P O L I T E C H N I K A R Z E S Z O W S K A

im. Ignacego Łukasiewicza

WYDZIAŁ MATEMATYKI I FIZYKI STOSOWANEJ

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nr. Index 173148, 173150

Kierunek
Inżynieria i Analiza Danych

Administracja Bazami Danych
Praca Projektowa 1

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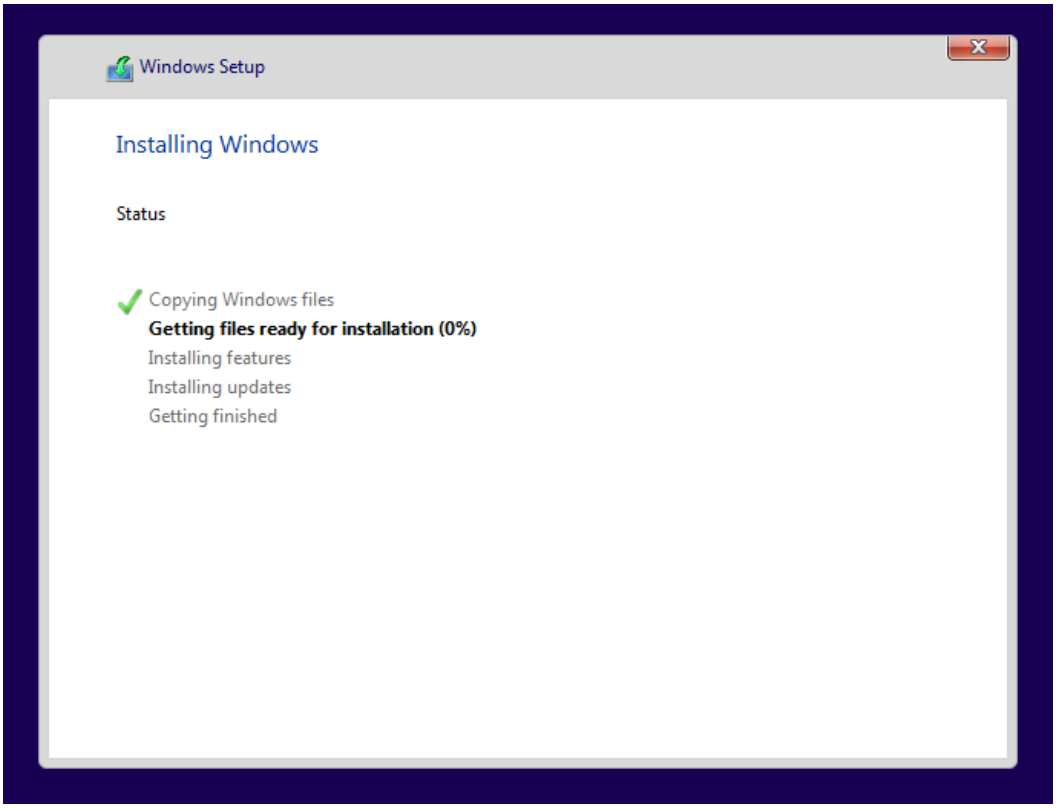
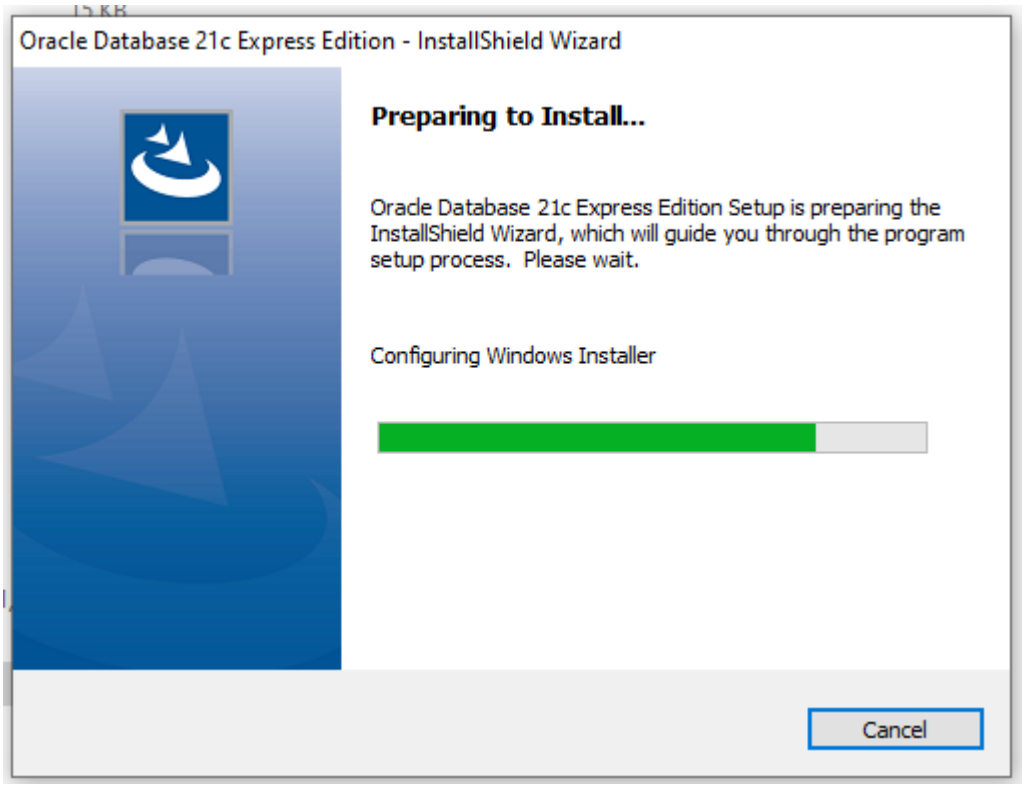
1.Instalacja systemu Windows



2.Instalacja Oracle 21c XE



3. Utworzenie plików parametrów

Utworzenie plików pfile

```
SQL> CREATE PFILE = 'C:\app\projekt\config\init-pfile_1.ora' FROM SPFILE = 'C:\app\173148_173150\product\21c\database\SPFILEXE.ora';

File created.

SQL> CREATE PFILE = 'C:\app\projekt\config\init-pfile_2.ora' FROM SPFILE = 'C:\app\173148_173150\product\21c\database\SPFILEXE.ora';

File created.
```

Dodanie parametrów do pliku

INIT-PFILE_1 - Notepad

File Edit Format View Help

```
xe.__data_transfer_cache_size=0
xe.__db_cache_size=1124073472
xe.__inmemory_ext_roarea=0
xe.__inmemory_ext_rwarea=0
xe.__java_pool_size=0
xe.__large_pool_size=16777216
xe.__oracle_base='C:\app\173148_173150\product\21c'#ORACLE_BASE set from environment
xe.__pga_aggregate_target=536870912
xe.__sga_target=1610612736
xe.__shared_io_pool_size=83886080
xe.__shared_pool_size=369098752
xe.__streams_pool_size=0
xe.__unified_pga_pool_size=0
*.audit_file_dest='C:\app\173148_173150\product\21c\admin\XE\adump'
*.audit_trail='db'
*.compatible='21.0.0'
*.control_files='C:\app\173148_173150\product\21c\oradata\XE\control01.ctl','C:\app\173148_173150\product\21c\oradata\XE\control02.ctl'
*.db_block_size=8192
*.db_name='XE'
*.diagnostic_dest='C:\app\projekt\log'
*.dispatchers='(PROTOCOL=TCP) (SERVICE=XEXDB)'
*.enable_pluggable_database=true
*.local_listener='LISTENER_XE'
*.nls_language='POLISH'
*.nls_territory='POLAND'
*.open_cursors=300
*.pga_aggregate_target=512m
*.processes=640#zmiana
*.remote_login_passwordfile='EXCLUSIVE'
*.sga_target=1536m
*.undo_tablespace='UNDOTBS1'
#dodane
*.sessions=300
*.log_buffer=50m
*.sort_area_size=52428800
*.remote_os_authent=true
*.db_block_checksum=FULL
*.open_links=5
*.parallel_max_servers=100
*.user_dump_dest='C:\app\projekt\'
*.job_queue_processes=20
```

Opisy dodanych parametrów

***.processes=640:** Maksymalna liczba procesów, które mogą jednocześnie działać w bazie danych to 640.

***.sessions=300:** Maksymalna liczba sesji, które mogą jednocześnie działać w bazie danych to 300.

***.log_buffer=50m:** Wielkość bufora do zapisywania logów wynosi 50 megabajtów.

***.sort_area_size=52428800:** Maksymalna ilość pamięci dla sortowania danych wynosi 50 megabajtów.

***.remote_os_authent=true:** Pozwala na uwierzytelnianie użytkowników zdalnych za pomocą systemu operacyjnego.

***.db_block_checksum=FULL**: Włącza pełną kontrolę sum kontrolnych dla bloków danych w bazie, co pomaga wykrywać błędy.

***.open_links=5:** Maksymalna liczba otwartych połączeń do zdalnych baz danych to 5.

***.parallel_max_servers=100:** Maksymalna liczba serwerów, które mogą działać równolegle to 100.

***.user_dump_dest='C:\app\projekt\':** Ścieżka do katalogu, gdzie są zapisywane pliki dump użytkownika to 'C:\app\projekt'.

***.job_queue_processes=20:** Maksymalna liczba procesów do obsługi zadań w kolejce to 20.

Test uruchomienia z naszego nowego pliku pfile

```
SQL> startup pfile = 'C:\app\projekt\config\init-pfile_1.ora';
ORA-25138: REMOTE_OS_AUTHENT initialization parameter has been made obsolete
ORA-32006: USER_DUMP_DEST initialization parameter has been deprecated
ORACLE instance started.

Total System Global Area 1610609432 bytes
Fixed Size                  9855768 bytes
Variable Size             385875968 bytes
Database Buffers         1157627904 bytes
Redo Buffers               57249792 bytes
Database mounted.
Database opened.
```

Zmiana parametrów NLS

```
xe.__data_transfer_cache_size=0
xe.__db_cache_size=1124073472
xe.__inmemory_ext_roarea=0
xe.__inmemory_ext_rwarea=0
xe.__java_pool_size=0
xe.__large_pool_size=16777216
xe.__oracle_base='C:\app\173148_173150\product\21c'#ORACLE_BASE set from environment
xe.__pga_aggregate_target=536870912
xe.__sga_target=1610612736
xe.__shared_io_pool_size=83886080
xe.__shared_pool_size=369098752
xe.__streams_pool_size=0
xe.__unified_pga_pool_size=0
*.audit_file_dest='C:\app\173148_173150\product\21c\admin\XE\adump'
*.audit_trail='db'
*.compatible='21.0.0'
*.control_files='C:\app\173148_173150\product\21c\oradata\XE\control01.ctl','C:\app\173148_173150\product
*.db_block_size=8192
*.db_name='XE'
*.diagnostic_dest='C:\app\173148_173150\product\21c'
*.dispatchers='(PROTOCOL=TCP) (SERVICE=XEXDB)'
*.enable_pluggable_database=true
*.local_listener='LISTENER_XE'
*.nls_language='POLISH'
*.nls_territory='POLAND'
*.nls_calendar='GREGORIAN'
*.nls_date_format='dd-mm-yyyy'
*.nls_time_format='hh24:mi:ss'
*.nls_currency='PLN'
*.nls_sort='POLISH'
*.nls_iso_currency='POLAND'
*.nls_numeric_characters='POLAND'
*.nls_date_language='POLISH'
*.open_cursors=300
*.pga_aggregate_target=512m
*.processes=320
*.remote_login_passwordfile='EXCLUSIVE'
*.sga_target=1536m
*.undo_tablespace='UNDOTBS1'
```

Opisy wykorzystanych parametrów

***.nls_language='POLISH':** Ustawia język bazy danych na polski.

***.nls_territory='POLAND':** Ustawia terytorium bazy danych na Polskę.

***.nls_calendar='GREGORIAN':** Ustawia kalendarz na gregoriański.

***.nls_date_format='dd-mm-yyyy'**: Ustawia format daty na dzień-miesiąc-rok.

***.nls_time_format='hh24:mi:ss':** Ustawia format czasu na godziny:minuty

w formacie 24-godzinnym.

***.nls_currency='PLN':** Ustawia walutę na polskie złote (PLN).

***.nls_sort='POLISH':** Ustawia sortowanie znaków na polskie.

***.nls_iso_currency='POLAND':** Ustawia walutę ISO na Polskę.

*.**nls_numeric_characters='POLAND'**: Ustawia znaki numeryczne na polskie.

***.nls_date_language='POLISH':** Ustawia język daty na polski.

Test uruchomienia z nowymi parametrami NLS

```
SQL> startup pfile = 'C:\app\projekt\config\init-pfile_2.ora';
ORACLE instance started.

Total System Global Area 1610608792 bytes
Fixed Size                  9855128 bytes
Variable Size             385875968 bytes
Database Buffers         1207959552 bytes
Redo Buffers                6918144 bytes
Database mounted.
Database opened.
```

Welcome Page | sys

Worksheet | Query Builder

```
SELECT NAME,VALUE,DEFAULT_VALUE
FROM V$SYSTEM_PARAMETER
WHERE NAME IN (
    'nls_language',
    'nls_territory',
    'nls_calendar',
    'nls_date_format',
    'nls_time_format',
    'nls_currency',
    'nls_sort',
    'nls_iso_currency',
    'nls_numeric_characters',
    'nls_date_language'
);
```

Script Output | Query Result

SQL | All Rows Fetched: 10 in 0.047 seconds

	NAME	VALUE	DEFAULT_VALUE
1	nls_language	POLISH	AMERICAN
2	nls_territory	POLAND	AMERICA
3	nls_sort	POLISH	NONE
4	nls_date_language	POLISH	NONE
5	nls_date_format	dd-mm-yyyy	NONE
6	nls_currency	PLN	NONE
7	nls_numeric_characters	POLAND	NONE
8	nls_iso_currency	POLAND	NONE
9	nls_calendar	GREGORIAN	NONE
10	nls_time_format	hh24:mi:ss	NONE

4.Utworzenie nowych listenerów

listener - Notepad

File Edit Format View Help

```
LISTENER_1_173148 =
  (DESCRIPTION_LIST =
    (DESCRIPTION =
      (ADDRESS = (PROTOCOL = TCP)(HOST = DESKTOP-VJ1U7CC)(PORT = 1522))
      (ADDRESS = (PROTOCOL = IPC)(KEY = EXTPROC1521))
    )
  )

SID_LIST_LISTENER_1_173148 =
  (SID_LIST =
    (SID_DESC =
      (GLOBAL_DBNAME = XE)
      (SID_NAME = XE)
    )
  )

LISTENER_2_173150 =
  (DESCRIPTION_LIST =
    (DESCRIPTION =
      (ADDRESS = (PROTOCOL = TCP)(HOST = DESKTOP-VJ1U7CC)(PORT = 1544))
      (ADDRESS = (PROTOCOL = IPC)(KEY = EXTPROC1521))
    )
  )

SID_LIST_LISTENER_2_173150 =
  (SID_LIST =
    (SID_DESC =
      (GLOBAL_DBNAME = XE)
      (SID_NAME = XE)
    )
  )

LISTENER_3 =
  (DESCRIPTION_LIST =
    (DESCRIPTION =
      (ADDRESS = (PROTOCOL = TCP)(HOST = DESKTOP-VJ1U7CC)(PORT = 1588))
      (ADDRESS = (PROTOCOL = IPC)(KEY = EXTPROC1521))
    )
  )

SID_LIST_LISTENER_3 =
  (SID_LIST =
    (SID_DESC =
      (GLOBAL_DBNAME = XE)
      (SID_NAME = XE)
    )
  )
```

Testowanie listenerów

```
C:\Windows\system32>lsnrctl start listener_1_173148

LSNRCTL for 64-bit Windows: Version 21.0.0.0.0 - Production on 05-JUN-2024 13:09:00

Copyright (c) 1991, 2021, Oracle.  All rights reserved.

Starting tnslsnr: please wait...

TNSLSNR for 64-bit Windows: Version 21.0.0.0.0 - Production
System parameter file is C:\app\173148_173150\product\21c\homes\OraDB21Home1\network\admin\listener.ora
Log messages written to C:\app\173148_173150\product\21c\diag\tnslsnr\DESKTOP-VJ1U7CC\listener_1_173148\alert\log.xml
Listening on: (DESCRIPTION=(ADDRESS=(PROTOCOL=tcp)(HOST=DESKTOP-VJ1U7CC)(PORT=1522)))
Listening on: (DESCRIPTION=(ADDRESS=(PROTOCOL=ipc)(PIPENAME=\\.\pipe\EXTPROC1521ipc)))

Connecting to (DESCRIPTION=(ADDRESS=(PROTOCOL=TCP)(HOST=DESKTOP-VJ1U7CC)(PORT=1522)))
STATUS of the LISTENER
------------------------
Alias                     listener_1_173148
Version                   TNSLSNR for 64-bit Windows: Version 21.0.0.0.0 - Production
Start Date                05-JUN-2024 13:09:07
Uptime                    0 days 0 hr. 0 min. 13 sec
Trace Level               off
Security                  ON: Local OS Authentication
SNMP                      OFF
Listener Parameter File   C:\app\173148_173150\product\21c\homes\OraDB21Home1\network\admin\listener.ora
Listener Log File         C:\app\173148_173150\product\21c\diag\tnslsnr\DESKTOP-VJ1U7CC\listener_1_173148\alert\log.xml
Listening Endpoints Summary...
  (DESCRIPTION=(ADDRESS=(PROTOCOL=tcp)(HOST=DESKTOP-VJ1U7CC)(PORT=1522)))
  (DESCRIPTION=(ADDRESS=(PROTOCOL=ipc)(PIPENAME=\\.\pipe\EXTPROC1521ipc)))
Services Summary...
Service "XE" has 1 instance(s).
  Instance "XE", status UNKNOWN, has 1 handler(s) for this service...
The command completed successfully
```

```
C:\Windows\system32>lsnrctl start listener_2_173150

LSNRCTL for 64-bit Windows: Version 21.0.0.0.0 - Production on 05-JUN-2024 13:12:06

Copyright (c) 1991, 2021, Oracle.  All rights reserved.

Starting tnslsnr: please wait...

TNSLSNR for 64-bit Windows: Version 21.0.0.0.0 - Production
System parameter file is C:\app\173148_173150\product\21c\homes\OraDB21Home1\network\admin\listener.ora
Log messages written to C:\app\173148_173150\product\21c\diag\tnslsnr\DESKTOP-VJ1U7CC\listener_2_173150\alert\log.xml
Listening on: (DESCRIPTION=(ADDRESS=(PROTOCOL=tcp)(HOST=DESKTOP-VJ1U7CC)(PORT=1544)))
Listening on: (DESCRIPTION=(ADDRESS=(PROTOCOL=ipc)(PIPENAME=\\.\pipe\EXTPROC1521ipc)))

Connecting to (DESCRIPTION=(ADDRESS=(PROTOCOL=TCP)(HOST=DESKTOP-VJ1U7CC)(PORT=1544)))
STATUS of the LISTENER
------------------------
Alias                     listener_2_173150
Version                   TNSLSNR for 64-bit Windows: Version 21.0.0.0.0 - Production
Start Date                05-JUN-2024 13:12:13
Uptime                    0 days 0 hr. 0 min. 11 sec
Trace Level               off
Security                  ON: Local OS Authentication
SNMP                      OFF
Listener Parameter File   C:\app\173148_173150\product\21c\homes\OraDB21Home1\network\admin\listener.ora
Listener Log File         C:\app\173148_173150\product\21c\diag\tnslsnr\DESKTOP-VJ1U7CC\listener_2_173150\alert\log.xml
Listening Endpoints Summary...
  (DESCRIPTION=(ADDRESS=(PROTOCOL=tcp)(HOST=DESKTOP-VJ1U7CC)(PORT=1544)))
  (DESCRIPTION=(ADDRESS=(PROTOCOL=ipc)(PIPENAME=\\.\pipe\EXTPROC1521ipc)))
Services Summary...
Service "XE" has 1 instance(s).
  Instance "XE", status UNKNOWN, has 1 handler(s) for this service...
The command completed successfully
```

```
C:\Windows\system32>lsnrctl start listener_3

LSNRCTL for 64-bit Windows: Version 21.0.0.0.0 - Production on 05-JUN-2024 13:13:05

Copyright (c) 1991, 2021, Oracle.  All rights reserved.

Starting tnslsnr: please wait...

TNSLSNR for 64-bit Windows: Version 21.0.0.0.0 - Production
System parameter file is C:\app\173148_173150\product\21c\homes\OraDB21Home1\network\admin\listener.ora
Log messages written to C:\app\173148_173150\product\21c\diag\tnslsnr\DESKTOP-VJ1U7CC\listener_3\alert\log.xml
Listening on: (DESCRIPTION=(ADDRESS=(PROTOCOL=tcp)(HOST=DESKTOP-VJ1U7CC)(PORT=1588)))
Listening on: (DESCRIPTION=(ADDRESS=(PROTOCOL=ipc)(PIPENAME=\\.\pipe\EXTPROC1521ipc)))

Connecting to (DESCRIPTION=(ADDRESS=(PROTOCOL=TCP)(HOST=DESKTOP-VJ1U7CC)(PORT=1588)))
STATUS of the LISTENER
------------------------
Alias                     listener_3
Version                   TNSLSNR for 64-bit Windows: Version 21.0.0.0.0 - Production
Start Date                05-JUN-2024 13:13:11
Uptime                    0 days 0 hr. 0 min. 11 sec
Trace Level               off
Security                  ON: Local OS Authentication
SNMP                      OFF
Listener Parameter File   C:\app\173148_173150\product\21c\homes\OraDB21Home1\network\admin\listener.ora
Listener Log File         C:\app\173148_173150\product\21c\diag\tnslsnr\DESKTOP-VJ1U7CC\listener_3\alert\log.xml
Listening Endpoints Summary...
  (DESCRIPTION=(ADDRESS=(PROTOCOL=tcp)(HOST=DESKTOP-VJ1U7CC)(PORT=1588)))
  (DESCRIPTION=(ADDRESS=(PROTOCOL=ipc)(PIPENAME=\\.\pipe\EXTPROC1521ipc)))
Services Summary...
Service "XE" has 1 instance(s).
  Instance "XE", status UNKNOWN, has 1 handler(s) for this service...
The command completed successfully
```

Utworzenie aliasów

tnsnames - Notepad

File Edit Format View Help

```
Alias_1_173148 =
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS = (PROTOCOL = TCP)(HOST = localhost)(PORT = 1522))
    )
    (CONNECT_DATA =
      (SERVICE_NAME = XE)
    )
  )

Alias_2_173150 =
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS = (PROTOCOL = TCP)(HOST = localhost)(PORT = 1544))
    )
    (CONNECT_DATA =
      (SERVICE_NAME = XE)
    )
  )

Alias_3 =
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS = (PROTOCOL = TCP)(HOST = localhost)(PORT = 1588))
    )
    (CONNECT_DATA =
      (SERVICE_NAME = XE)
    )
  )
```

Testowanie aliasów

Command Prompt - sqlplus

```
Microsoft Windows [Version 10.0.19045.3803]
(c) Microsoft Corporation. All rights reserved.

C:\Users\173148_173150>sqlplus

SQL*Plus: Release 21.0.0.0.0 - Production on Wed Jun 5 13:19:20 2024
Version 21.3.0.0.0

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

Enter user-name: system/system@Alias_1_173148
Last Successful login time: Sun Apr 21 2024 18:17:38 +02:00

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

SQL> exit
Disconnected from Oracle Database 21c Express Edition Release 21.0.0.0.0 - Production
Version 21.3.0.0.0

C:\Users\173148_173150>sqlplus

SQL*Plus: Release 21.0.0.0.0 - Production on Wed Jun 5 13:20:35 2024
Version 21.3.0.0.0

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

Enter user-name: system/system@Alias_2_173150
Last Successful login time: Wed Jun 05 2024 13:19:41 +02:00

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

SQL> exit
Disconnected from Oracle Database 21c Express Edition Release 21.0.0.0.0 - Production
Version 21.3.0.0.0

C:\Users\173148_173150>sqlplus

SQL*Plus: Release 21.0.0.0.0 - Production on Wed Jun 5 13:21:58 2024
Version 21.3.0.0.0

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

Enter user-name: system/system@Alias_3
Last Successful login time: Wed Jun 05 2024 13:21:10 +02:00

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

5. Utworzenie kontenerów

Utworzenie plików manifestu z danymi lokalizacyjnymi (PL,EN,USA)

PL - Notepad

File Edit Format View Help

```
<parameters>
  <parameter>processes=320</parameter>
  <parameter>nls_language='POLISH'</parameter>
  <parameter>nls_territory='POLAND'</parameter>
  <parameter>db_block_size=8192</parameter>
  <parameter>compatible='21.0.0'</parameter>
  <parameter>open_cursors=300</parameter>
  <parameter>pga_aggregate_target=536870912</parameter>
  <parameter>enable_pluggable_database=TRUE</parameter>
```

EN - Notepad

File Edit Format View Help

```
<parameters>
  <parameter>processes=320</parameter>
  <parameter>nls_language='ENGLISH'</parameter>
  <parameter>nls_territory='UNITED KINGDOM'</parameter>
  <parameter>db_block_size=8192</parameter>
  <parameter>compatible='21.0.0'</parameter>
  <parameter>open_cursors=300</parameter>
  <parameter>pga_aggregate_target=536870912</parameter>
  <parameter>enable_pluggable_database=TRUE</parameter>
</parameters>
```

USA - Notepad

File Edit Format View Help

```
<parameters>
  <parameter>processes=320</parameter>
  <parameter>nls_language='AMERICAN'</parameter>
  <parameter>nls_territory='AMERICA'</parameter>
  <parameter>db_block_size=8192</parameter>
  <parameter>compatible='21.0.0'</parameter>
  <parameter>open_cursors=300</parameter>
  <parameter>pga_aggregate_target=536870912</parameter>
  <parameter>enable_pluggable_database=TRUE</parameter>
</parameters>
```

Tworzenie kontenerów polegało na odtwarzaniu konteneru XEPDB1 i następnie tworzenie naszych z odpowiednimi parametrami. Późniejsze kontenery powstawały już z PDB_JABLONSKI.

```
SQL> ALTER PLUGGABLE DATABASE PDB_JABLONSKI UNPLUG INTO 'C:\app\projekt\PL.XML';

Pluggable database altered.

SQL> DROP PLUGGABLE DATABASE PDB_JABLONSKI KEEP DATAFILES;

Pluggable database dropped.

SQL> CREATE PLUGGABLE DATABASE PDB_JABLONSKI USING 'C:\app\projekt\PL.XML' NOCOPY;

Pluggable database created.
```

Lista kontenerów

```
SQL> SELECT NAME FROM V$CONTAINERS;

NAME
------------------------------------
CDB$ROOT
PDB$SEED
XEPDB1
PDB_JEDRZEJCZYK
PDB_JABLONSKI
PDB_AMERIKA

6 rows selected.
```

Utworzone katalogi i pliki do kontenerów

e Share View

This PC › Local Disk (C:) › app › 173148_173150 › product › 21c › oradata › XE ›

Name	Date modified	Type	Size
PDB_AMERIKA	21/04/2024 21:23	File folder	
PDB_JABLONSKI	21/04/2024 21:01	File folder	
PDB_JEDRZEJCZYK	21/04/2024 21:17	File folder	
pdbseed	21/04/2024 17:40	File folder	
XEPDB1	21/04/2024 17:48	File folder	
CONTROL01.CTL	05/06/2024 12:59	CTL File	18,288 KB
CONTROL02.CTL	05/06/2024 12:59	CTL File	18,288 KB
REDO01	05/06/2024 12:42	Text Document	204,801 KB
REDO02	05/06/2024 12:50	Text Document	204,801 KB
REDO03	05/06/2024 12:42	Text Document	204,801 KB
SYSAUX01.DBF	05/06/2024 12:50	DBF File	634,888 KB
SYSTEM01.DBF	05/06/2024 13:00	DBF File	1,372,168 KB
TEMP01.DBF	13/05/2024 22:00	DBF File	242,696 KB
UNDOTBS01.DBF	05/06/2024 12:50	DBF File	117,768 KB
USERS01.DBF	05/06/2024 12:50	DBF File	5,128 KB

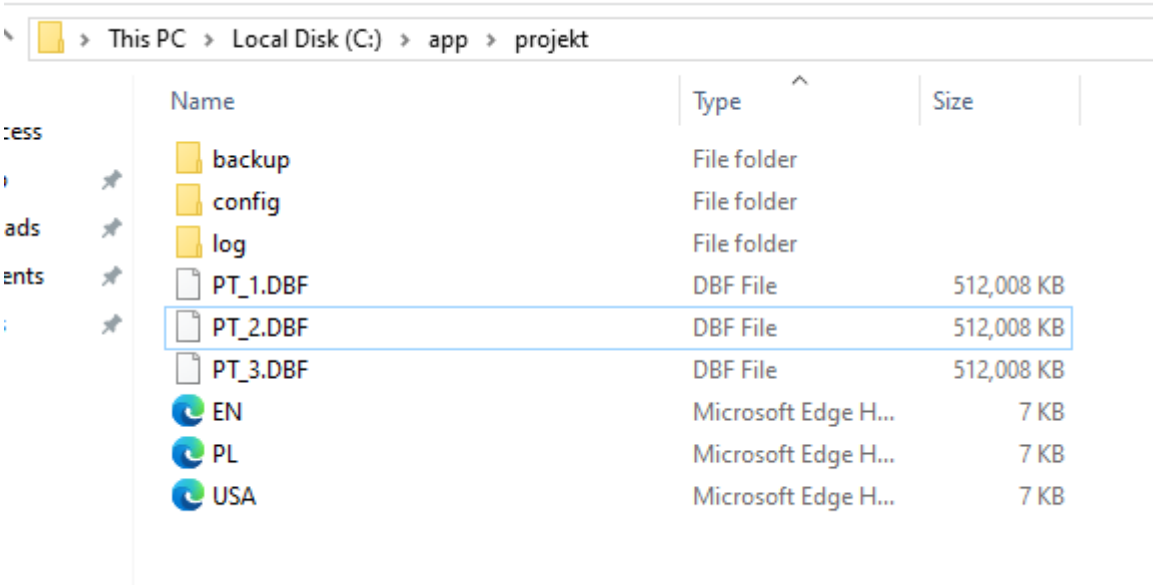
6. Tworzenie przestrzeni tabel

```
SQL> CREATE TABLESPACE PT_1 DATAFILE 'C:\app\projekt\pt_1.dbf' SIZE 500M;

Tablespace created.
```

```
SQL> CREATE TABLESPACE PT_2 DATAFILE 'C:\app\projekt\PT_2.dbf' SIZE 500M;
CREATE TABLESPACE PT_2 DATAFILE 'C:\app\projekt\PT_2.dbf' SIZE 500M
*
ERROR at line 1:
ORA-01109: database not open


SQL> startup
Pluggable Database opened.
SQL> CREATE TABLESPACE PT_2 DATAFILE 'C:\app\projekt\PT_2.dbf' SIZE 500M;

Tablespace created.

SQL> CREATE USER user_2_173148 IDENTIFIED BY system;

User created.
```

```
SQL> CREATE TABLESPACE PT_3 DATAFILE 'C:\app\projekt\PT_3.dbf' SIZE 500M;
CREATE TABLESPACE PT_3 DATAFILE 'C:\app\projekt\PT_3.dbf' SIZE 500M
*
ERROR at line 1:
ORA-01109: database not open


SQL> startup
Pluggable Database opened.
SQL> CREATE TABLESPACE PT_3 DATAFILE 'C:\app\projekt\PT_3.dbf' SIZE 500M;

Tablespace created.
```

Pliki w katalogu



7.Tworzenie użytkowników

```
SQL> CREATE USER USER_1_173148 IDENTIFIED BY system DEFAULT TABLESPACE PT_1;

User created.
```

Pozostali użytkownicy zostali utworzeni identycznie jak user_1_173148 we właściwych kontenerach oraz z odpowiednimi przestrzeniami tabel.

8.Tworzenie użytkowników wspólnych

```
SQL> CREATE USER C##WSPOLNY_1_173148 IDENTIFIED BY system;

User created.

SQL> CREATE USER C##WSPOLNY_2_173150 IDENTIFIED BY system;

User created.
```

Sprawdzenie czy znajdują się w bazie użytkowników

```
USERNAME
------------------------
SYSBACKUP
REMOTE_SCHEDULER_AGENT
GSMUSER
SYSRAC
GSMROOTUSER
SI_INFORMTN_SCHEMA
C##WSPOLNY_1_173148
C##WSPOLNY_2_173150
DIP
ORDPLUGINS
SYSKM
```

9.Przydzielenie listenerów i aliasów kontenerom

```
SID_LIST_LISTENER_1_173148 =
  (SID_LIST =
    (SID_DESC =
      (GLOBAL_DBNAME = PDB_JABLONSKI)
      (SID_NAME = XE)
    )
  )

LISTENER_2_173150 =
  (DESCRIPTION_LIST =
    (DESCRIPTION =
      (ADDRESS = (PROTOCOL = TCP)(HOST = DESKTOP-VJ1U7CC)(PORT = 1544))
      (ADDRESS = (PROTOCOL = IPC)(KEY = EXTPROC1521))
    )
  )

SID_LIST_LISTENER_2_173150 =
  (SID_LIST =
    (SID_DESC =
      (GLOBAL_DBNAME = PDB_JEDRZEJCZYK)
      (SID_NAME = XE)
    )
  )

LISTENER_3 =
  (DESCRIPTION_LIST =
    (DESCRIPTION =
      (ADDRESS = (PROTOCOL = TCP)(HOST = DESKTOP-VJ1U7CC)(PORT = 1588))
      (ADDRESS = (PROTOCOL = IPC)(KEY = EXTPROC1521))
    )
  )

SID_LIST_LISTENER_3 =
  (SID_LIST =
    (SID_DESC =
      (GLOBAL_DBNAME = PDB_AMERIKA)
      (SID_NAME = XE)
    )
```

Zmiana dla aliasów w pliku tsnames

```
Alias_1_173148 =
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS = (PROTOCOL = TCP)(HOST = localhost)(PORT = 1522))
    )
    (CONNECT_DATA =
      (SERVICE_NAME = PDB_JABLONSKI)
    )
  )

Alias_2_173150 =
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS = (PROTOCOL = TCP)(HOST = localhost)(PORT = 1544))
    )
    (CONNECT_DATA =
      (SERVICE_NAME = PDB_JEDRZEJCZYK)
    )
  )

Alias_3 =
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS = (PROTOCOL = TCP)(HOST = localhost)(PORT = 1588))
    )
    (CONNECT_DATA =
      (SERVICE_NAME = PDB_AMERIKA)
    )
  )
```

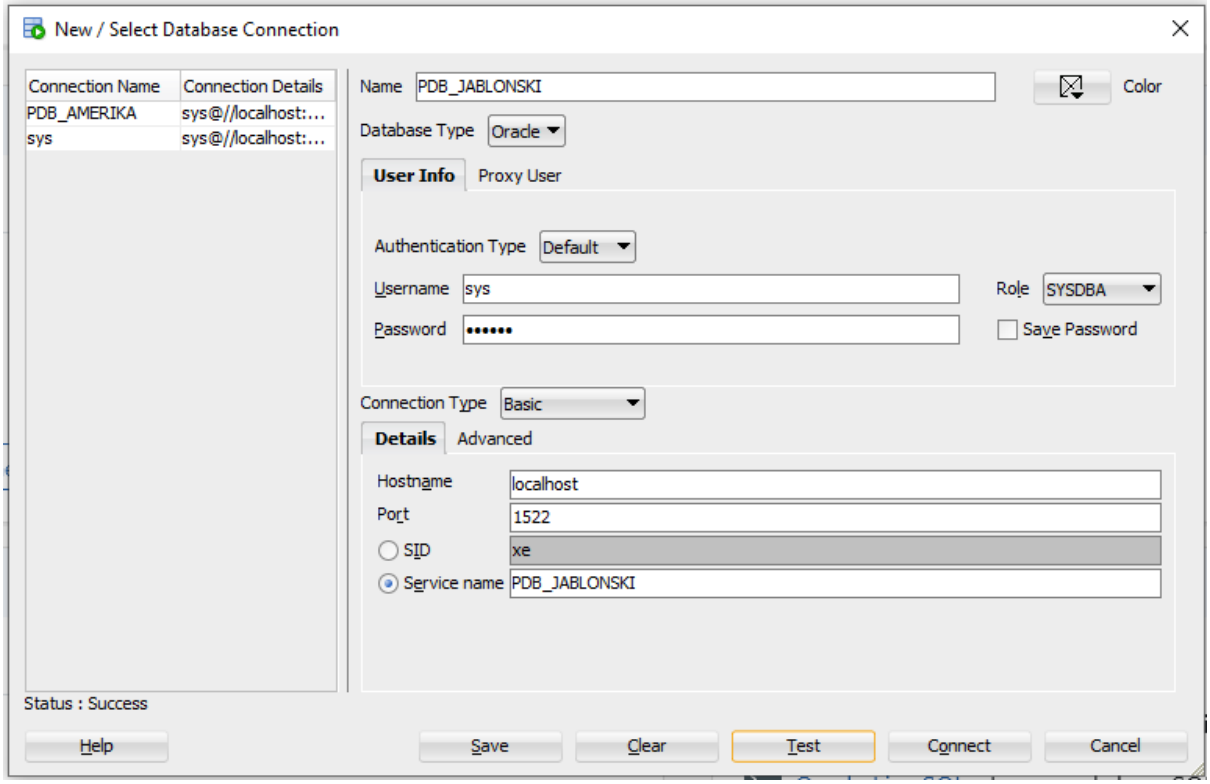
Zatrzymanie i uruchomienie listenerów

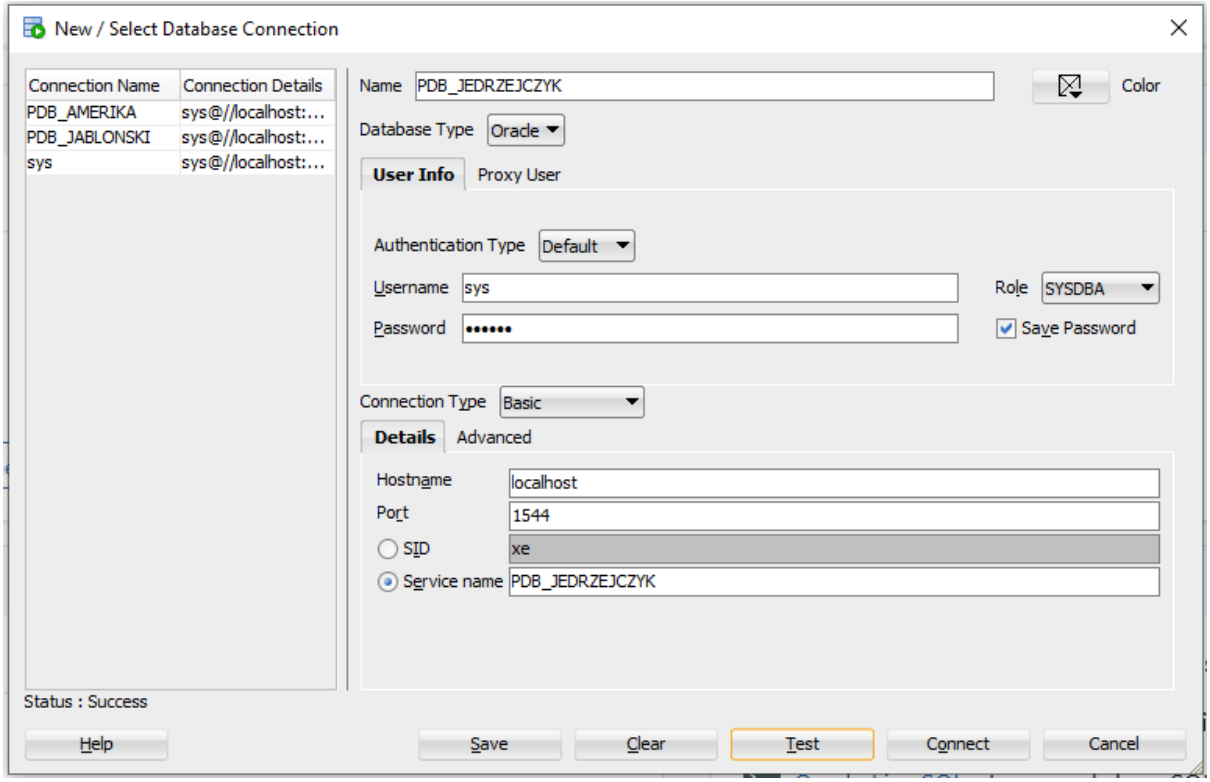
```
C:\Windows\system32>lsnrctl stop listener_1_173148

LSNRCTL for 64-bit Windows: Version 21.0.0.0.0 - Production on 08-JUN-2024 11:20:19

Copyright (c) 1991, 2021, Oracle.  All rights reserved.

Connecting to (DESCRIPTION=(ADDRESS=(PROTOCOL=TCP)(HOST=DESKTOP-VJ1U7CC)(PORT=1522)))
TNS-12541: TNS:no listener
 TNS-12560: TNS:protocol adapter error
  TNS-00511: No listener
   64-bit Windows Error: 61: Unknown error
Connecting to (DESCRIPTION=(ADDRESS=(PROTOCOL=IPC)(KEY=EXTPROC1521)))
The command completed successfully

C:\Windows\system32>lsnrctl start listener_1_173148

LSNRCTL for 64-bit Windows: Version 21.0.0.0.0 - Production on 08-JUN-2024 11:20:37

Copyright (c) 1991, 2021, Oracle.  All rights reserved.

Starting tnslsnr: please wait...

TNSLSNR for 64-bit Windows: Version 21.0.0.0.0 - Production
System parameter file is C:\app\173148_173150\product\21c\homes\OraDB21Home1\network\admin\listener.ora
Log messages written to C:\app\173148_173150\product\21c\diag\tnslsnr\DESKTOP-VJ1U7CC\listener_1_173148\alert\log.xml
Listening on: (DESCRIPTION=(ADDRESS=(PROTOCOL=tcp)(HOST=DESKTOP-VJ1U7CC)(PORT=1522)))
Listening on: (DESCRIPTION=(ADDRESS=(PROTOCOL=ipc)(PIPENAME=\\.\pipe\EXTPROC1521ipc)))

Connecting to (DESCRIPTION=(ADDRESS=(PROTOCOL=TCP)(HOST=DESKTOP-VJ1U7CC)(PORT=1522)))
STATUS of the LISTENER
------------------------
Alias                     listener_1_173148
Version                   TNSLSNR for 64-bit Windows: Version 21.0.0.0.0 - Production
Start Date                08-JUN-2024 11:20:40
Uptime                    0 days 0 hr. 0 min. 8 sec
Trace Level               off
Security                  ON: Local OS Authentication
SNMP                      OFF
Listener Parameter File   C:\app\173148_173150\product\21c\homes\OraDB21Home1\network\admin\listener.ora
Listener Log File         C:\app\173148_173150\product\21c\diag\tnslsnr\DESKTOP-VJ1U7CC\listener_1_173148\alert\log.xml
Listening Endpoints Summary...
  (DESCRIPTION=(ADDRESS=(PROTOCOL=tcp)(HOST=DESKTOP-VJ1U7CC)(PORT=1522)))
  (DESCRIPTION=(ADDRESS=(PROTOCOL=ipc)(PIPENAME=\\.\pipe\EXTPROC1521ipc)))
Services Summary...
Service "PDB_JABLONSKI" has 1 instance(s).
  Instance "XE", status UNKNOWN, has 1 handler(s) for this service...
The command completed successfully
```

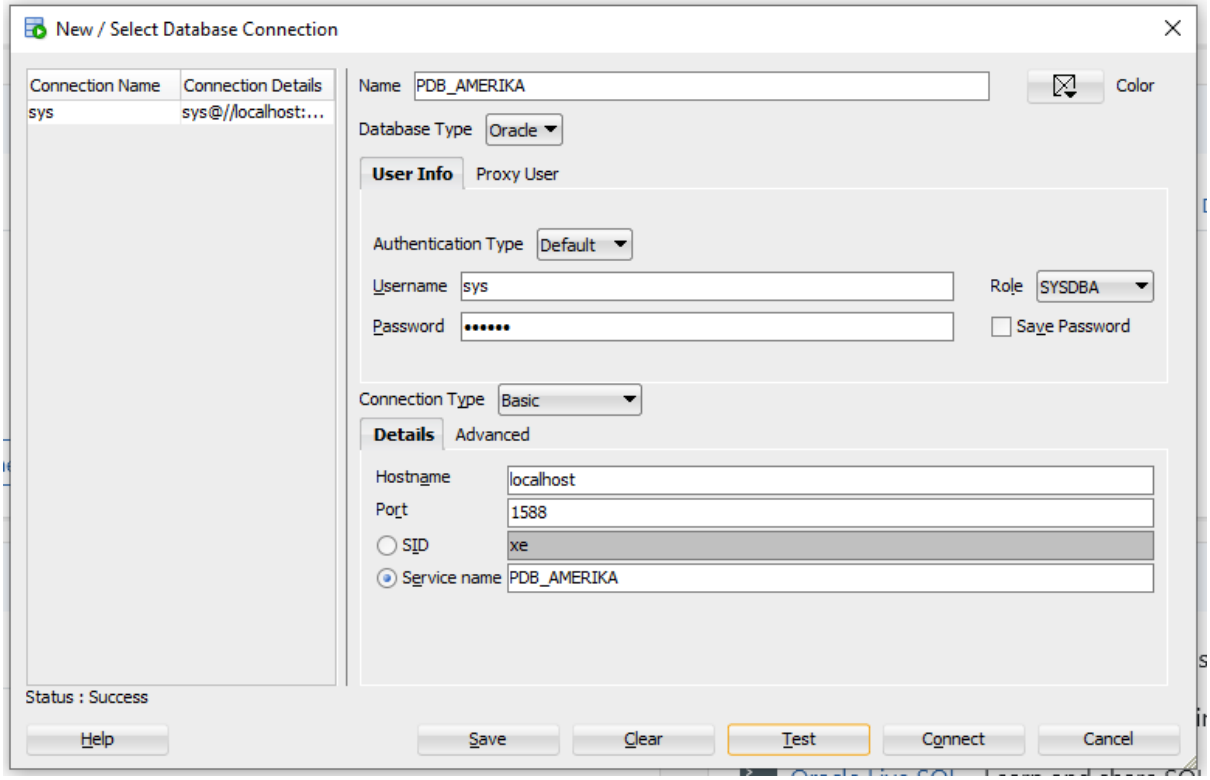
```
C:\Windows\system32>lsnrctl stop listener_2_173150

LSNRCTL for 64-bit Windows: Version 21.0.0.0.0 - Production on 08-JUN-2024 11:22:51

Copyright (c) 1991, 2021, Oracle.  All rights reserved.

Connecting to (DESCRIPTION=(ADDRESS=(PROTOCOL=TCP)(HOST=DESKTOP-VJ1U7CC)(PORT=1544)))
TNS-12541: TNS:no listener
 TNS-12560: TNS:protocol adapter error
  TNS-00511: No listener
   64-bit Windows Error: 61: Unknown error
Connecting to (DESCRIPTION=(ADDRESS=(PROTOCOL=IPC)(KEY=EXTPROC1521)))
The command completed successfully

C:\Windows\system32>lsnrctl start listener_2_173150

LSNRCTL for 64-bit Windows: Version 21.0.0.0.0 - Production on 08-JUN-2024 11:23:51

Copyright (c) 1991, 2021, Oracle.  All rights reserved.

Starting tnslsnr: please wait...

TNSLSNR for 64-bit Windows: Version 21.0.0.0.0 - Production
System parameter file is C:\app\173148_173150\product\21c\homes\OraDB21Home1\network\admin\listener.ora
Log messages written to C:\app\173148_173150\product\21c\diag\tnslsnr\DESKTOP-VJ1U7CC\listener_2_173150\alert\log.xml
Listening on: (DESCRIPTION=(ADDRESS=(PROTOCOL=tcp)(HOST=DESKTOP-VJ1U7CC)(PORT=1544)))
Listening on: (DESCRIPTION=(ADDRESS=(PROTOCOL=ipc)(PIPENAME=\\.\pipe\EXTPROC1521ipc)))

Connecting to (DESCRIPTION=(ADDRESS=(PROTOCOL=TCP)(HOST=DESKTOP-VJ1U7CC)(PORT=1544)))
STATUS of the LISTENER
------------------------
Alias                     listener_2_173150
Version                   TNSLSNR for 64-bit Windows: Version 21.0.0.0.0 - Production
Start Date                08-JUN-2024 11:23:56
Uptime                    0 days 0 hr. 0 min. 10 sec
Trace Level               off
Security                  ON: Local OS Authentication
SNMP                      OFF
Listener Parameter File   C:\app\173148_173150\product\21c\homes\OraDB21Home1\network\admin\listener.ora
Listener Log File         C:\app\173148_173150\product\21c\diag\tnslsnr\DESKTOP-VJ1U7CC\listener_2_173150\alert\log.xml
Listening Endpoints Summary...
  (DESCRIPTION=(ADDRESS=(PROTOCOL=tcp)(HOST=DESKTOP-VJ1U7CC)(PORT=1544)))
  (DESCRIPTION=(ADDRESS=(PROTOCOL=ipc)(PIPENAME=\\.\pipe\EXTPROC1521ipc)))
Services Summary...
Service "PDB_JEDRZEJCZYK" has 1 instance(s).
  Instance "XE", status UNKNOWN, has 1 handler(s) for this service...
The command completed successfully
```

```
C:\Windows\system32>lsnrctl stop listener_3

LSNRCTL for 64-bit Windows: Version 21.0.0.0.0 - Production on 08-JUN-2024 11:24:29

Copyright (c) 1991, 2021, Oracle.  All rights reserved.

Connecting to (DESCRIPTION=(ADDRESS=(PROTOCOL=TCP)(HOST=DESKTOP-VJ1U7CC)(PORT=1588)))
TNS-12541: TNS:no listener
 TNS-12560: TNS:protocol adapter error
  TNS-00511: No listener
   64-bit Windows Error: 61: Unknown error
Connecting to (DESCRIPTION=(ADDRESS=(PROTOCOL=IPC)(KEY=EXTPROC1521)))
The command completed successfully

C:\Windows\system32>lsnrctl start listener_3

LSNRCTL for 64-bit Windows: Version 21.0.0.0.0 - Production on 08-JUN-2024 11:24:41

Copyright (c) 1991, 2021, Oracle.  All rights reserved.

Starting tnslsnr: please wait...

TNSLSNR for 64-bit Windows: Version 21.0.0.0.0 - Production
System parameter file is C:\app\173148_173150\product\21c\homes\OraDB21Home1\network\admin\listener.ora
Log messages written to C:\app\173148_173150\product\21c\diag\tnslsnr\DESKTOP-VJ1U7CC\listener_3\alert\log.xml
Listening on: (DESCRIPTION=(ADDRESS=(PROTOCOL=tcp)(HOST=DESKTOP-VJ1U7CC)(PORT=1588)))
Listening on: (DESCRIPTION=(ADDRESS=(PROTOCOL=ipc)(PIPENAME=\\.\pipe\EXTPROC1521ipc)))

Connecting to (DESCRIPTION=(ADDRESS=(PROTOCOL=TCP)(HOST=DESKTOP-VJ1U7CC)(PORT=1588)))
STATUS of the LISTENER
------------------------
Alias                     listener_3
Version                   TNSLSNR for 64-bit Windows: Version 21.0.0.0.0 - Production
Start Date                08-JUN-2024 11:24:43
Uptime                    0 days 0 hr. 0 min. 5 sec
Trace Level               off
Security                  ON: Local OS Authentication
SNMP                      OFF
Listener Parameter File   C:\app\173148_173150\product\21c\homes\OraDB21Home1\network\admin\listener.ora
Listener Log File         C:\app\173148_173150\product\21c\diag\tnslsnr\DESKTOP-VJ1U7CC\listener_3\alert\log.xml
Listening Endpoints Summary...
  (DESCRIPTION=(ADDRESS=(PROTOCOL=tcp)(HOST=DESKTOP-VJ1U7CC)(PORT=1588)))
  (DESCRIPTION=(ADDRESS=(PROTOCOL=ipc)(PIPENAME=\\.\pipe\EXTPROC1521ipc)))
Services Summary...
Service "PDB_AMERIKA" has 1 instance(s).
  Instance "XE", status UNKNOWN, has 1 handler(s) for this service...
The command completed successfully
```

10. Tworzenie i testowanie połączeń w SQL Developerze dla każdego użytkownika i kontenera, z użyciem różnych Listenerów i Aliasów

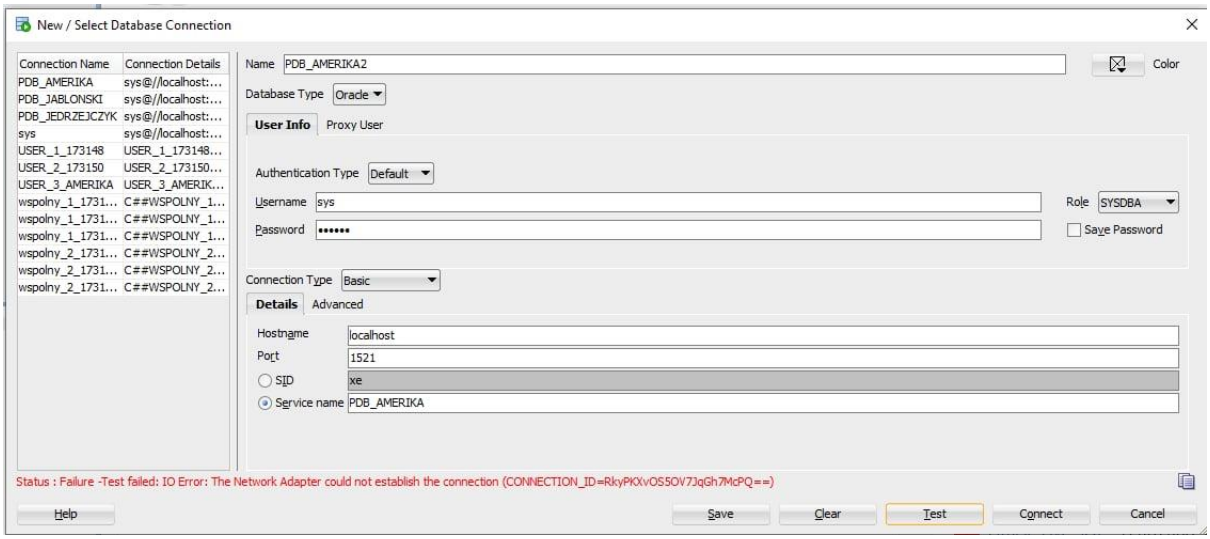






Test Połączenie dla niepoprawnego portu

Jak widać poniżej jeśli podamy zły port, nie dojdzie to połączenia.



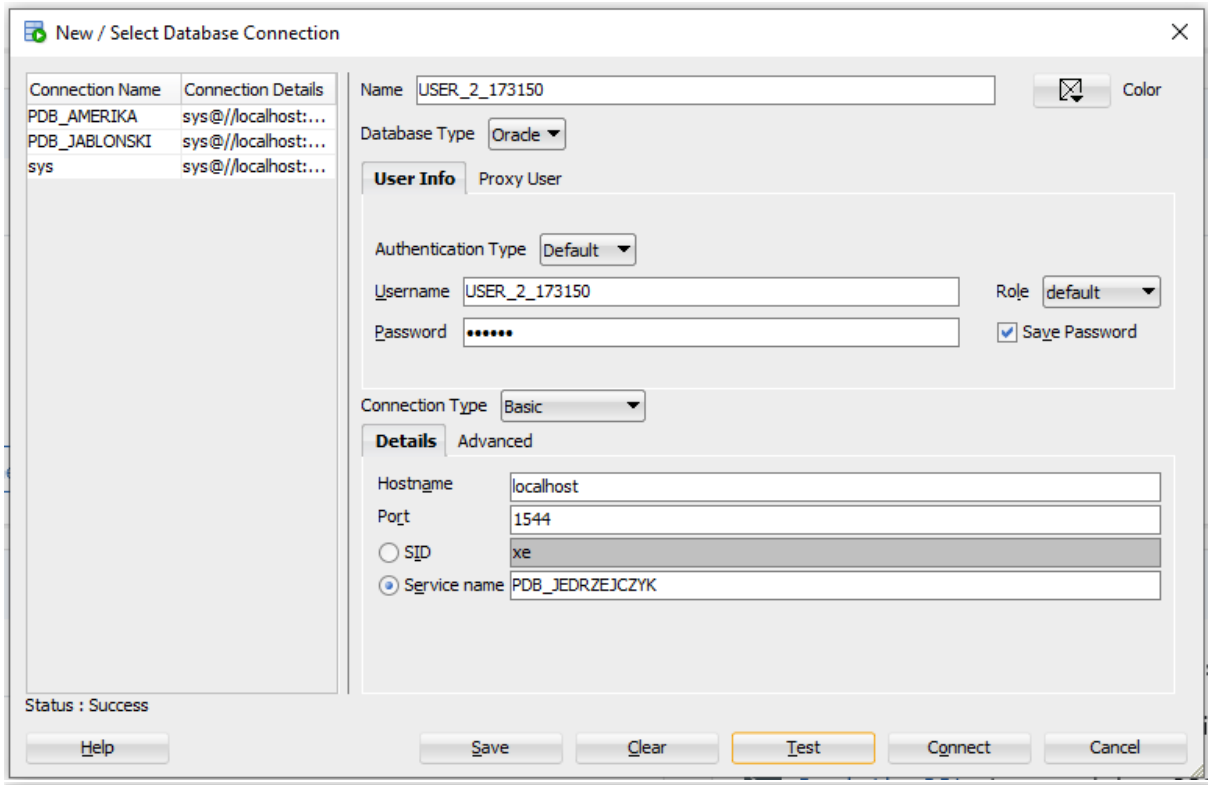
Nadanie uprawnień użytkownikom

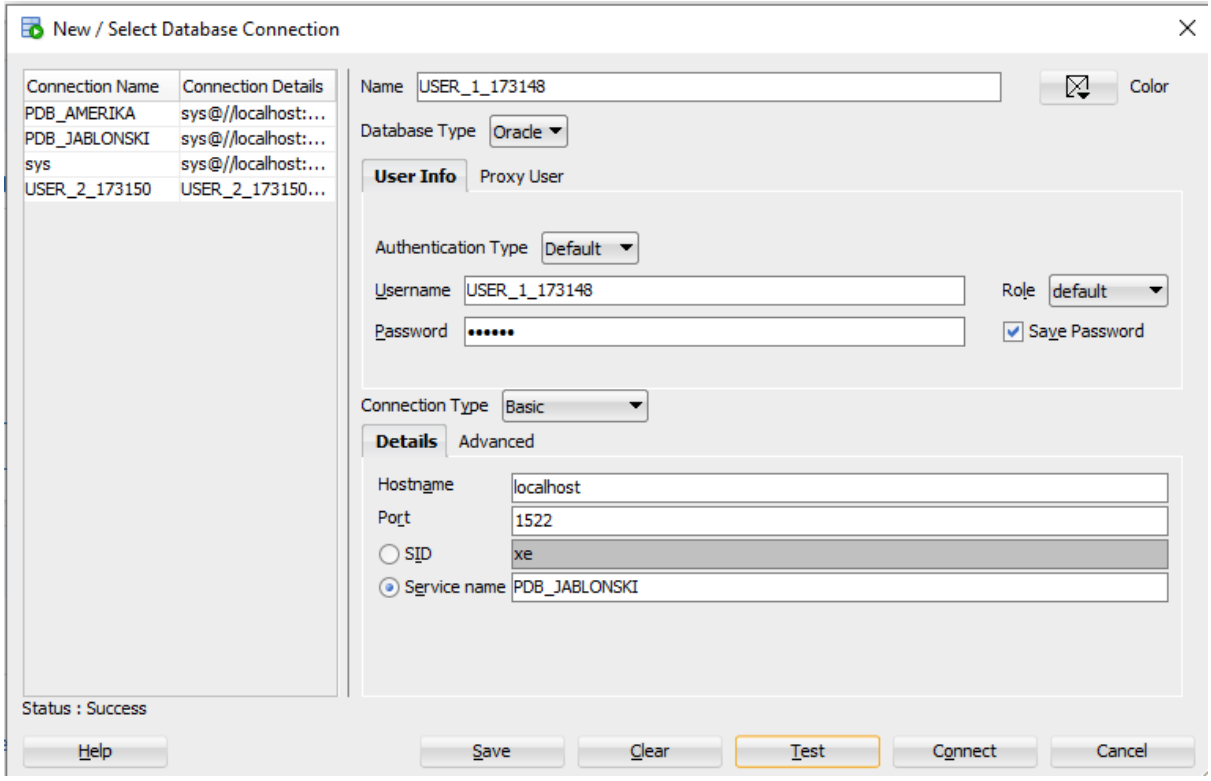
```
SQL> GRANT CREATE SESSION TO USER_1_173148;

Grant succeeded.
```

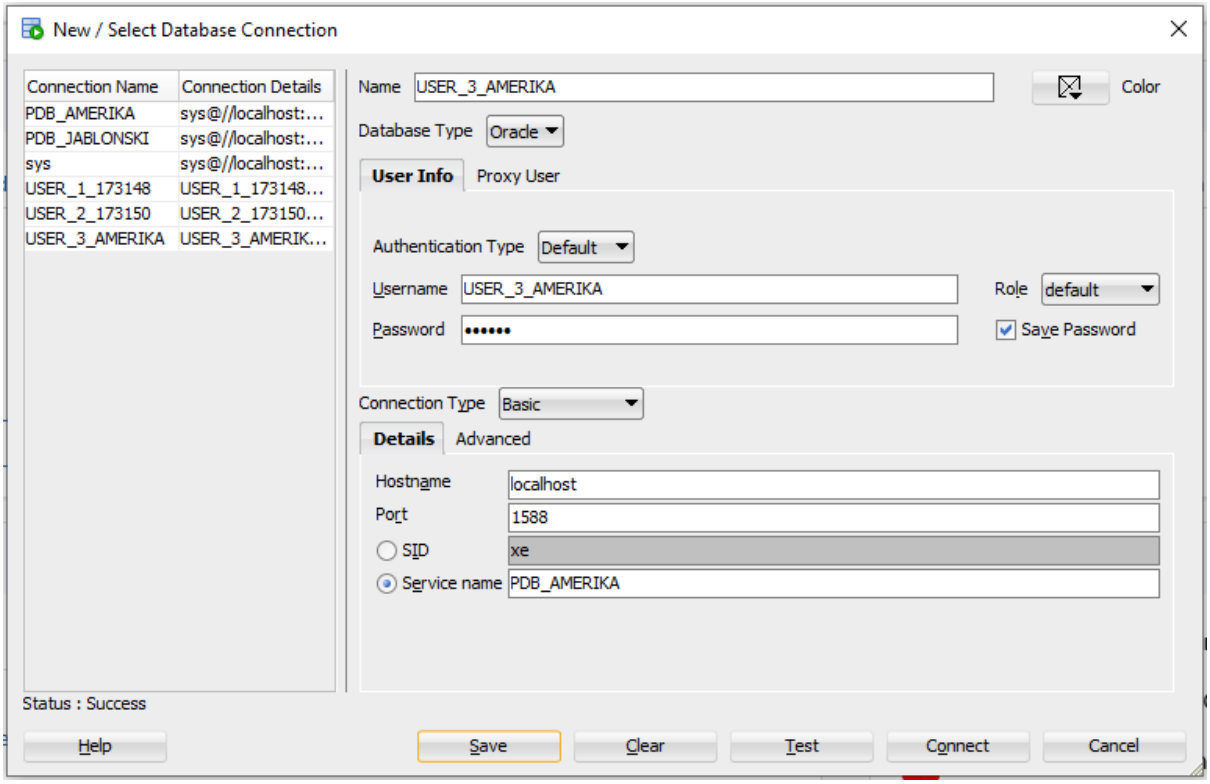
```
SQL> GRANT CREATE SESSION TO USER_2_173150;

Grant succeeded.
```

```
SQL> GRANT CREATE SESSION TO USER_3_AMERIKA;

Grant succeeded.
```

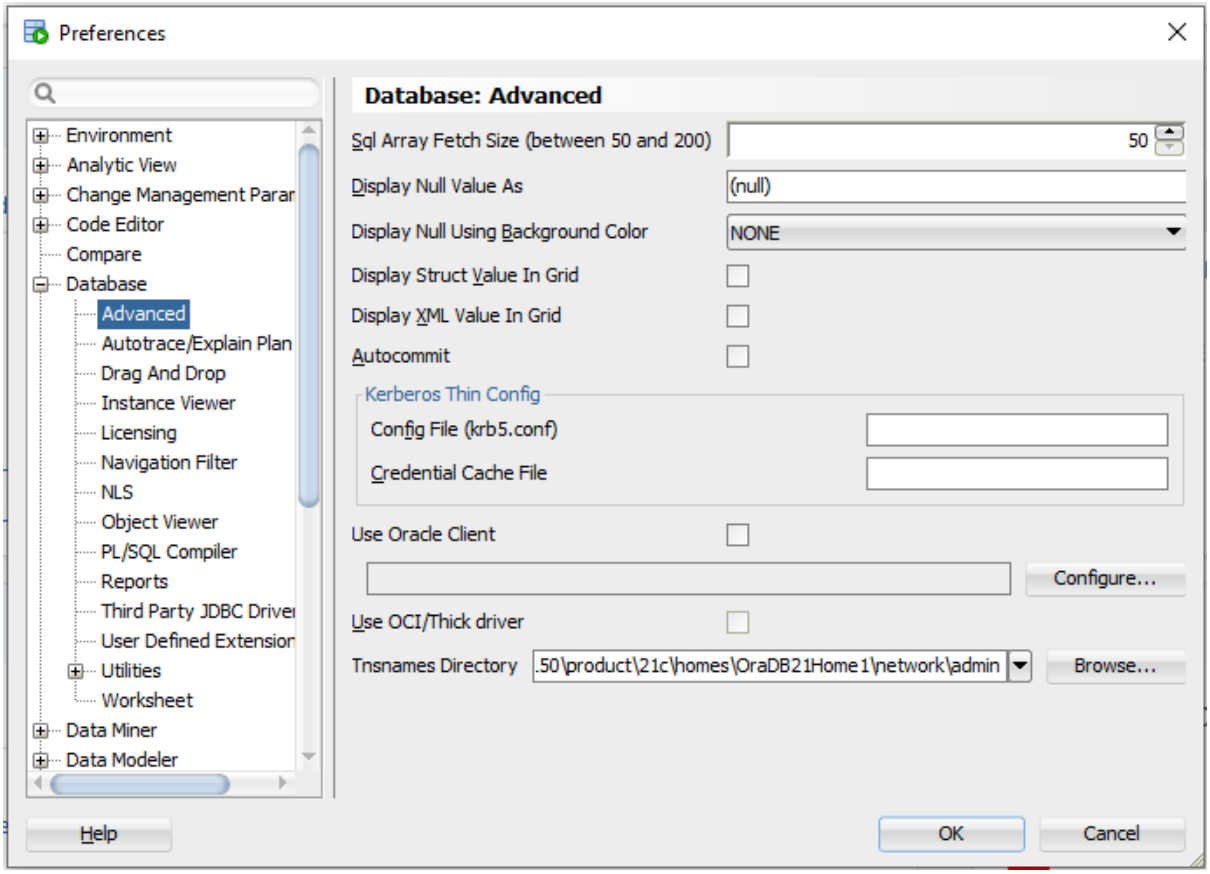
Testowanie połączeń użytkowników



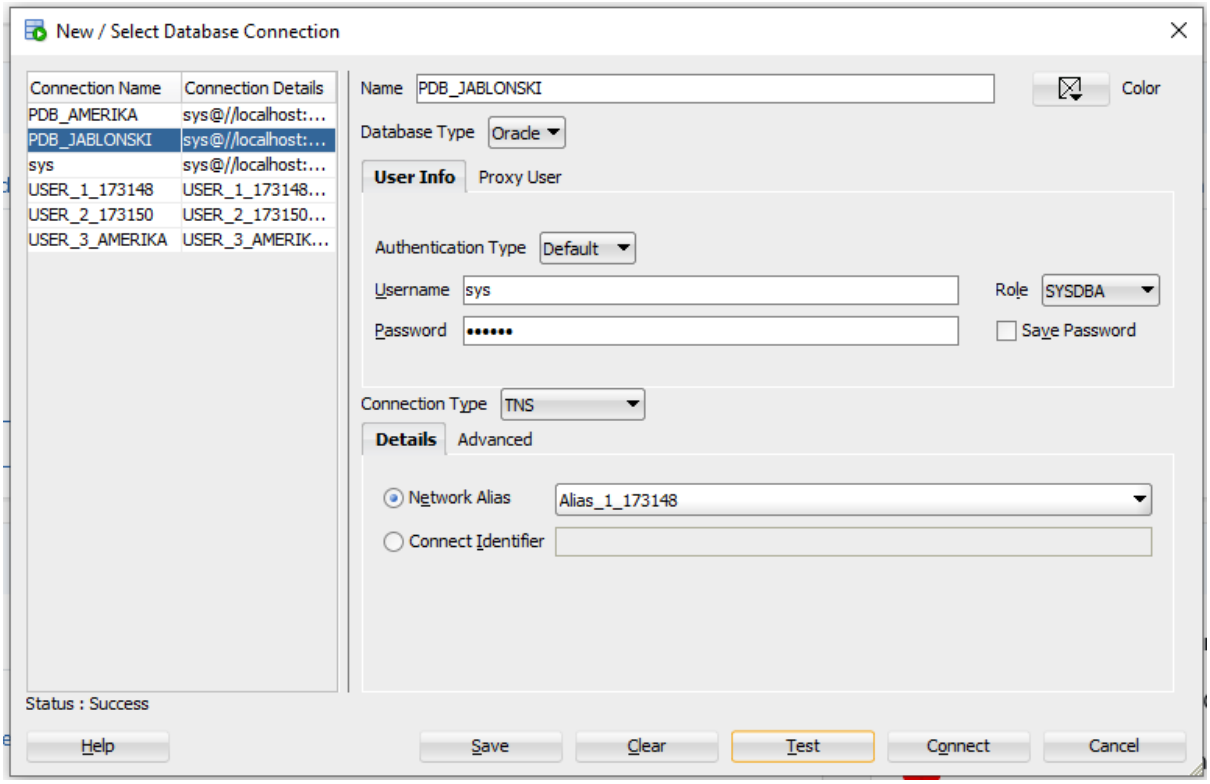


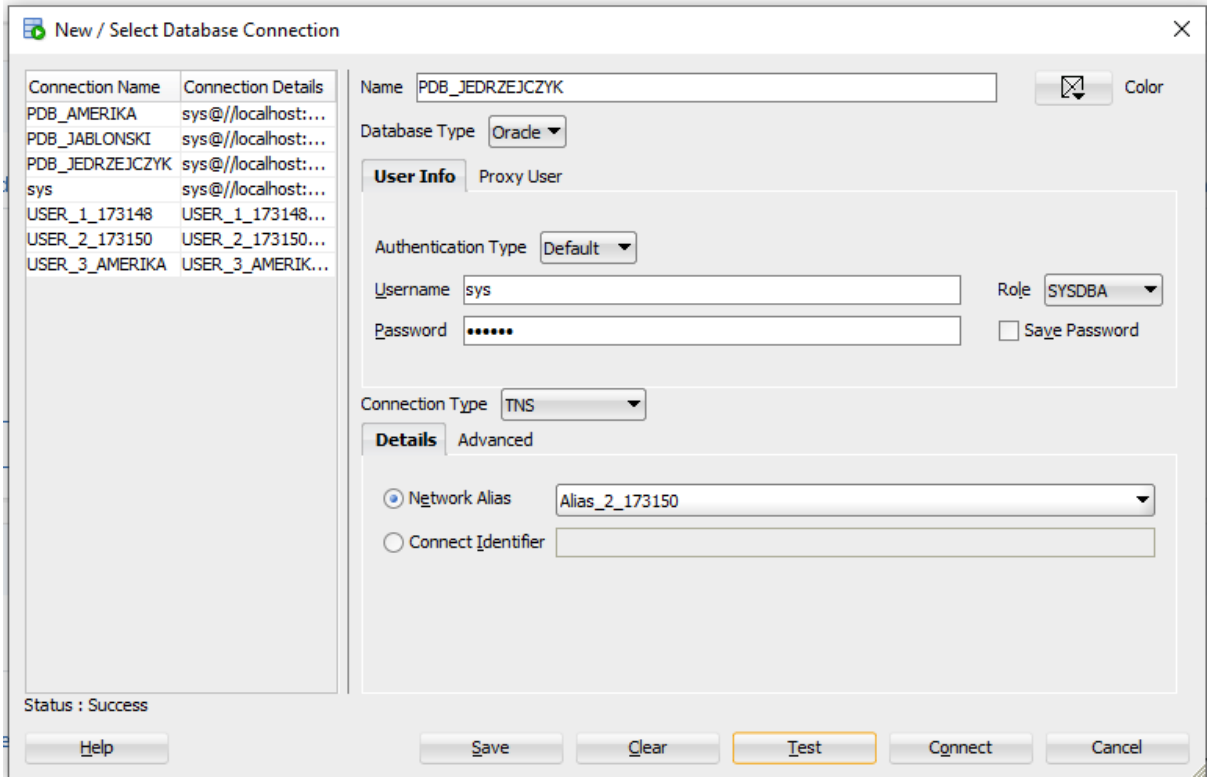


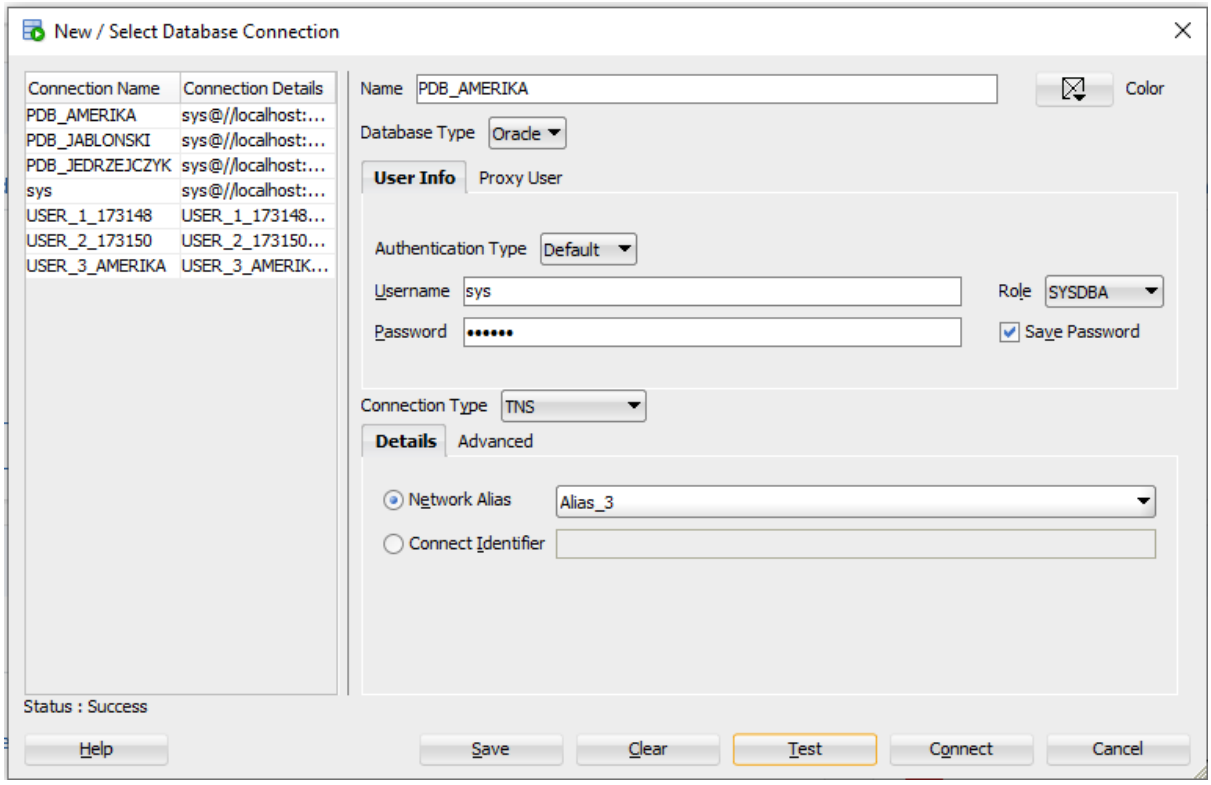
Ustawienie ścieżki do tsnames aby sqldeveloper mógł korzystać z aliasów



Testowanie połączeń przy pomocy aliasów

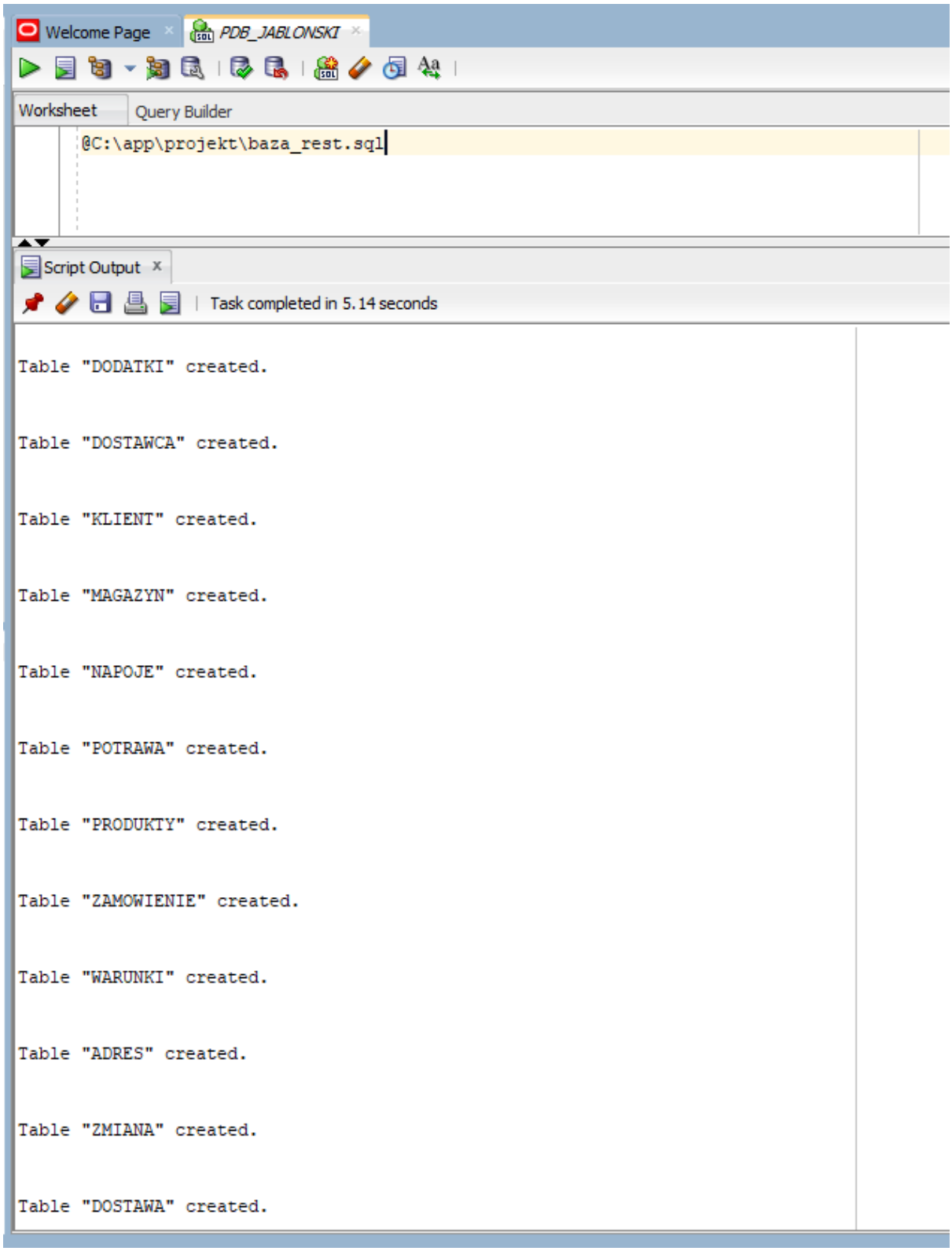





New / Select Database Connection
Connection Name
Connection Details
PDB_AMERIKA
sys@//localhost:...
PDB_JABLONSKI
sys@//localhost:...
PDB_JEDRZEJCZYK
sys@//localhost:...
sys
sys@//localhost:...
USER_1_173148
USER_1_173148...
USER_2_173150
USER_2_173150...
USER_3_AMERIKA
USER_3_AMERIK...
Name
PDB_AMERIKA
Color
Database Type
Oracle
User Info
Proxy User
Authentication Type
Default
Username
sys
Role
SYSDBA
Password
Save Password
Connection Type
TNS
Details
Advanced
Network Alias
Alias_3
Connect Identifier
Status : Success
Help
Save
Clear
Test
Connect
Cancel

11. Instalacja schematów bazy + import danych:

Wykonanie dla konteneru 1



Przeniesienie tabel do przestrzeni PT_1

Welcome Page | PDB_JABLONSKI

Worksheet | Query Builder

```
ALTER TABLE DODATKI MOVE TABLESPACE PT_1;
ALTER TABLE DOSTAWCA MOVE TABLESPACE PT_1;
ALTER TABLE KLIENT MOVE TABLESPACE PT_1;
ALTER TABLE MAGAZYN MOVE TABLESPACE PT_1;
ALTER TABLE NAPOJE MOVE TABLESPACE PT_1;
ALTER TABLE POTRAWA MOVE TABLESPACE PT_1;
ALTER TABLE PRODUKTY MOVE TABLESPACE PT_1;
ALTER TABLE ZAMOWIENIE MOVE TABLESPACE PT_1;
ALTER TABLE WARUNKI MOVE TABLESPACE PT_1;
ALTER TABLE ADRES MOVE TABLESPACE PT_1;
ALTER TABLE ZMIANA MOVE TABLESPACE PT_1;
ALTER TABLE DOSTAWA MOVE TABLESPACE PT_1;
ALTER TABLE PRACOWNICY MOVE TABLESPACE PT_1;
ALTER TABLE REZERWACJA MOVE TABLESPACE PT_1;
```

Script Output | Task completed in 1.594 seconds

```
Table KLIENT altered.

Table MAGAZYN altered.

Table NAPOJE altered.

Table POTRAWA altered.

Table PRODUKTY altered.

Table ZAMOWIENIE altered.

Table WARUNKI altered.

Table ADRES altered.
```

Testowanie danych

Welcome Page | PDB_JABLONSKI

Worksheet | Query Builder

```
SELECT * FROM sys.adres;
```

Query Result

SQL | All Rows Fetched: 20 in 0.01 seconds

	ID	WOJEWODZTWO	MIASTO	ULICA	NUMER	KOD
1	1	Podkarpackie	Rzeszow	Matuszczaka	28	36-040
2	2	Podkarpackie	Rzeszï¿½w	3 Maja	33	35-001
3	3	ï¿½wiï¿½tokrzyskie	Kielce	Sienkiewicza	12	25-001
4	4	Maï¿½opolskie	Krakï¿½w	Rynek Gï¿½ï¿½wny	15	30-062
5	5	Lubelskie	Lublin	Krakowskie Przedmieï¿½cie	19	20-001
6	6	Podkarpackie	Przemyï¿½l	Sienkiewicza	28	37-700
7	7	ï¿½wiï¿½tokrzyskie	Ostrowiec ï¿½wiï¿½tokrzyski	Piï¿½sudskiego	30	27-400
8	8	Malopolskie	Nowy Sï¿½cz	Koï¿½ciuszki	9	33-300
9	9	Lubelskie	Cheï¿½m	Armii Krajowej	14	22-100
10	10	ï¿½wiï¿½tokrzyskie	Koï¿½skie	Sï¿½owackiego	5	26-200
11	11	Malopolskie	Tarnï¿½w	Krakowska	15	33-100
12	12	Lubelskie	ï¿½ï¿½czna	Boczna	7	21-010
13	13	Podkarpackie	Krosno	Leï¿½na	11	38-400
14	14	ï¿½wiï¿½tokrzyskie	Sandomierz	Mickiewicza	3	27-600
15	15	Maï¿½opolskie	Oï¿½wiï¿½cim	Dworcowa	5	32-600
16	16	Lubelskie	Biaï¿½a Podlaska	Lipowa	10	21-500
17	17	Podkarpackie	Jasï¿½o	Koï¿½ciuszki	14	38-200
18	18	ï¿½wiï¿½tokrzyskie	Opatï¿½w	Sienkiewicza	16	27-500
19	19	Maï¿½opolskie	Zakopane	Krupï¿½wki	1	34-500
20	20	Lubelskie	Puï¿½awy	Krï¿½lewska	22	24-100

Testowanie uprawnień dla user_1_173148

Welcome Page | PDB_JABLONSKI | USER_1_173148

Worksheet | Query Builder

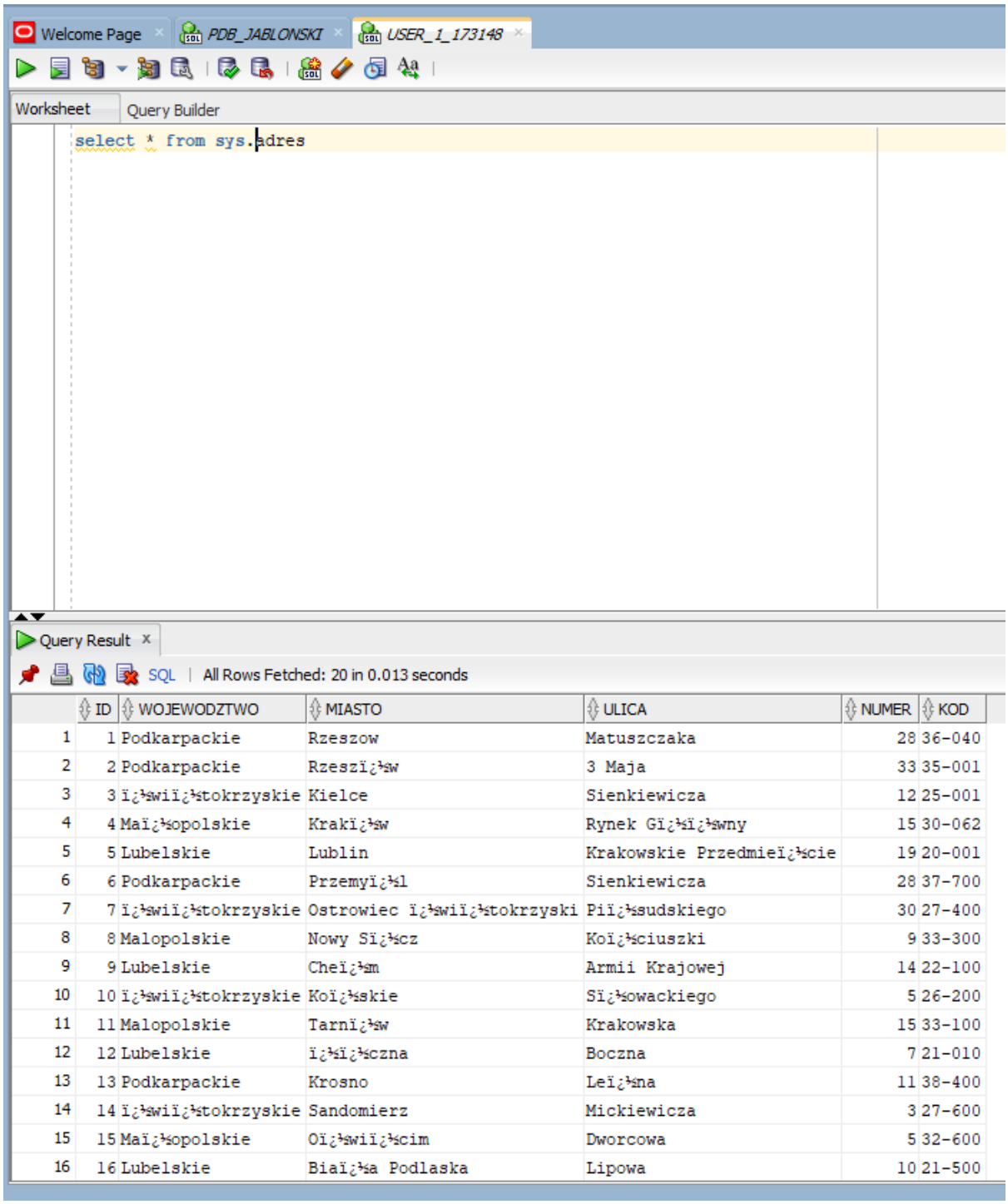
```
GRANT SELECT, INSERT, UPDATE, DELETE ON DODATKI TO USER_1_173148;
GRANT SELECT, INSERT, UPDATE, DELETE ON DOSTAWCA TO USER_1_173148;
GRANT SELECT, INSERT, UPDATE, DELETE ON KLIENT TO USER_1_173148;
GRANT SELECT, INSERT, UPDATE, DELETE ON MAGAZYN TO USER_1_173148;
GRANT SELECT, INSERT, UPDATE, DELETE ON NAPOJE TO USER_1_173148;
GRANT SELECT, INSERT, UPDATE, DELETE ON POTRAWA TO USER_1_173148;
GRANT SELECT, INSERT, UPDATE, DELETE ON PRODUKTY TO USER_1_173148;
GRANT SELECT, INSERT, UPDATE, DELETE ON ZAMOWIENIE TO USER_1_173148;
GRANT SELECT, INSERT, UPDATE, DELETE ON WARUNKI TO USER_1_173148;
GRANT SELECT, INSERT, UPDATE, DELETE ON ADRES TO USER_1_173148;
GRANT SELECT, INSERT, UPDATE, DELETE ON ZMIANA TO USER_1_173148;
GRANT SELECT, INSERT, UPDATE, DELETE ON DOSTAWA TO USER_1_173148;
GRANT SELECT, INSERT, UPDATE, DELETE ON PRACOWNICY TO USER_1_173148;
GRANT SELECT, INSERT, UPDATE, DELETE ON REZERWACJA TO USER_1_173148;
```

Script Output

Task completed in 0.153 seconds

```
Grant succeeded.

Grant succeeded.

Grant succeeded.

Grant succeeded.

Grant succeeded.

Grant succeeded.
```

Zweryfikowanie czy user_1_173148 ma dostęp do danych

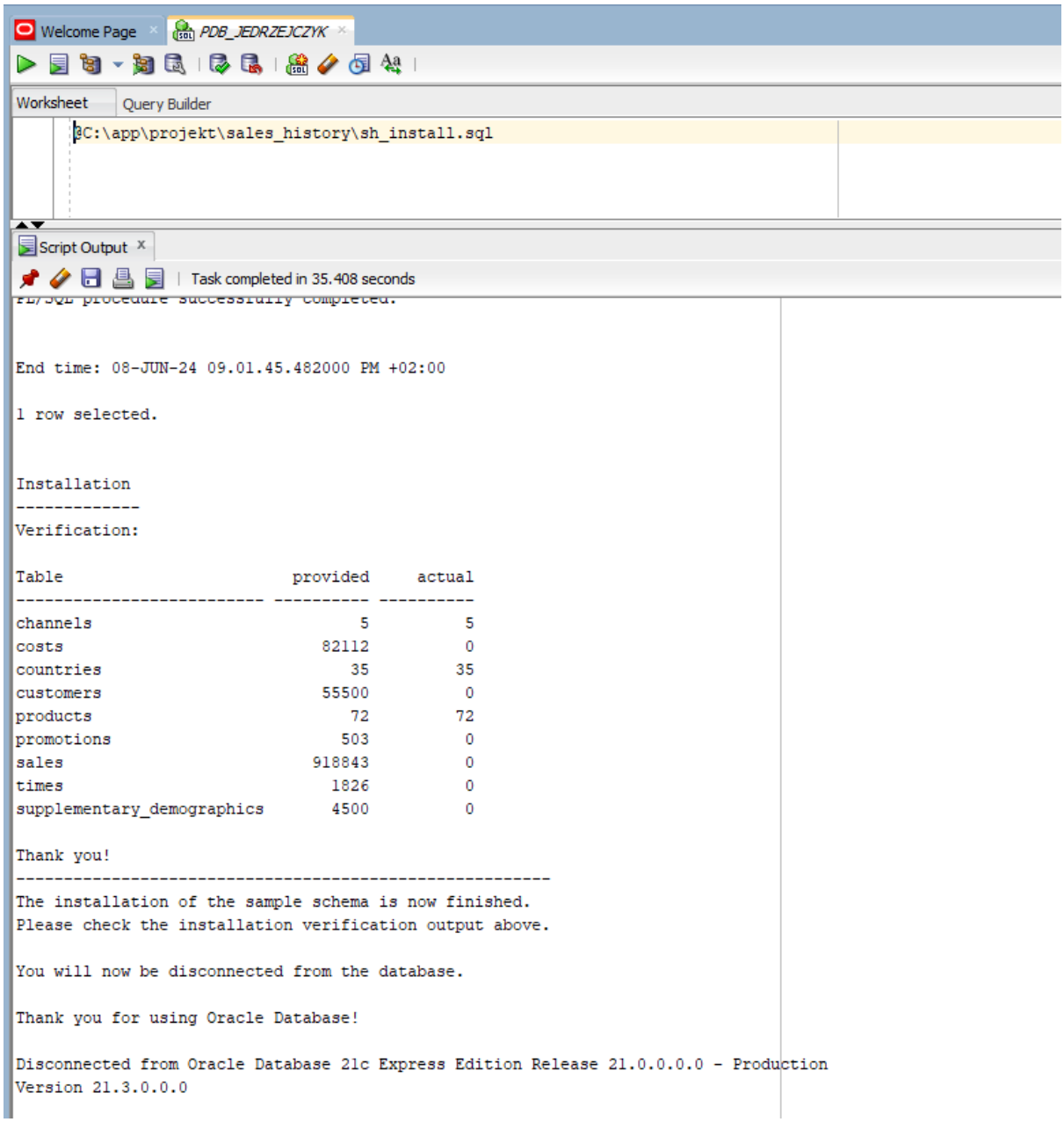


	ID	WOJEWODZTWO	MIASTO	ULICA	NUMER	KOD
1	1	Podkarpackie	Rzeszow	Matuszczaka	28	36-040
2	2	Podkarpackie	Rzeszï¿½w	3 Maja	33	35-001
3	3	ï¿½wiï¿½tokrzyskie	Kielce	Sienkiewicza	12	25-001
4	4	Maï¿½opolskie	Krakï¿½w	Rynek Gï¿½ï¿½wny	15	30-062
5	5	Lubelskie	Lublin	Krakowskie Przedmieï¿½cie	19	20-001
6	6	Podkarpackie	Przemyï¿½l	Sienkiewicza	28	37-700
7	7	ï¿½wiï¿½tokrzyskie	Ostrowiec ï¿½wiï¿½tokrzyski	Piï¿½sudskiego	30	27-400
8	8	Malopolskie	Nowy Sï¿½cz	Koï¿½ciuszki	9	33-300
9	9	Lubelskie	Cheï¿½m	Armii Krajowej	14	22-100
10	10	ï¿½wiï¿½tokrzyskie	Koï¿½skie	Sï¿½owackiego	5	26-200
11	11	Malopolskie	Tarnï¿½w	Krakowska	15	33-100
12	12	Lubelskie	ï¿½ï¿½czna	Boczna	7	21-010
13	13	Podkarpackie	Krosno	Leï¿½na	11	38-400
14	14	ï¿½wiï¿½tokrzyskie	Sandomierz	Mickiewicza	3	27-600
15	15	Maï¿½opolskie	Oï¿½wiï¿½cim	Dworcowa	5	32-600
16	16	Lubelskie	Biaï¿½a Podlaska	Lipowa	10	21-500

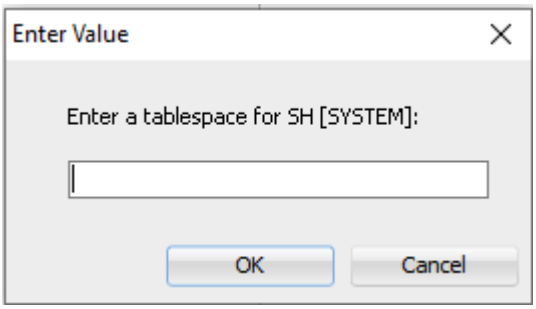
Wykonanie dla konteneru 2

Dodanie danych do PT_Jakub (wyjaśnienie)

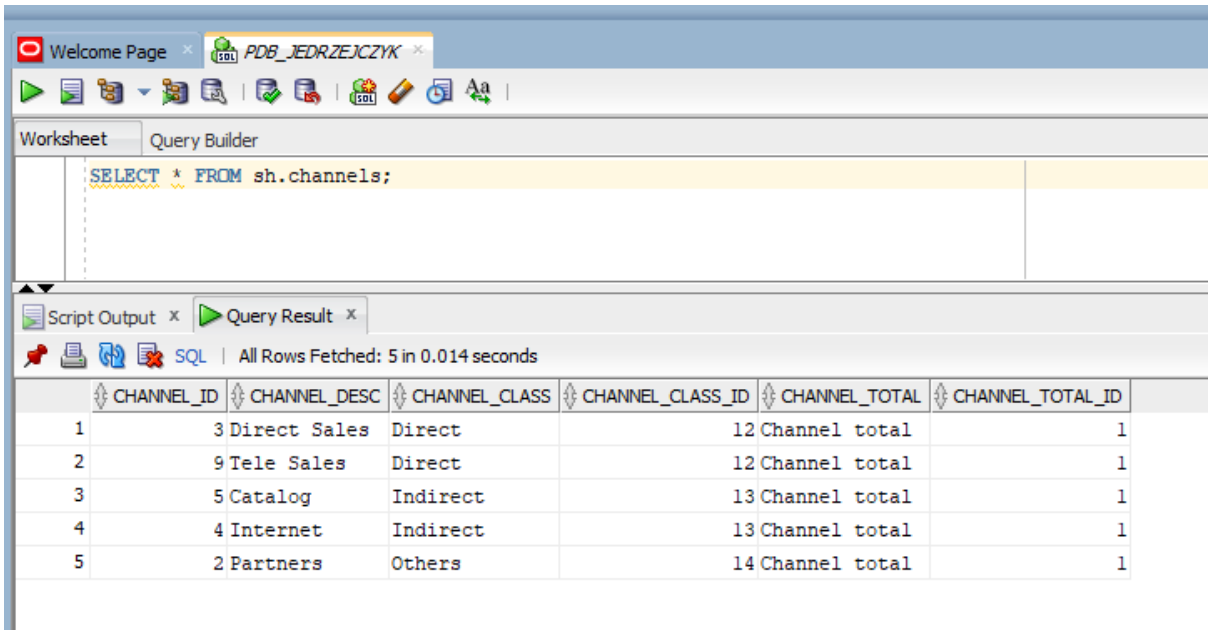
Z powodu niewiadomych problemów z przestrzenią tabel PT_2 postanowiliśmy ją usunąć i stworzyć na nowo. Niestety jak wyszło w trakcie tego procesu Oracle nie pozwala na ponowne używanie nazw więc musieliśmy utworzyć nową przestrzeń tabel .



Podczas instalacji danych jeden z kroków wymagał aby podać przestrzeń tabelowa.



Sprawdzenie czy dane się załadowały



	CHANNEL_ID	CHANNEL_DESC	CHANNEL_CLASS	CHANNEL_CLASS_ID	CHANNEL_TOTAL	CHANNEL_TOTAL_ID
1	3	Direct Sales	Direct	12	Channel total	1
2	9	Tele Sales	Direct	12	Channel total	1
3	5	Catalog	Indirect	13	Channel total	1
4	4	Internet	Indirect	13	Channel total	1
5	2	Partners	Others	14	Channel total	1

Nadanie uprawnień dla user_2_173150

Welcome Page | PDB_JEDRZEJCZYK

Worksheet | Query Builder

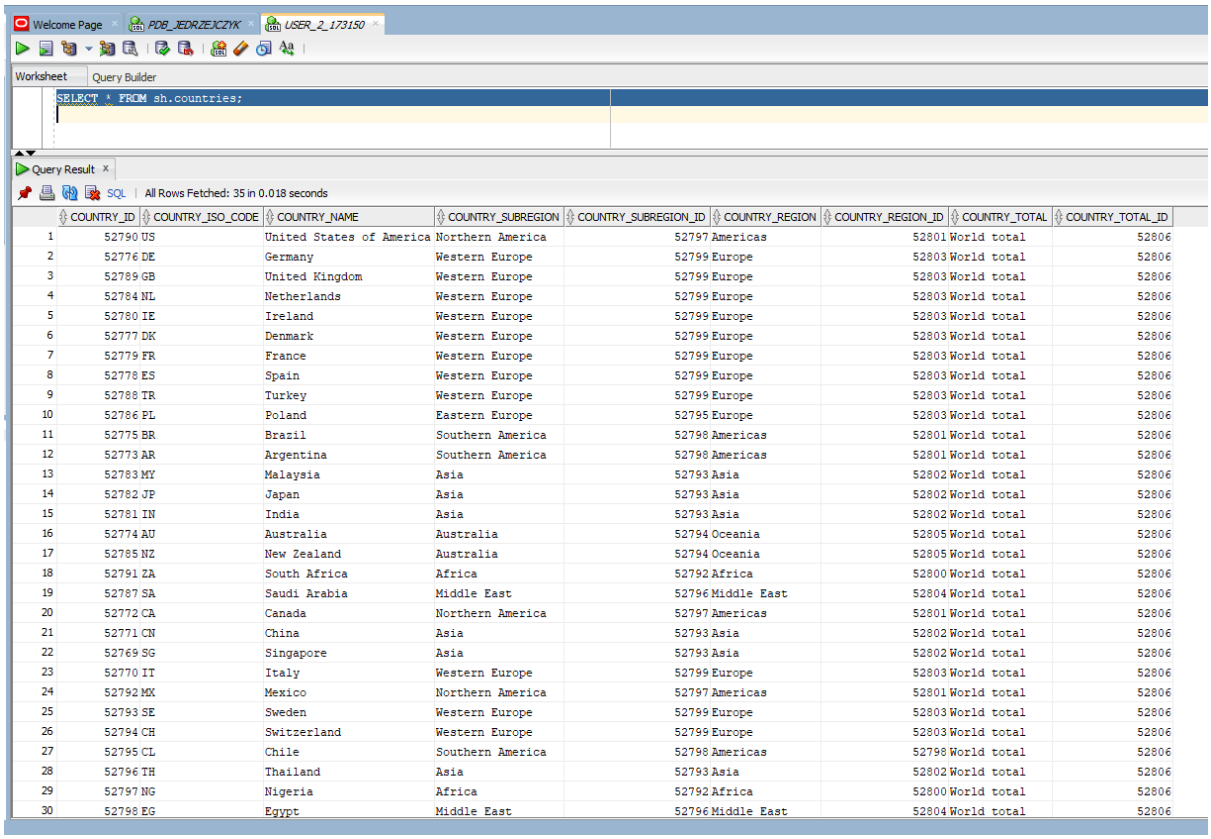
```
GRANT SELECT, INSERT, UPDATE, DELETE ON channels TO USER_2_173150;
GRANT SELECT, INSERT, UPDATE, DELETE ON costs TO USER_2_173150;
GRANT SELECT, INSERT, UPDATE, DELETE ON countries TO USER_2_173150;
GRANT SELECT, INSERT, UPDATE, DELETE ON products TO USER_2_173150;
GRANT SELECT, INSERT, UPDATE, DELETE ON promotions TO USER_2_173150;
GRANT SELECT, INSERT, UPDATE, DELETE ON sales TO USER_2_173150;
GRANT SELECT, INSERT, UPDATE, DELETE ON times TO USER_2_173150;
GRANT SELECT, INSERT, UPDATE, DELETE ON supplementary_demographics TO USER_2_173150;
```

Script Output | Query Result

Task completed in 0.208 seconds

```
Grant succeeded.

Grant succeeded.

Grant succeeded.

Grant succeeded.

Grant succeeded.

Grant succeeded.

Grant succeeded.

Grant succeeded.
```

Testowanie uprawnień dla user_2_173150



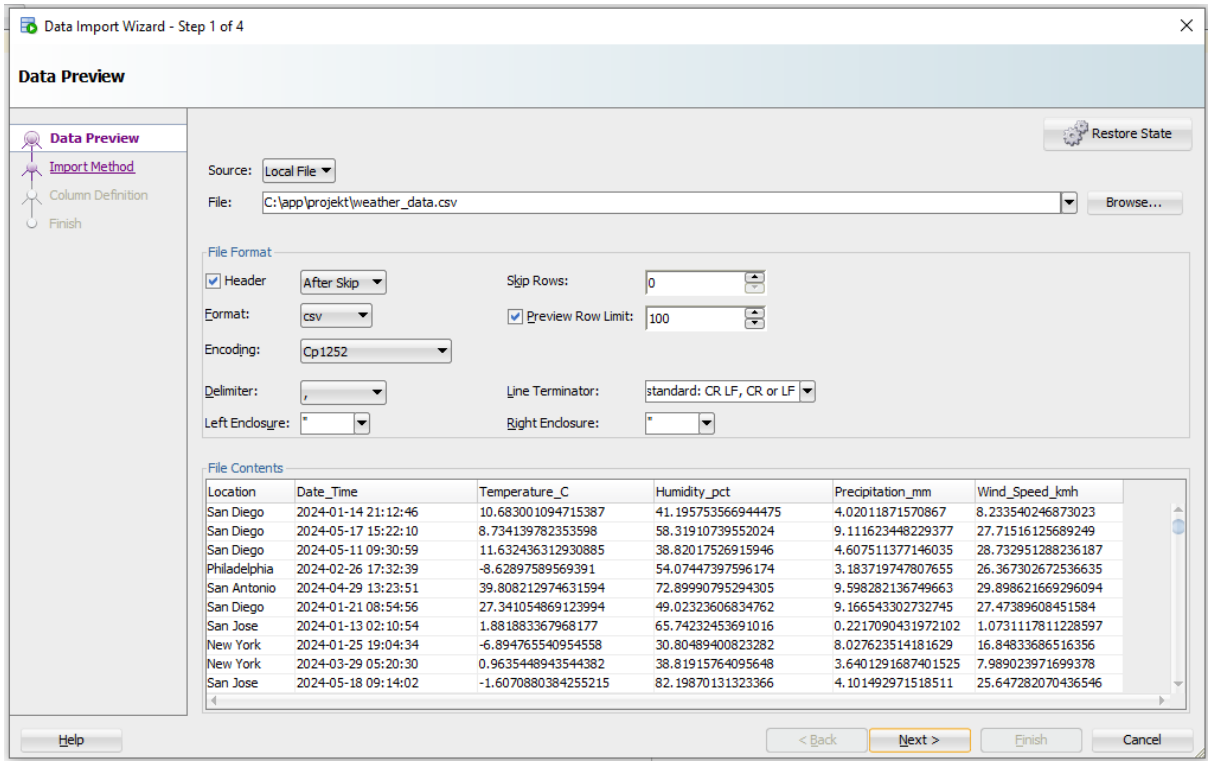
```
SELECT * FROM sh.countries;
```

Query Result — All Rows Fetched: 35 in 0.018 seconds

	COUNTRY_ID	COUNTRY_ISO_CODE	COUNTRY_NAME	COUNTRY_SUBREGION	COUNTRY_SUBREGION_ID	COUNTRY_REGION	COUNTRY_REGION_ID	COUNTRY_TOTAL	COUNTRY_TOTAL_ID
1	52790	US	United States of America	Northern America	52797	Americas	52801	World total	52806
2	52776	DE	Germany	Western Europe	52799	Europe	52803	World total	52806
3	52789	GB	United Kingdom	Western Europe	52799	Europe	52803	World total	52806
4	52784	NL	Netherlands	Western Europe	52799	Europe	52803	World total	52806
5	52780	IE	Ireland	Western Europe	52799	Europe	52803	World total	52806
6	52777	DK	Denmark	Western Europe	52799	Europe	52803	World total	52806
7	52779	FR	France	Western Europe	52799	Europe	52803	World total	52806
8	52778	ES	Spain	Western Europe	52799	Europe	52803	World total	52806
9	52788	TR	Turkey	Western Europe	52799	Europe	52803	World total	52806
10	52786	PL	Poland	Eastern Europe	52795	Europe	52803	World total	52806
11	52775	BR	Brazil	Southern America	52798	Americas	52801	World total	52806
12	52773	AR	Argentina	Southern America	52798	Americas	52801	World total	52806
13	52783	MY	Malaysia	Asia	52793	Asia	52802	World total	52806
14	52782	JP	Japan	Asia	52793	Asia	52802	World total	52806
15	52781	IN	India	Asia	52793	Asia	52802	World total	52806
16	52774	AU	Australia	Australia	52794	Oceania	52805	World total	52806
17	52785	NZ	New Zealand	Australia	52794	Oceania	52805	World total	52806
18	52791	ZA	South Africa	Africa	52792	Africa	52800	World total	52806
19	52787	SA	Saudi Arabia	Middle East	52796	Middle East	52804	World total	52806
20	52772	CA	Canada	Northern America	52797	Americas	52801	World total	52806
21	52771	CN	China	Asia	52793	Asia	52802	World total	52806
22	52769	SG	Singapore	Asia	52793	Asia	52802	World total	52806
23	52770	IT	Italy	Western Europe	52799	Europe	52803	World total	52806
24	52792	MX	Mexico	Northern America	52797	Americas	52801	World total	52806
25	52793	SE	Sweden	Western Europe	52799	Europe	52803	World total	52806
26	52794	CH	Switzerland	Western Europe	52799	Europe	52803	World total	52806
27	52795	CL	Chile	Southern America	52798	Americas	52798	World total	52806
28	52796	TH	Thailand	Asia	52793	Asia	52802	World total	52806
29	52797	NG	Nigeria	Africa	52792	Africa	52800	World total	52806
30	52798	EG	Egypt	Middle East	52796	Middle East	52804	World total	52806

Wykonanie dla konteneru 3

Importowanie danych z pliku csv przy uzyciu data import wizard



Data Import Wizard - Step 1 of 4

Data Preview

Source: Local File

File: C:\app\projekt\weather_data.csv

File Format: Header — After Skip; Skip Rows: 0; Format: csv; Preview Row Limit: 100; Encoding: Cp1252; Delimiter: ,; Line Terminator: standard: CR LF, CR or LF; Left Enclosure: "; Right Enclosure: "

File Contents

Location	Date_Time	Temperature_C	Humidity_pct	Precipitation_mm	Wind_Speed_kmh
San Diego	2024-01-14 21:12:46	10.683001094715387	41.195753566944475	4.02011871570867	8.233540246873023
San Diego	2024-05-17 15:22:10	8.734139782353598	58.31910739552024	9.111623448229377	27.71516125689249
San Diego	2024-05-11 09:30:59	11.632436312930885	38.82017526915946	4.607511377146035	28.732951288236187
Philadelphia	2024-02-26 17:32:39	-8.62897589569391	54.07447397596174	3.183719747807655	26.367302672536635
San Antonio	2024-04-29 13:23:51	39.808212974631594	72.89990795294305	9.598282136749663	29.898621669296094
San Diego	2024-01-21 08:54:56	27.341054869123994	49.02323606834762	9.166543302732745	27.47389608451584
San Jose	2024-01-13 02:10:54	1.881883367968177	65.74232453691016	0.2217090431972102	1.0731117811228597
New York	2024-01-25 19:04:34	-6.894765540954558	30.80489400823282	8.027623514181629	16.84833686516356
New York	2024-03-29 05:20:30	0.9635448943544382	38.81915764095648	3.6401291687401525	7.989023971699378
San Jose	2024-05-18 09:14:02	-1.6070880384255215	82.19870131323366	4.101492971518511	25.647282070436546

Data Import Wizard - Step 2 of 4

Import Method

Data Preview
Import Method
Column Definition
Finish

Specify the method for importing data. For External Table method, an external table will be created to read the data in the file. For Staging External Table method, an external table will be created as a staging table for importing the target table. For other methods, a new table is created and the data is imported.

Import Method: Insert

Send Create Script to SQL Worksheet

Table Name: temperature

Import Row Limit: 100

File Contents

Location	Date_Time	Temperature_C	Humidity_pct	Precipitation_mm	Wind_Speed_kmh
San Diego	2024-01-14 21:12:46	10.683001094715387	41.195753566944475	4.02011871570867	8.233540246873023
San Diego	2024-05-17 15:22:10	8.734139782353598	58.31910739552024	9.111623448229377	27.71516125689249
San Diego	2024-05-11 09:30:59	11.632436312930885	38.82017526915946	4.607511377146035	28.732951288236187
Philadelphia	2024-02-26 17:32:39	-8.62897589569391	54.07447397596174	3.183719747807655	26.367302672536635
San Antonio	2024-04-29 13:23:51	39.808212974631594	72.89990795294305	9.598282136749663	29.898621669296094
San Diego	2024-01-21 08:54:56	27.341054869123994	49.02323606834762	9.166543302732745	27.47389608451584
San Jose	2024-01-13 02:10:54	1.881883367968177	65.74232453691016	0.2217090431972102	1.0731117811228597
New York	2024-01-25 19:04:34	-6.894765540954558	30.80489400823282	8.027623514181629	16.84833686516356
New York	2024-03-29 05:20:30	0.9635448943544382	38.81915764095648	3.6401291687401525	7.989023971699378
San Jose	2024-05-18 09:14:02	-1.6070880384255215	82.19870131323366	4.101492971518511	25.647282070436546
New York	2024-03-04 13:47:15	35.14555906501712	54.7528656584597	8.349194966148637	25.430310019530673
Houston	2024-03-07 22:03:36	15.816763568100587	80.11990203459081	3.7600041861580316	16.75213220623646
Dallas	2024-02-27 21:07:10	32.016897607941914	53.1943706422686	3.552671054425888	3.0501963855642513
Houston	2024-05-09 00:53:10	38.641269264068626	85.95272555594032	0.4707818426036259	20.77926401089995
Houston	2024-05-12 15:57:55	39.66677191836734	72.74702581150828	1.2637221588915803	6.479492097370642
Philadelphia	2024-03-09 01:51:24	28.290114688292803	35.2391696910979	9.347204732507425	14.06676464016529
San Antonio	2024-02-10 15:05:28	16.349789500368708	65.81260731013612	0.10909021772622318	6.597039039560281

Help | < Back | Next > | Finish | Cancel

Data Import Wizard - Step 3 of 5

Choose Columns

Data Preview
Import Method
Choose Columns
Column Definition
Finish

Select the columns to import from the data set and arrange them in the order you want.

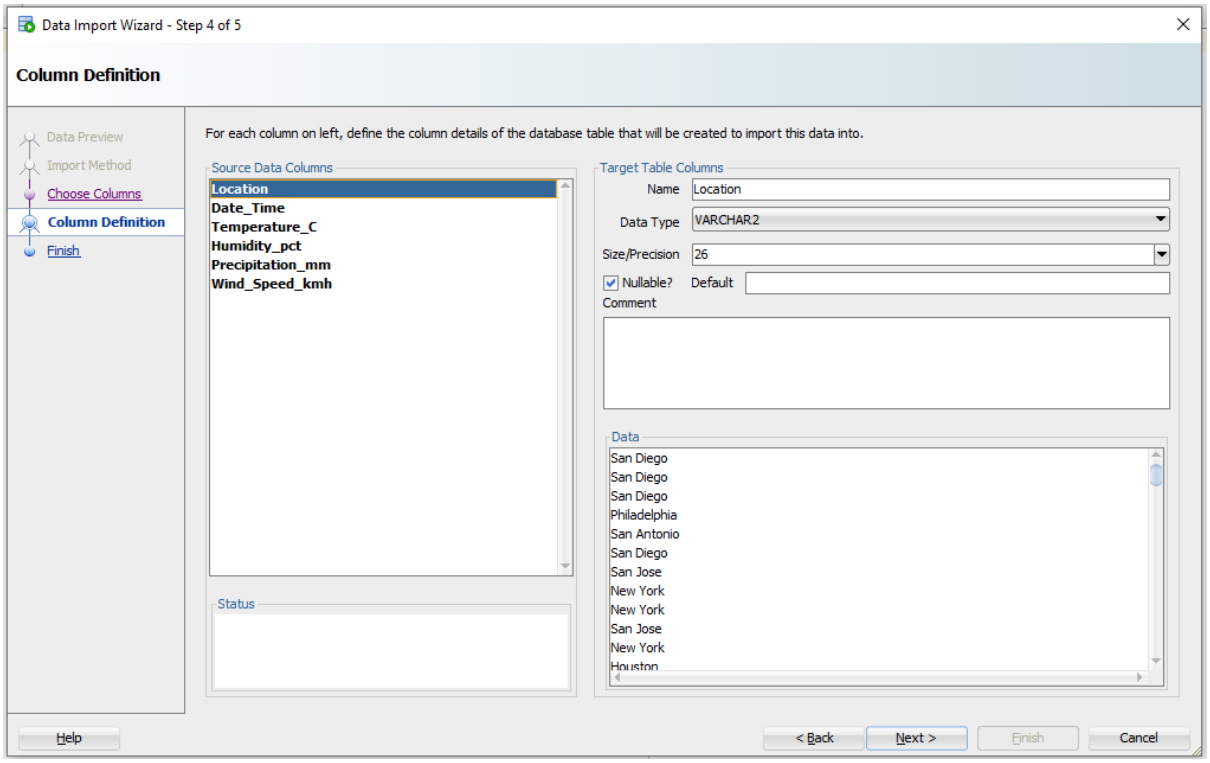
Available Columns

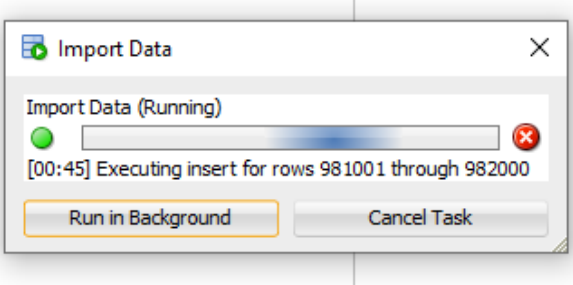
Selected Columns
Location
Date_Time
Temperature_C
Humidity_pct
Precipitation_mm
Wind_Speed_kmh

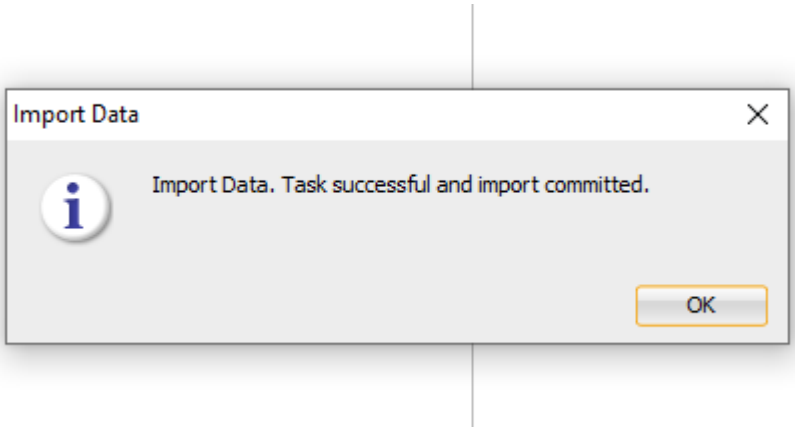
File Contents

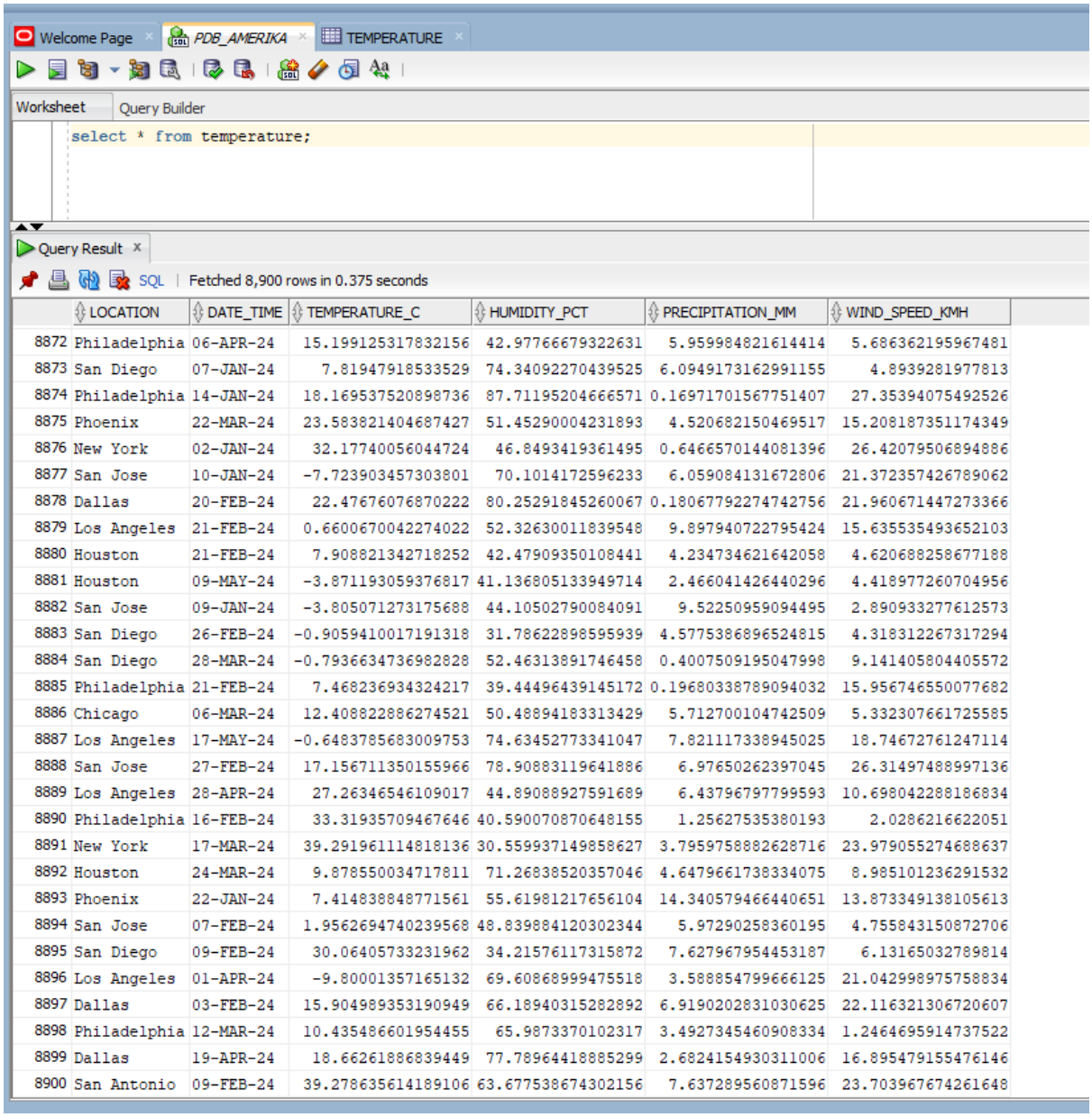
Location	Date_Time	Temperature_C	Humidity_pct	Precipitation_mm	Wind_Speed_kmh
San Diego	2024-01-14 21:12:46	10.683001094715387	41.195753566944475	4.02011871570867	8.233540246873023
San Diego	2024-05-17 15:22:10	8.734139782353598	58.31910739552024	9.111623448229377	27.71516125689249
San Diego	2024-05-11 09:30:59	11.632436312930885	38.82017526915946	4.607511377146035	28.732951288236187

Help | < Back | Next > | Finish | Cancel

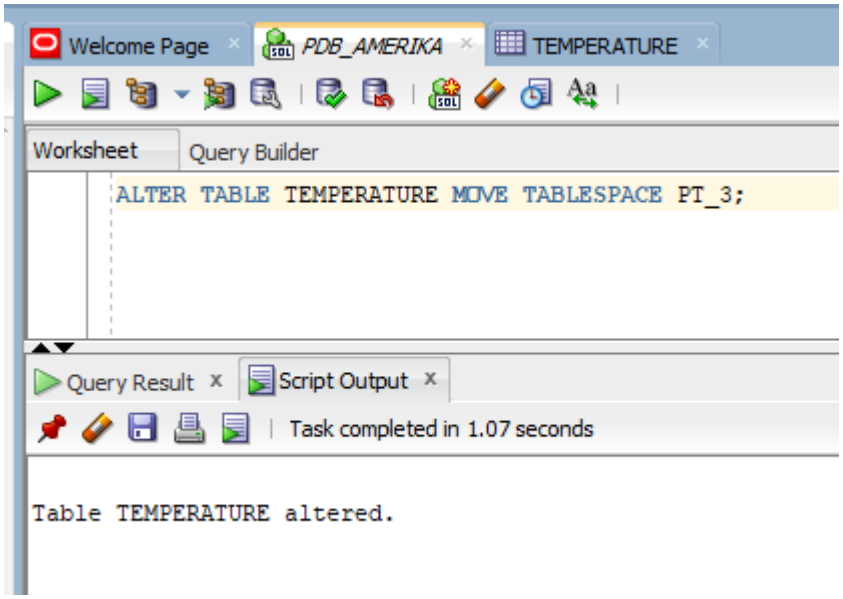

Data Import Wizard - Step 4 of 5
Column Definition
Data Preview
Import Method
Choose Columns
Column Definition
Finish
For each column on left, define the column details of the database table that will be created to import this data into.
Source Data Columns
Location
Date_Time
Temperature_C
Humidity_pct
Precipitation_mm
Wind_Speed_kmh
Target Table Columns
Name
Location
Data Type
VARCHAR2
Size/Precision
26
Nullable?
Default
Comment
Data
San Diego
San Diego
San Diego
Philadelphia
San Antonio
San Diego
San Jose
New York
New York
San Jose
New York
Status
Help
< Back
Next >
Finish
Cancel


Import Data
Import Data (Running)
[00:45] Executing insert for rows 981001 through 982000
Run in Background
Cancel Task

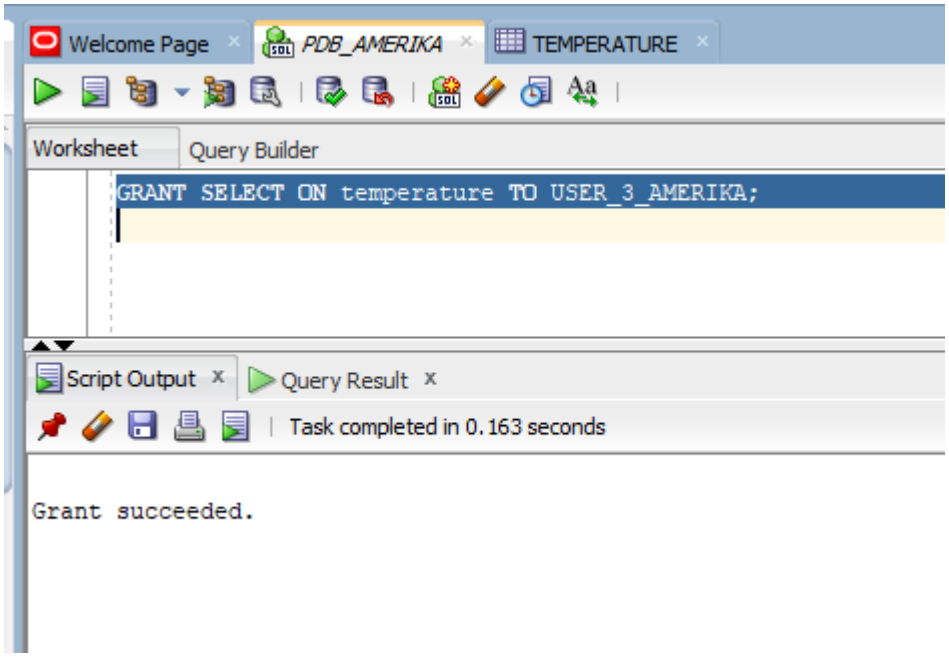




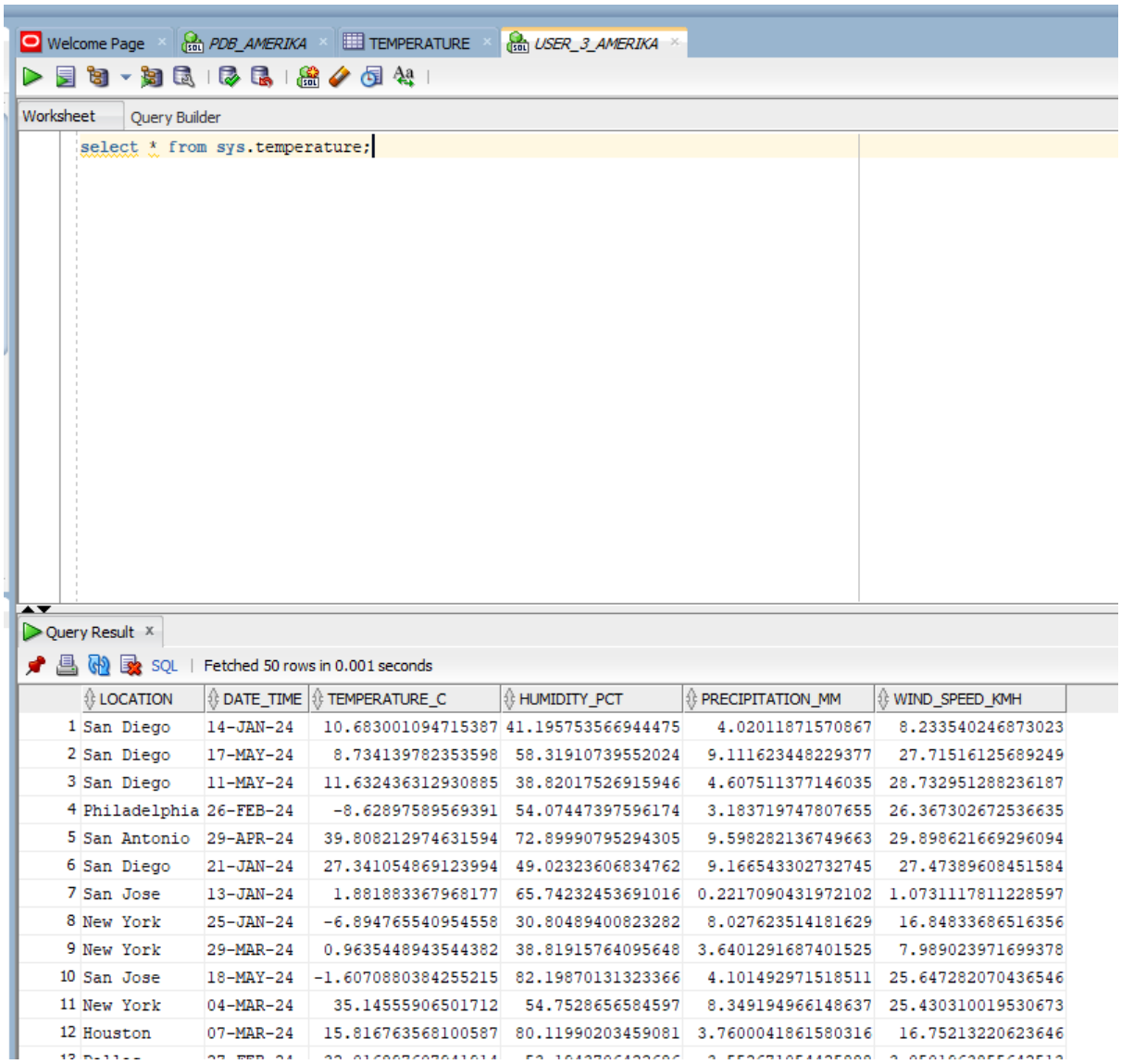
	LOCATION	DATE_TIME	TEMPERATURE_C	HUMIDITY_PCT	PRECIPITATION_MM	WIND_SPEED_KMH
8872	Philadelphia	06-APR-24	15.199125317832156	42.97766679322631	5.959984821614414	5.686362195967481
8873	San Diego	07-JAN-24	7.81947918533529	74.34092270439525	6.0949173162991155	4.8939281977813
8874	Philadelphia	14-JAN-24	18.169537520898736	87.71195204666571	0.16971701567751407	27.35394075492526
8875	Phoenix	22-MAR-24	23.583821404687427	51.45290004231893	4.520682150469517	15.208187351174349
8876	New York	02-JAN-24	32.17740056044724	46.8493419361495	0.6466570144081396	26.42079506894886
8877	San Jose	10-JAN-24	-7.723903457303801	70.1014172596233	6.059084131672806	21.372357426789062
8878	Dallas	20-FEB-24	22.47676076870222	80.25291845260067	0.18067792274742756	21.960671447273366
8879	Los Angeles	21-FEB-24	0.6600670042274022	52.32630011839548	9.897940722795424	15.635535493652103
8880	Houston	21-FEB-24	7.908821342718252	42.47909350108441	4.234734621642058	4.620688258677188
8881	Houston	09-MAY-24	-3.871193059376817	41.136805133949714	2.466041426440296	4.418977260704956
8882	San Jose	09-JAN-24	-3.805071273175688	44.10502790084091	9.52250959094495	2.890933277612573
8883	San Diego	26-FEB-24	-0.9059410017191318	31.78622898595939	4.5775386896524815	4.318312267317294
8884	San Diego	28-MAR-24	-0.7936634736982828	52.46313891746458	0.4007509195047998	9.141405804405572
8885	Philadelphia	21-FEB-24	7.468236934324217	39.44496439145172	0.19680338789094032	15.956746550077682
8886	Chicago	06-MAR-24	12.408822886274521	50.48894183313429	5.712700104742509	5.332307661725585
8887	Los Angeles	17-MAY-24	-0.6483785683009753	74.63452773341047	7.821117338945025	18.74672761247114
8888	San Jose	27-FEB-24	17.156711350155966	78.90883119641886	6.97650262397045	26.31497488997136
8889	Los Angeles	28-APR-24	27.26346546109017	44.89088927591689	6.43796797799593	10.698042288186834
8890	Philadelphia	16-FEB-24	33.31935709467646	40.590070870648155	1.25627535380193	2.0286216622051
8891	New York	17-MAR-24	39.291961114818136	30.559937149858627	3.7959758882628716	23.979055274688637
8892	Houston	24-MAR-24	9.878550034717811	71.26838520357046	4.6479661738334075	8.985101236291532
8893	Phoenix	22-JAN-24	7.414838848771561	55.61981217656104	14.340579466440651	13.873349138105613
8894	San Jose	07-FEB-24	1.9562694740239568	48.839884120302344	5.97290258360195	4.755843150872706
8895	San Diego	09-FEB-24	30.06405733231962	34.21576117315872	7.627967954453187	6.13165032789814
8896	Los Angeles	01-APR-24	-9.80001357165132	69.60868999475518	3.588854799666125	21.042998975758834
8897	Dallas	03-FEB-24	15.904989353190949	66.18940315282892	6.9190202831030625	22.116321306720607
8898	Philadelphia	12-MAR-24	10.435486601954455	65.9873370102317	3.4927345460908334	1.2464695914737522
8899	Dallas	19-APR-24	18.66261886839449	77.78964418885299	2.6824154930311006	16.895479155476146
8900	San Antonio	09-FEB-24	39.278635614189106	63.677538674302156	7.637289560871596	23.703967674261648



Nadanie uprawnień użytkownikowi USER_3_AMERIKA



Testowanie uprawnień dla user_3_amerika



	LOCATION	DATE_TIME	TEMPERATURE_C	HUMIDITY_PCT	PRECIPITATION_MM	WIND_SPEED_KMH
1	San Diego	14-JAN-24	10.683001094715387	41.195753566944475	4.02011871570867	8.233540246873023
2	San Diego	17-MAY-24	8.734139782353598	58.31910739552024	9.111623448229377	27.71516125689249
3	San Diego	11-MAY-24	11.632436312930885	38.82017526915946	4.607511377146035	28.732951288236187
4	Philadelphia	26-FEB-24	-8.62897589569391	54.07447397596174	3.183719747807655	26.367302672536635
5	San Antonio	29-APR-24	39.808212974631594	72.89990795294305	9.598282136749663	29.898621669296094
6	San Diego	21-JAN-24	27.341054869123994	49.02323606834762	9.166543302732745	27.47389608451584
7	San Jose	13-JAN-24	1.881883367968177	65.74232453691016	0.2217090431972102	1.0731117811228597
8	New York	25-JAN-24	-6.894765540954558	30.80489400823282	8.027623514181629	16.84833686516356
9	New York	29-MAR-24	0.9635448943544382	38.81915764095648	3.6401291687401525	7.989023971699378
10	San Jose	18-MAY-24	-1.6070880384255215	82.19870131323366	4.101492971518511	25.647282070436546
11	New York	04-MAR-24	35.14555906501712	54.7528656584597	8.349194966148637	25.430310019530673
12	Houston	07-MAR-24	15.816763568100587	80.11990203459081	3.7600041861580316	16.75213220623646

12.Nadanie uprawnień użytkownikom wspólnym

Użytkownik wspolny_1_173148

Welcome Page | sys

Worksheet | Query Builder

```
ALTER SESSION SET CONTAINER =PDB_JABLONSKI;
GRANT CREATE SESSION TO C##WSPOLNY_1_173148 CONTAINER = CURRENT;
GRANT SELECT ANY TABLE TO C##WSPOLNY_1_173148 CONTAINER = CURRENT;

ALTER SESSION SET CONTAINER =PDB_JEDRZEJCZYK;
GRANT CREATE SESSION TO C##WSPOLNY_1_173148 CONTAINER = CURRENT;
GRANT SELECT ANY TABLE TO C##WSPOLNY_1_173148 CONTAINER = CURRENT;

ALTER SESSION SET CONTAINER =PDB_AMERIKA;
GRANT CREATE SESSION TO C##WSPOLNY_1_173148 CONTAINER = CURRENT;
GRANT SELECT ANY TABLE TO C##WSPOLNY_1_173148 CONTAINER = CURRENT;
```

Script Output | Task completed in 0.305 seconds

```
Grant succeeded.

Grant succeeded.

Session altered.

Grant succeeded.

Grant succeeded.

Session altered.

Grant succeeded.

Grant succeeded.
```

Użytkownik wspolny_2_173150

Welcome Page | sys

Worksheet | Query Builder

```
ALTER SESSION SET CONTAINER =PDB_JABLONSKI;
GRANT CREATE SESSION TO C##WSPOLNY_2_173150 CONTAINER = CURRENT;
GRANT SELECT ANY TABLE TO C##WSPOLNY_2_173150 CONTAINER = CURRENT;

ALTER SESSION SET CONTAINER =PDB_JEDRZEJCZYK;
GRANT CREATE SESSION TO C##WSPOLNY_2_173150 CONTAINER = CURRENT;
GRANT SELECT ANY TABLE TO C##WSPOLNY_2_173150 CONTAINER = CURRENT;

ALTER SESSION SET CONTAINER =PDB_AMERIKA;
GRANT CREATE SESSION TO C##WSPOLNY_2_173150 CONTAINER = CURRENT;
GRANT SELECT ANY TABLE TO C##WSPOLNY_2_173150 CONTAINER = CURRENT;
```

Script Output | Task completed in 0.181 seconds

```
Grant succeeded.

Grant succeeded.

Session altered.

Grant succeeded.

Grant succeeded.

Session altered.

Grant succeeded.

Grant succeeded.
```

Dodanie połączeń w Oracle sql developer dla użytkowników wspólnych

Connection Name	Connection Details
PDB_AMERIKA	sys@//localhost:1588/PDB_AMERIKA
PDB_JABLONSKI	sys@//localhost:1522/PDB_JABLONSKI
PDB_JEDRZEJCZYK	sys@//localhost:1544/PDB_JEDRZEJCZYK
sys	sys@//localhost:1521/xe
USER_1_173148	USER_1_173148@//localhost:1522/PDB_JABLO...
USER_2_173150	USER_2_173150@//localhost:1544/PDB_JEDRZ...
USER_3_AMERIKA	USER_3_AMERIKA@//localhost:1588/PDB_AME...
wspolny_1_173148_Alias_1	C##WSPOLNY_1_173148@Alias_1_173148
wspolny_1_173148_Alias_2	C##WSPOLNY_1_173148@Alias_2_173150
wspolny_1_173148_Alias_3	C##WSPOLNY_1_173148@Alias_3
wspolny_2_173150_Alias_1	C##WSPOLNY_2_173150@Alias_1_173148
wspolny_2_173150_Alias_2	C##WSPOLNY_2_173150@Alias_2_173150
wspolny_2_173150_Alias_3	C##WSPOLNY_2_173150@Alias_3

Testowanie uprawnień

Użytkownik wspolny_1_173148

Dla tabeli z PDB_JABLONSKI

wspolny_1_173148_Alias_1 | wspolny_2_173150_Alias_1

Worksheet | Query Builder

```
SELECT * FROM sys.ADRES;
```

Query Result

SQL | All Rows Fetched: 20 in 0.025 seconds

	ID	WOJEWODZTWO	MIASTO	ULICA	NUMER	KOD
1	1	Podkarpackie	Rzeszow	Matuszczaka	28	36-040
2	2	Podkarpackie	Rzeszï¿½w	3 Maja	33	35-001
3	3	ï¿½wiï¿½tokrzyskie	Kielce	Sienkiewicza	12	25-001
4	4	Maï¿½opolskie	Krakï¿½w	Rynek Gï¿½ï¿½wny	15	30-062
5	5	Lubelskie	Lublin	Krakowskie Przedmieï¿½cie	19	20-001
6	6	Podkarpackie	Przemyï¿½l	Sienkiewicza	28	37-700
7	7	ï¿½wiï¿½tokrzyskie	Ostrowiec ï¿½wiï¿½tokrzyski	Piï¿½sudskiego	30	27-400
8	8	Malopolskie	Nowy Sï¿½cz	Koï¿½ciuszki	9	33-300
9	9	Lubelskie	Cheï¿½m	Armii Krajowej	14	22-100
10	10	ï¿½wiï¿½tokrzyskie	Koï¿½skie	Sï¿½owackiego	5	26-200
11	11	Malopolskie	Tarnï¿½w	Krakowska	15	33-100
12	12	Lubelskie	ï¿½ï¿½czna	Boczna	7	21-010
13	13	Podkarpackie	Krosno	Leï¿½na	11	38-400
14	14	ï¿½wiï¿½tokrzyskie	Sandomierz	Mickiewicza	3	27-600
15	15	Maï¿½opolskie	Oï¿½wiï¿½cim	Dworcowa	5	32-600
16	16	Lubelskie	Biaï¿½a Podlaska	Lipowa	10	21-500

Dla tabeli z PDB_JEDRZEJCZYK

wspolny_1_173148_Alias_2 | wspolny_2_173150_Alias_2

Worksheet | Query Builder

```
SELECT * FROM sh.channels;
```

Query Result

SQL | All Rows Fetched: 5 in 0.003 seconds

	CHANNEL_ID	CHANNEL_DESC	CHANNEL_CLASS	CHANNEL_CLASS_ID	CHANNEL_TOTAL	CHANNEL_TOTAL_ID
1	3	Direct Sales	Direct	12	Channel total	1
2	9	Tele Sales	Direct	12	Channel total	1
3	5	Catalog	Indirect	13	Channel total	1
4	4	Internet	Indirect	13	Channel total	1
5	2	Partners	Others	14	Channel total	1

Dla tabeli z PDB_AMERIKA

wspolny_1_173148_Alias_3 | wspolny_2_173150_Alias_3

Worksheet | Query Builder

```
SELECT * FROM sys.temperature;
```

Query Result

SQL | Fetched 50 rows in 0.016 seconds

	LOCATION	DATE_TIME	TEMPERATURE_C	HUMIDITY_PCT	PRECIPITATION_MM	WIND_SPEED_KMH
1	San Diego	14-JAN-24	10.683001094715387	41.195753566944475	4.02011871570867	8.233540246873023
2	San Diego	17-MAY-24	8.734139782353598	58.31910739552024	9.111623448229377	27.71516125689249
3	San Diego	11-MAY-24	11.632436312930885	38.82017526915946	4.607511377146035	28.732951288236187
4	Philadelphia	26-FEB-24	-8.62897589569391	54.07447397596174	3.183719747807655	26.367302672536635
5	San Antonio	29-APR-24	39.808212974631594	72.89990795294305	9.598282136749663	29.898621669296094
6	San Diego	21-JAN-24	27.341054869123994	49.02323606834762	9.166543302732745	27.47389608451584
7	San Jose	13-JAN-24	1.881883367968177	65.74232453691016	0.2217090431972102	1.0731117811228597
8	New York	25-JAN-24	-6.894765540954558	30.80489400823282	8.027623514181629	16.84833686516356
9	New York	29-MAR-24	0.9635448943544382	38.81915764095648	3.6401291687401525	7.989023971699378
10	San Jose	18-MAY-24	-1.6070880384255215	82.19870131323366	4.101492971518511	25.647282070436546
11	New York	04-MAR-24	35.14555906501712	54.7528656584597	8.349194966148637	25.430310019530673
12	Houston	07-MAR-24	15.816763568100587	80.11990203459081	3.7600041861580316	16.75213220623646
13	Dallas	27-FEB-24	32.016897607941914	53.1943706422686	3.552671054425888	3.0501963855642513
14	Houston	09-MAY-24	38.641269264068626	85.95272555594032	0.4707818426036259	20.77926401089995
15	Houston	12-MAY-24	39.66677191836734	72.74702581150828	1.2637221588915803	6.479492097370642
16	Philadelphia	09-MAR-24	28.290114688292803	35.2391696910979	9.347204732507425	14.06676464016529

Użytkownik wspolny_2_173150

Dla tabeli z PDB_JABLONSKI

wspolny_1_173148_Alias_1 | wspolny_2_173150_Alias_1

Worksheet | Query Builder

```
SELECT * FROM sys.ADRES;
```

Query Result

SQL | All Rows Fetched: 20 in 0.007 seconds

	ID	WOJEWODZTWO	MIASTO	ULICA	NUMER	KOD
1	1	Podkarpackie	Rzeszow	Matuszczaka	28	36-040
2	2	Podkarpackie	Rzeszï¿½w	3 Maja	33	35-001
3	3	ï¿½swiï¿½tokrzyskie	Kielce	Sienkiewicza	12	25-001
4	4	Maï¿½opolskie	Krakï¿½w	Rynek Gï¿½ï¿½wny	15	30-062
5	5	Lubelskie	Lublin	Krakowskie Przedmieï¿½cie	19	20-001
6	6	Podkarpackie	Przemyï¿½l	Sienkiewicza	28	37-700
7	7	ï¿½swiï¿½tokrzyskie	Ostrowiec ï¿½swiï¿½tokrzyski	Piï¿½sudskiego	30	27-400
8	8	Malopolskie	Nowy Sï¿½cz	Koï¿½ciuszki	9	33-300
9	9	Lubelskie	Cheï¿½m	Armii Krajowej	14	22-100
10	10	ï¿½swiï¿½tokrzyskie	Koï¿½skie	Sï¿½owackiego	5	26-200
11	11	Malopolskie	Tarnï¿½w	Krakowska	15	33-100
12	12	Lubelskie	ï¿½ï¿½czna	Boczna	7	21-010
13	13	Podkarpackie	Krosno	Leï¿½na	11	38-400
14	14	ï¿½swiï¿½tokrzyskie	Sandomierz	Mickiewicza	3	27-600
15	15	Maï¿½opolskie	Oï¿½swiï¿½cim	Dworcowa	5	32-600
16	16	Lubelskie	Biaï¿½a Podlaska	Lipowa	10	21-500

Dla tabeli z PDB_JEDRZEJCZYK

wspolny_1_173148_Alias_2 | wspolny_2_173150_Alias_2

Worksheet | Query Builder

```
SELECT * FROM sh.channels;
```

Query Result

SQL | All Rows Fetched: 5 in 0.004 seconds

	CHANNEL_ID	CHANNEL_DESC	CHANNEL_CLASS	CHANNEL_CLASS_ID	CHANNEL_TOTAL	CHANNEL_TOTAL_ID
1	3	Direct Sales	Direct	12	Channel total	1
2	9	Tele Sales	Direct	12	Channel total	1
3	5	Catalog	Indirect	13	Channel total	1
4	4	Internet	Indirect	13	Channel total	1
5	2	Partners	Others	14	Channel total	1

Dla tabeli z PDB_AMERIKA

wspolny_1_173148_Alias_3 | wspolny_2_173150_Alias_3

Worksheet | Query Builder

```
SELECT * FROM sys.temperature;
```

Query Result

SQL | Fetched 50 rows in 0.002 seconds

	LOCATION	DATE_TIME	TEMPERATURE_C	HUMIDITY_PCT	PRECIPITATION_MM	WIND_SPEED_KMH
1	San Diego	14-JAN-24	10.683001094715387	41.195753566944475	4.02011871570867	8.233540246873023
2	San Diego	17-MAY-24	8.734139782353598	58.31910739552024	9.111623448229377	27.71516125689249
3	San Diego	11-MAY-24	11.632436312930885	38.82017526915946	4.607511377146035	28.732951288236187
4	Philadelphia	26-FEB-24	-8.62897589569391	54.07447397596174	3.183719747807655	26.367302672536635
5	San Antonio	29-APR-24	39.808212974631594	72.89990795294305	9.598282136749663	29.898621669296094
6	San Diego	21-JAN-24	27.341054869123994	49.02323606834762	9.166543302732745	27.47389608451584
7	San Jose	13-JAN-24	1.881883367968177	65.74232453691016	0.2217090431972102	1.0731117811228597
8	New York	25-JAN-24	-6.894765540954558	30.80489400823282	8.027623514181629	16.84833686516356
9	New York	29-MAR-24	0.9635448943544382	38.81915764095648	3.6401291687401525	7.989023971699378
10	San Jose	18-MAY-24	-1.6070880384255215	82.19870131323366	4.101492971518511	25.647282070436546
11	New York	04-MAR-24	35.14555906501712	54.7528656584597	8.349194966148637	25.430310019530673
12	Houston	07-MAR-24	15.816763568100587	80.11990203459081	3.7600041861580316	16.75213220623646
13	Dallas	27-FEB-24	32.016897607941914	53.1943706422686	3.552671054425888	3.0501963855642513
14	Houston	09-MAY-24	38.641269264068626	85.95272555594032	0.4707818426036259	20.77926401089995
15	Houston	12-MAY-24	39.66677191836734	72.74702581150828	1.2637221588915803	6.479492097370642
16	Philadelphia	09-MAR-24	28.290114688292803	35.2391696910979	9.347204732507425	14.06676464016529

13. Odłączenie konteneru i podłączenie go ponownie

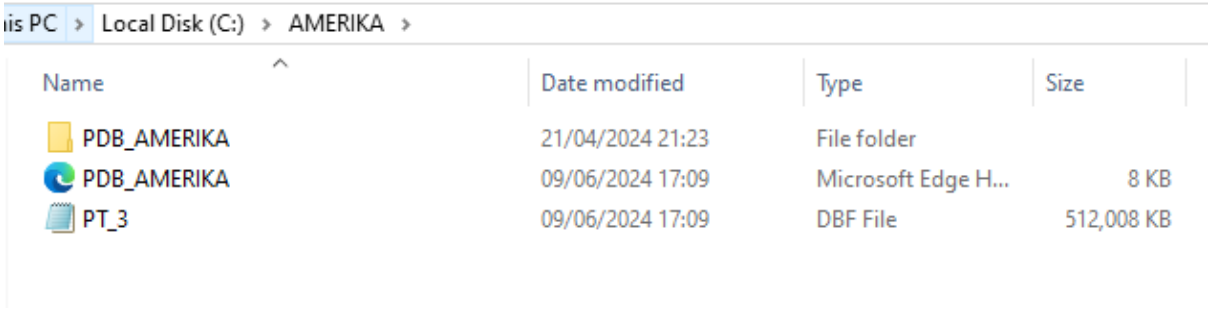
Wyłączenie

```
SQL> ALTER PLUGGABLE DATABASE PDB_AMERIKA CLOSE IMMEDIATE;

Pluggable database altered.
```

Odłączenie

```
SQL> ALTER PLUGGABLE DATABASE PDB_AMERIKA UNPLUG INTO 'C:\AMERIKA\PDB_AMERIKA.XML';

Pluggable database altered.
```

Skopiowanie potrzebnych plików do folderu



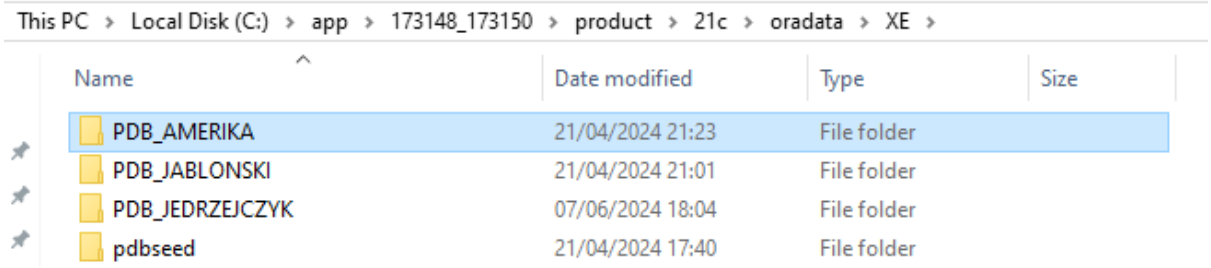
Usunięcie konteneru

```
SQL> DROP PLUGGABLE DATABASE PDB_AMERIKA;

Pluggable database dropped.
```

(potwierdzenie że został usunięty)

```
SQL> SELECT NAME FROM V$CONTAINERS;

NAME
--------------------------------------------------------------------------------
CDB$ROOT
PDB$SEED
XEPDB1
PDB_JABLONSKI
PDB_JEDRZEJCZYK
```

Przeniesienie danych w odpowiednie miejsca



Pozostałe pliki można umieścić dowolnie ponieważ przy ich użyciu należy podać ścieżkę do nich.

Odtworzenie konteneru

```
SQL> CREATE PLUGGABLE DATABASE PDB_AMERIKA_CLONE USING 'C:\AMERIKA\PDB_AMERIKA.XML' NOCOPY;

Pluggable database created.
```

Test czy działa dany kontener

Welcome Page | PDB_AMERIKA

Worksheet | Query Builder

```
SELECT * FROM temperature;
```

Query Result

SQL | Fetched 50 rows in 0.042 seconds

	LOCATION	DATE_TIME	TEMPERATURE_C	HUMIDITY_PCT	PRECIPITATION_MM	WIND_SPEED_KMH
1	San Diego	14-JAN-24	10.683001094715387	41.195753566944475	4.02011871570867	8.233540246873023
2	San Diego	17-MAY-24	8.734139782353598	58.31910739552024	9.111623448229377	27.71516125689249
3	San Diego	11-MAY-24	11.632436312930885	38.82017526915946	4.607511377146035	28.732951288236187
4	Philadelphia	26-FEB-24	-8.62897589569391	54.07447397596174	3.183719747807655	26.367302672536635
5	San Antonio	29-APR-24	39.808212974631594	72.89990795294305	9.598282136749663	29.898621669296094
6	San Diego	21-JAN-24	27.341054869123994	49.02323606834762	9.166543302732745	27.47389608451584
7	San Jose	13-JAN-24	1.881883367968177	65.74232453691016	0.2217090431972102	1.0731117811228597
8	New York	25-JAN-24	-6.894765540954558	30.80489400823282	8.027623514181629	16.84833686516356
9	New York	29-MAR-24	0.9635448943544382	38.81915764095648	3.6401291687401525	7.989023971699378
10	San Jose	18-MAY-24	-1.6070880384255215	82.19870131323366	4.101492971518511	25.647282070436546
11	New York	04-MAR-24	35.14555906501712	54.7528656584597	8.349194966148637	25.430310019530673
12	Houston	07-MAR-24	15.816763568100587	80.11990203459081	3.7600041861580316	16.75213220623646
13	Dallas	27-FEB-24	32.016897607941914	53.1943706422686	3.552671054425888	3.0501963855642513
14	Houston	09-MAY-24	38.641269264068626	85.95272555594032	0.4707818426036259	20.77926401089995
15	Houston	12-MAY-24	39.66677191836734	72.74702581150828	1.2637221588915803	6.479492097370642
16	Philadelphia	09-MAR-24	28.290114688292803	35.2391696910979	9.347204732507425	14.06676464016529

14. Symulacja usunięcia danych oraz ich przywrócenie

Ustawienie miejsca w którym będzie znajdował się backup

```
SQL> ALTER SYSTEM SET LOG_ARCHIVE_DEST_1='location=C:\app\projekt\backup' scope=both;

System altered.
```

Zamkniecie konteneru

```
SQL> SHUTDOWN IMMEDIATE;
Database closed.
Database dismounted.
ORACLE instance shut down.
```

Ustawienie w tryb MOUNT

```
SQL> STARTUP MOUNT;
ORACLE instance started.

Total System Global Area 1610608792 bytes
Fixed Size                  9855128 bytes
Variable Size             587202560 bytes
Database Buffers         1006632960 bytes
Redo Buffers                6918144 bytes
Database mounted.
```

Uruchomienie trybu archivelog

```
SQL> ALTER DATABASE ARCHIVELOG;

Database altered.
```

Otwarcie bazy danych

```
SQL> ALTER DATABASE OPEN;

Database altered.
```

Uruchomienie narzędzia rman do stworzenia backupu

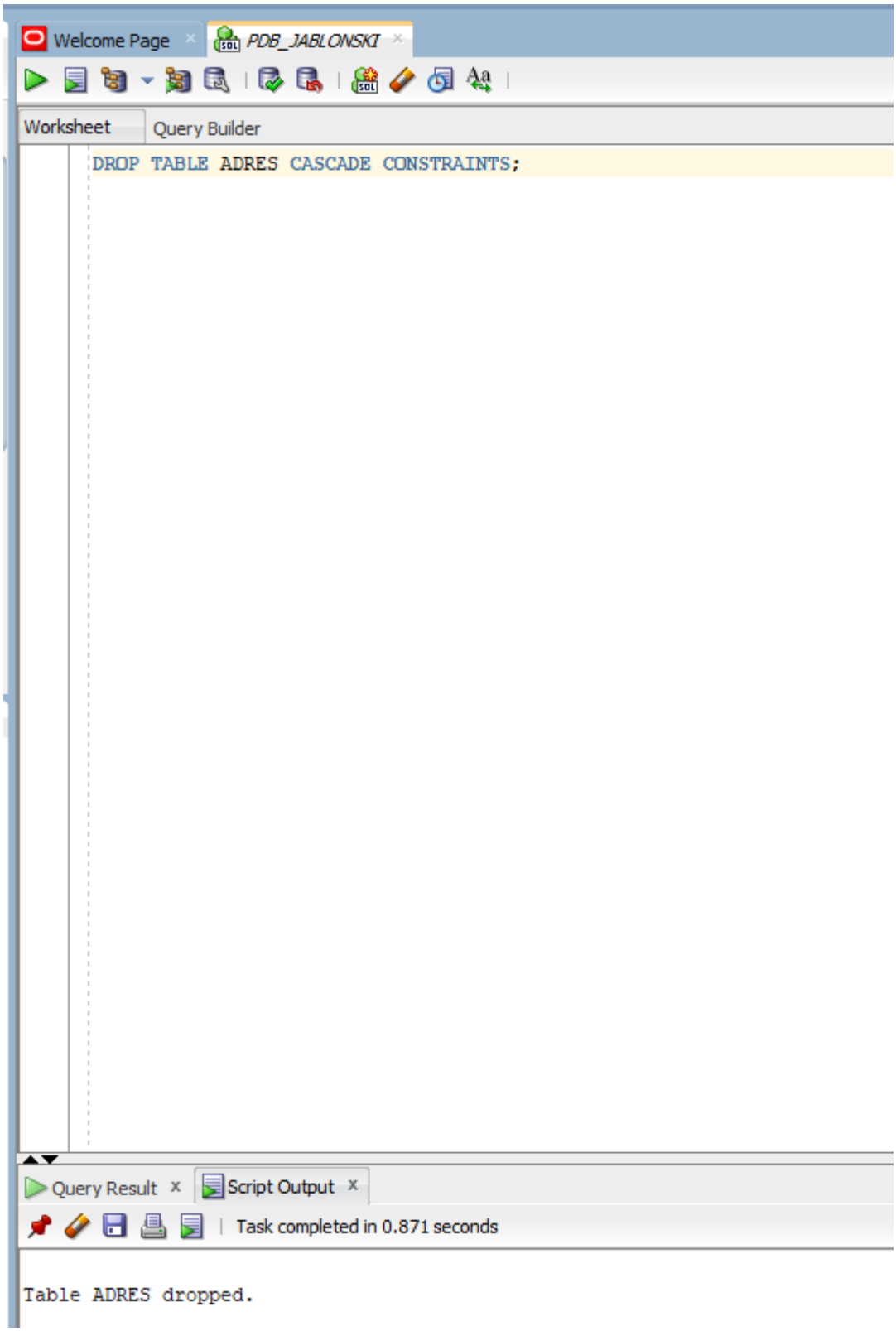
```
C:\Windows\system32>rman target sys@alias_1_173148

Recovery Manager: Release 21.0.0.0.0 - Production on Sun Jun 9 18:06:17 2024
Version 21.3.0.0.0

Copyright (c) 1982, 2021, Oracle and/or its affiliates.  All rights reserved.

target database Password:
connected to target database: XE:PDB_JABLONSKI (DBID=3274270539)
```

Utworzenie backupu

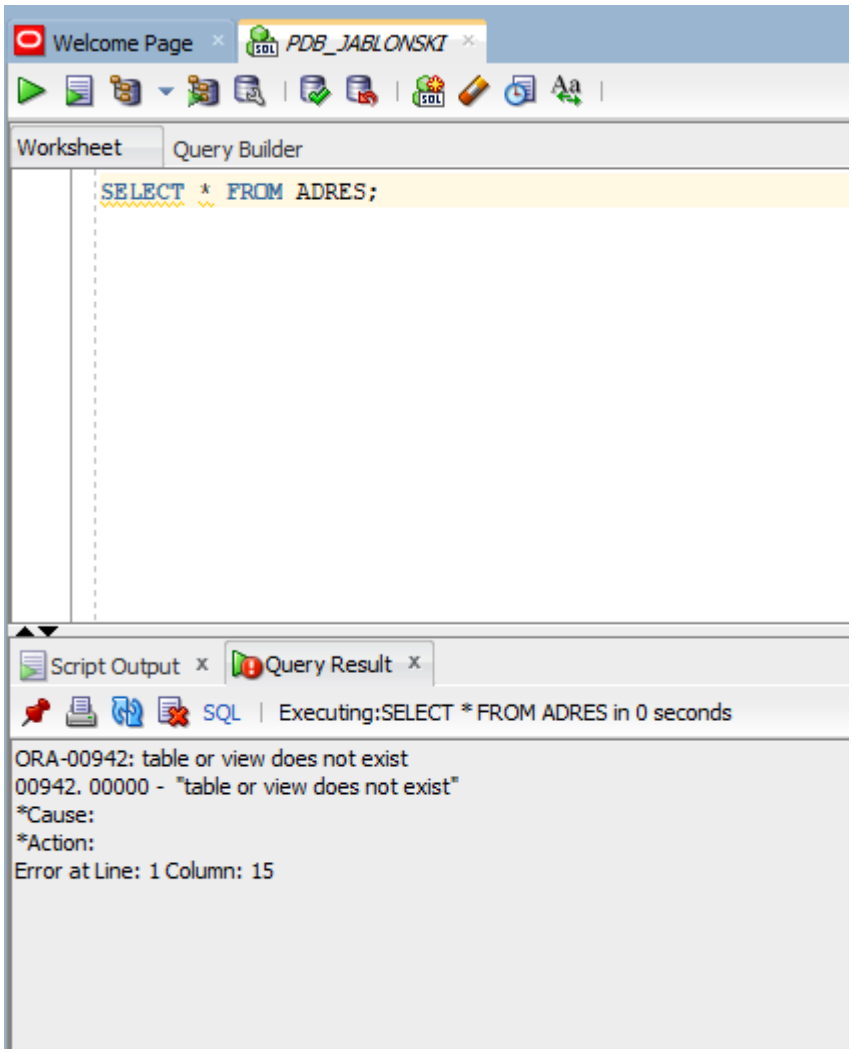
```
RMAN> BACKUP TABLESPACE PT_1;

Starting backup at 09-JUN-24
using target database control file instead of recovery catalog
allocated channel: ORA_DISK_1
channel ORA_DISK_1: SID=19 device type=DISK
channel ORA_DISK_1: starting full datafile backup set
channel ORA_DISK_1: specifying datafile(s) in backup set
input datafile file number=00033 name=C:\APP\PROJEKT\PT_1.DBF
channel ORA_DISK_1: starting piece 1 at 09-JUN-24
channel ORA_DISK_1: finished piece 1 at 09-JUN-24
piece handle=C:\APP\173148_173150\PRODUCT\21C\DBHOMEXE\DATABASE\032SUN9A_3_1_1 tag=TAG20240609T181506 comment=NONE
channel ORA_DISK_1: backup set complete, elapsed time: 00:00:00
Finished backup at 09-JUN-24
```

```
RMAN> BACKUP PLUGGABLE DATABASE PDB_JABLONSKI
2> ;

Starting backup at 09-JUN-24
using channel ORA_DISK_1
channel ORA_DISK_1: starting full datafile backup set
channel ORA_DISK_1: specifying datafile(s) in backup set
input datafile file number=00031 name=C:\APP\PROJEKT\PT_2.DBF
input datafile file number=00033 name=C:\APP\PROJEKT\PT_1.DBF
input datafile file number=00017 name=C:\APP\173148_173150\PRODUCT\21C\ORADATA\XE\PDB_JABLONSKI\SYSAUX01.DBF
input datafile file number=00016 name=C:\APP\173148_173150\PRODUCT\21C\ORADATA\XE\PDB_JABLONSKI\SYSTEM01.DBF
input datafile file number=00018 name=C:\APP\173148_173150\PRODUCT\21C\ORADATA\XE\PDB_JABLONSKI\UNDOTBS01.DBF
channel ORA_DISK_1: starting piece 1 at 09-JUN-24
channel ORA_DISK_1: finished piece 1 at 09-JUN-24
piece handle=C:\APP\173148_173150\PRODUCT\21C\DBHOMEXE\DATABASE\032SUS5U_3_1_1 tag=TAG20240609T193838 comment=NONE
channel ORA_DISK_1: backup set complete, elapsed time: 00:00:09
Finished backup at 09-JUN-24
```

Usunięcie tabeli



Sprawdzenie czy tabela istnieje



Sprawdzenie backupu

```
RMAN> LIST BACKUP OF DATABASE;


List of Backup Sets
===================


BS Key  Type LV Size       Device Type Elapsed Time Completion Time
------- ---- -- ---------- ----------- ------------ ---------------
1       Full    1.59M      DISK        00:00:00     09-JUN-24
        BP Key: 1   Status: AVAILABLE  Compressed: NO  Tag: TAG20240609T181506
        Piece Name: C:\APP\173148_173150\PRODUCT\21C\DBHOMEXE\DATABASE\032SUN9A_3_1_1
  List of Datafiles in backup set 1
  File LV Type Ckp SCN    Ckp Time  Abs Fuz SCN Sparse Name
  ---- -- ---- ---------- --------- ----------- ------ ----
  33      Full 26345091   09-JUN-24              NO    C:\APP\PROJEKT\PT_1.DBF
```

Wyłączenie bazy danych

```
SQL> shutdown immediate;
Database closed.
Database dismounted.
ORACLE instance shut down.
```

Uruchomienie bazy w trybie MOUNT

```
SQL> startup mount;
ORACLE instance started.

Total System Global Area 1610608792 bytes
Fixed Size                  9855128 bytes
Variable Size             587202560 bytes
Database Buffers         1006632960 bytes
Redo Buffers                6918144 bytes
Database mounted.
```

Uruchomienie odzyskiwania

```
RMAN> RUN {
2> RESTORE DATAFILE 33;
3> RECOVER DATAFILE 33;
4> ALTER DATABASE OPEN;
5> }

Starting restore at 09-JUN-24
allocated channel: ORA_DISK_1
channel ORA_DISK_1: SID=146 device type=DISK

channel ORA_DISK_1: starting datafile backup set restore
channel ORA_DISK_1: specifying datafile(s) to restore from backup set
channel ORA_DISK_1: restoring datafile 00033 to C:\APP\PROJEKT\PT_1.DBF
channel ORA_DISK_1: reading from backup piece C:\APP\173148_173150\PRODUCT\21C\DBHOMEXE\DATABASE\032SUN9A_3_1_1
channel ORA_DISK_1: piece handle=C:\APP\173148_173150\PRODUCT\21C\DBHOMEXE\DATABASE\032SUN9A_3_1_1 tag=TAG20240609T181506
channel ORA_DISK_1: restored backup piece 1
channel ORA_DISK_1: restore complete, elapsed time: 00:00:04
Finished restore at 09-JUN-24

Starting recover at 09-JUN-24
using channel ORA_DISK_1
applied offline range to datafile 00033
offline range RECID=87 STAMP=1171218621

starting media recovery
media recovery complete, elapsed time: 00:00:00

Finished recover at 09-JUN-24

Statement processed
```

Sprawdzenie czy tabela jest dostępna

Welcome Page | PDB_JABLONSKI

Worksheet | Query Builder

```
SELECT * FROM ADRES;
```

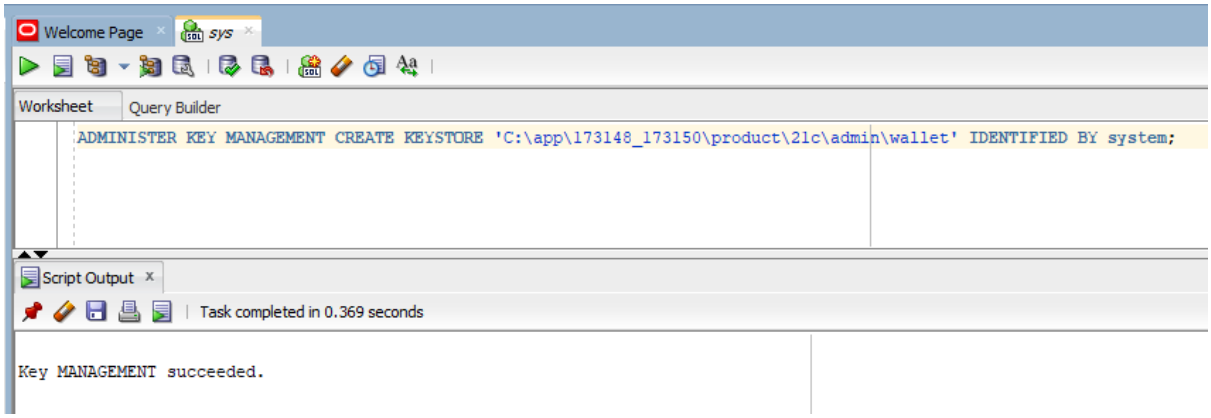
Query Result

SQL | All Rows Fetched: 20 in 0.122 seconds

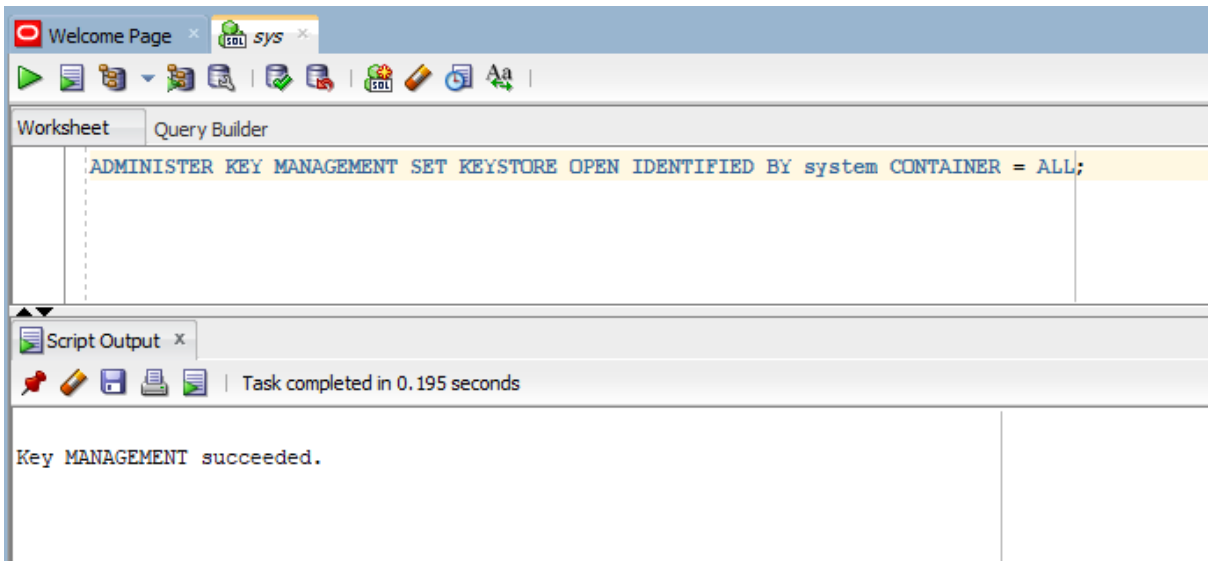
	ID	WOJEWODZTWO	MIASTO	ULICA	NUMER	KOD
1	1	Podkarpackie	Rzeszow	Matuszczaka	28	36-040
2	2	Podkarpackie	Rzeszï¿½w	3 Maja	33	35-001
3	3	ï¿½wiï¿½tokrzyskie	Kielce	Sienkiewicza	12	25-001
4	4	Maï¿½opolskie	Krakï¿½w	Rynek Gï¿½ï¿½wny	15	30-062
5	5	Lubelskie	Lublin	Krakowskie Przedmieï¿½cie	19	20-001
6	6	Podkarpackie	Przemyï¿½l	Sienkiewicza	28	37-700
7	7	ï¿½wiï¿½tokrzyskie	Ostrowiec ï¿½wiï¿½tokrzyski	Piï¿½sudskiego	30	27-400
8	8	Malopolskie	Nowy Sï¿½cz	Koï¿½ciuszki	9	33-300
9	9	Lubelskie	Cheï¿½m	Armii Krajowej	14	22-100
10	10	ï¿½wiï¿½tokrzyskie	Koï¿½skie	Sï¿½owackiego	5	26-200
11	11	Malopolskie	Tarnï¿½w	Krakowska	15	33-100
12	12	Lubelskie	ï¿½ï¿½czna	Boczna	7	21-010
13	13	Podkarpackie	Krosno	Leï¿½na	11	38-400
14	14	ï¿½wiï¿½tokrzyskie	Sandomierz	Mickiewicza	3	27-600
15	15	Maï¿½opolskie	Oï¿½wiï¿½cim	Dworcowa	5	32-600
16	16	Lubelskie	Biaï¿½a Podlaska	Lipowa	10	21-500

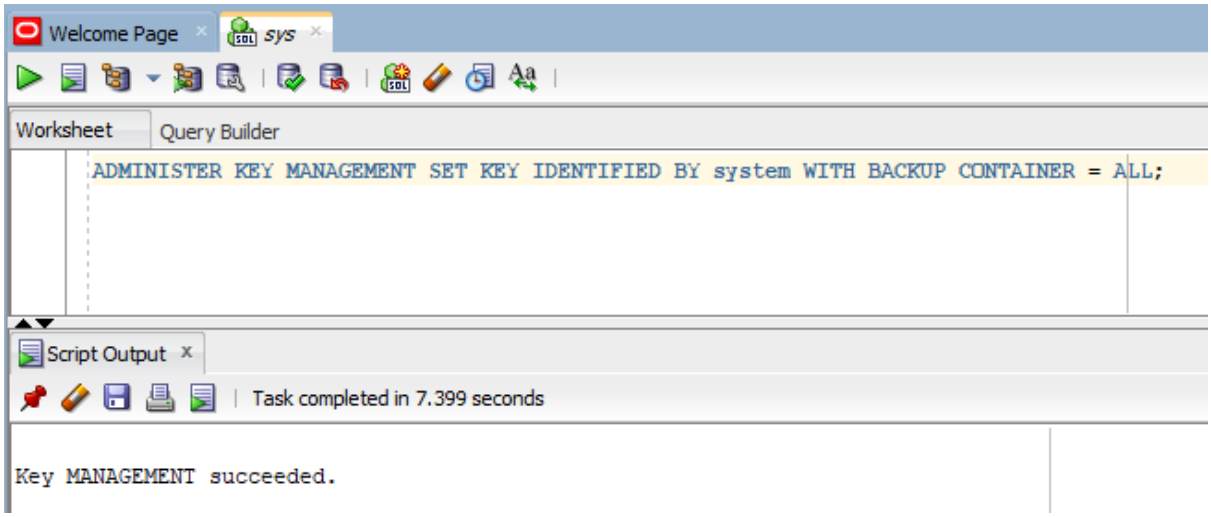
15. Zaszyfrowanie przestrzeni tabel

Utworzenie portfela Oracle

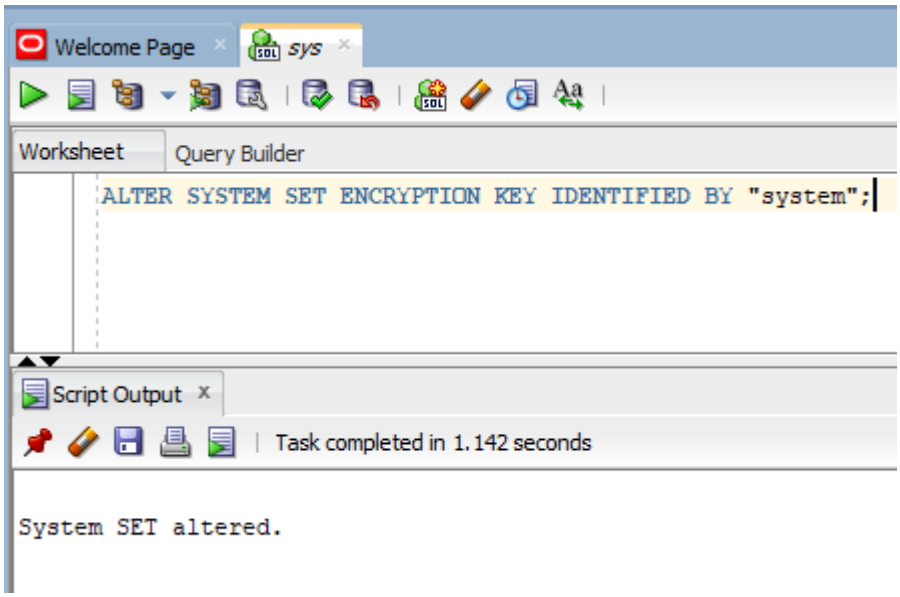


Otwarcie portfela

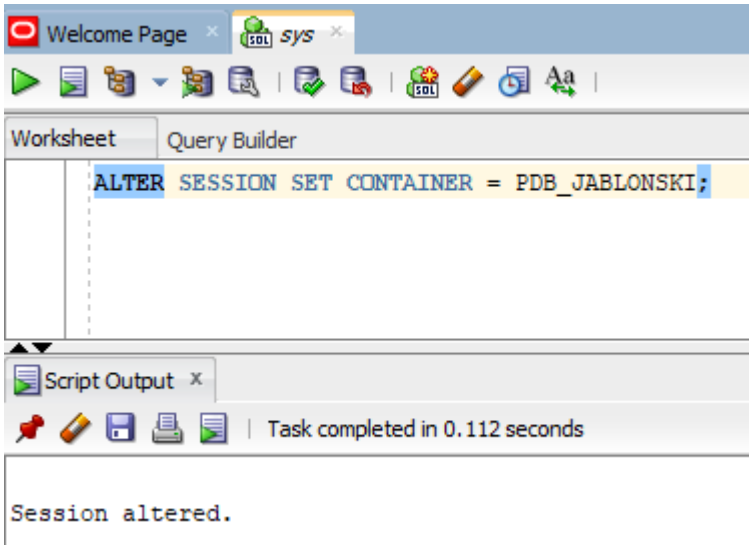




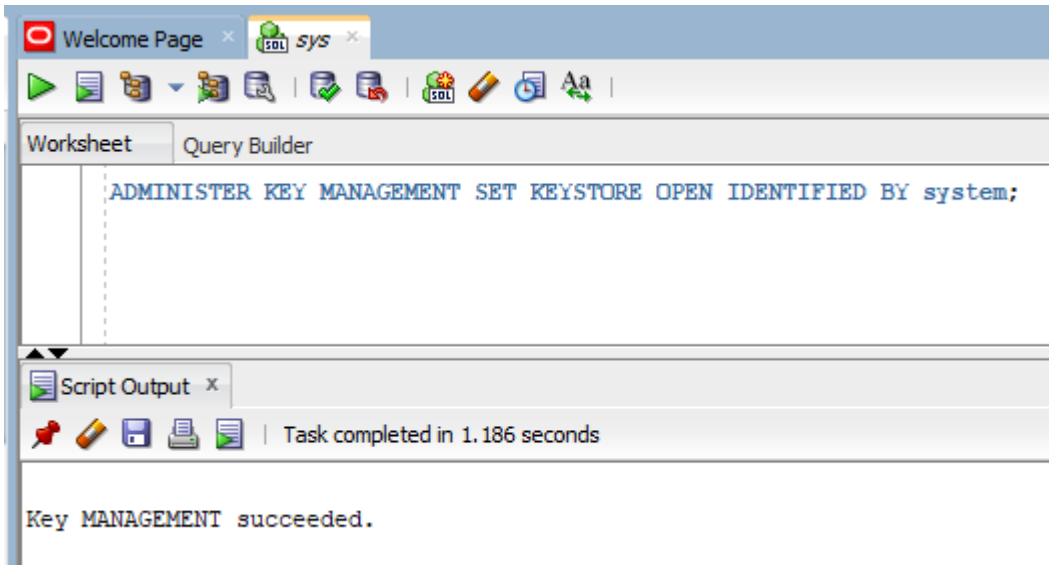
Konfiguracja klucza



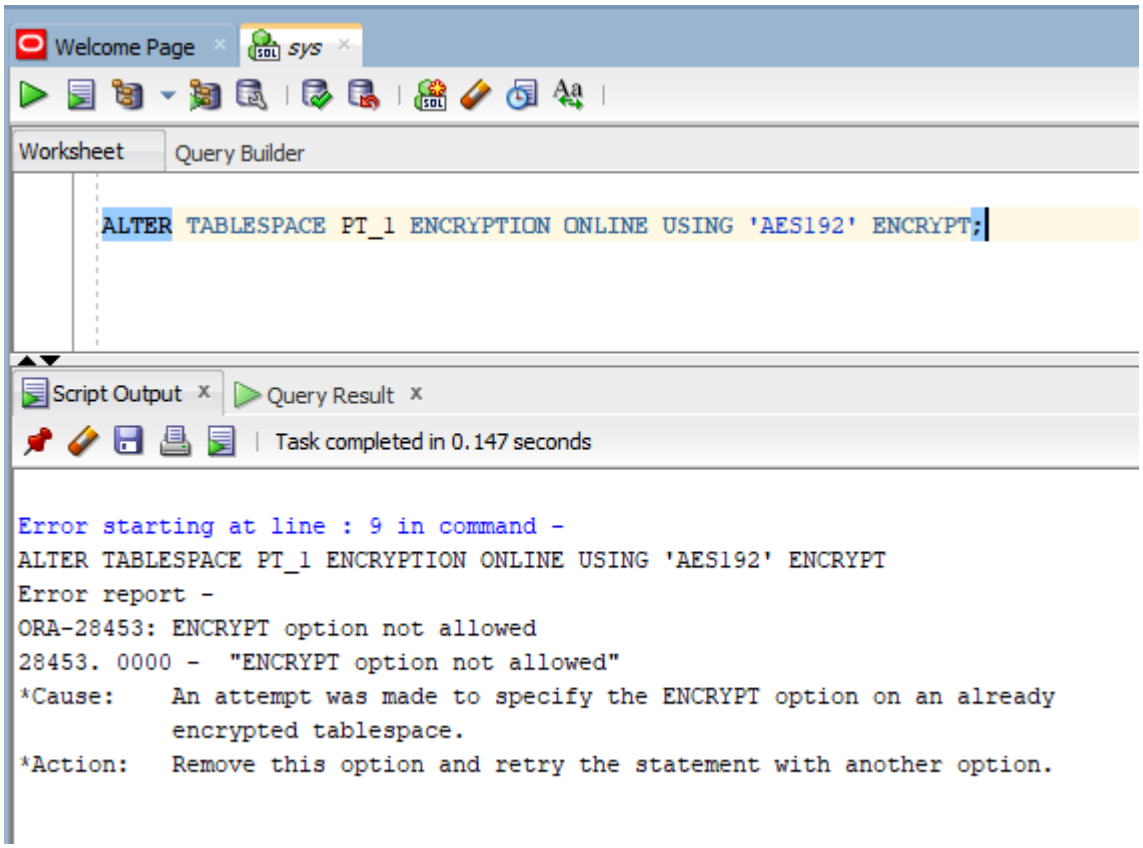
Zmiana sesji



Ustawienie klucza

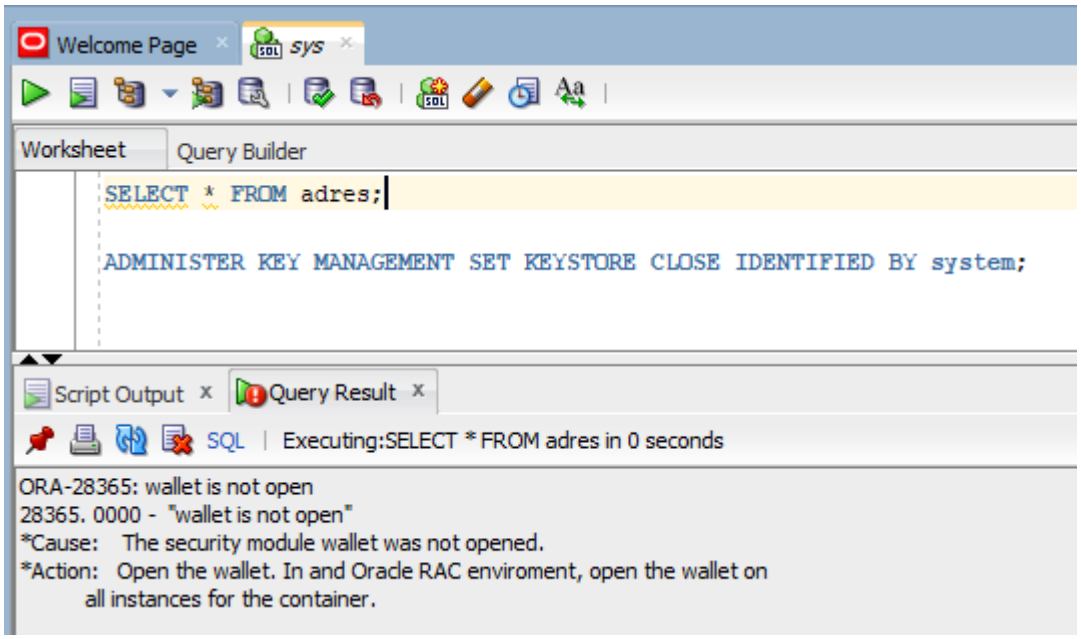


Ustawienie klucza dla przestrzeni tabel PT_1



Przypadkowo kwerenda została uruchomiona dwa razy i błąd pokazuje że zaszyfrowanie zostało już wcześniej wykonane.

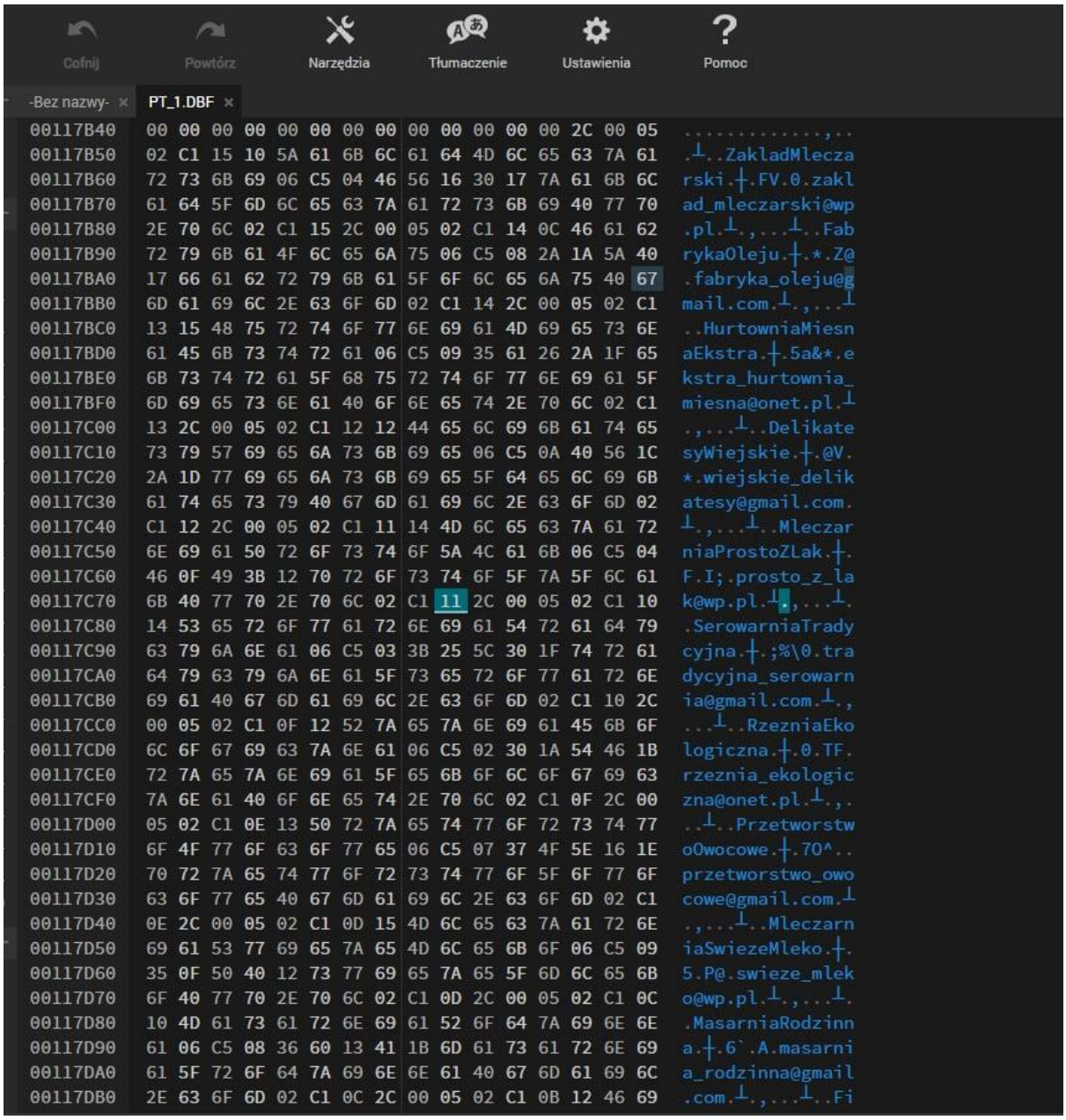
Testowanie zabezpieczeń



Jak widać na zrzucie ekranowym powyżej zabezpieczenie działa

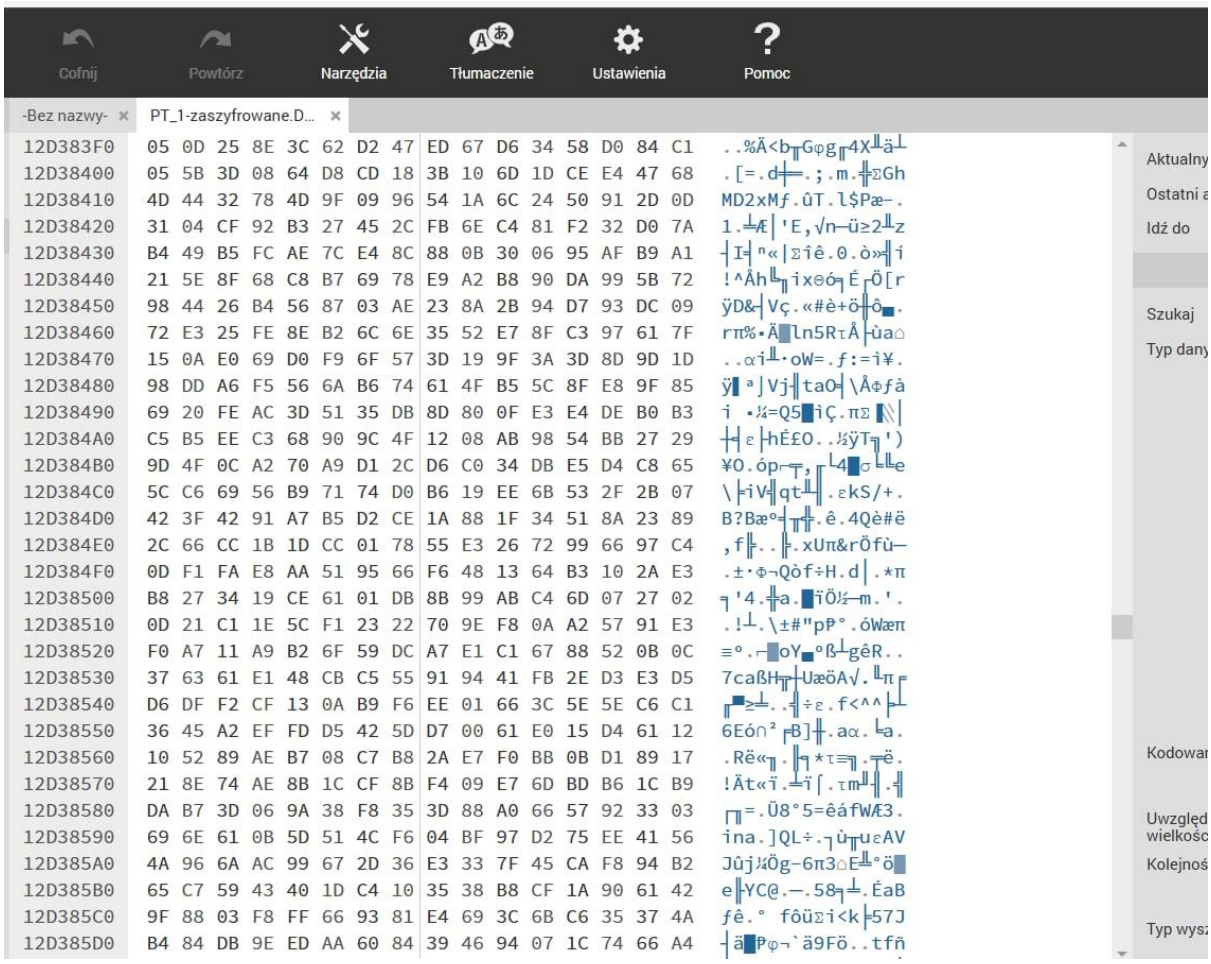
Wygląda tabeli przed i po szyfrowaniu w edytorze heksadecymalny

Przed



Jak widać można przeczytać zawartość tabeli.

Po



Nie jesteśmy teraz w stanie przeczytać zawartości tabeli.