7	2439 US	CPU D400	Dual CPU @ 400Mhz. Good p
8	1788 US	CPU D600	Dual CPU @ 600Mhz. Stat

Line 1 Column 38 | Insert | Modified | Unix/Mac: LF

Right Control